

Toolkit for Control of Norovirus Outbreaks in Long-Term Care Facilities

Published: August 2019



pennsylvania

DEPARTMENT OF HEALTH
BUREAU OF EPIDEMIOLOGY

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Introduction

This document contains resources to aid long-term care facilities (LTCFs) experiencing a norovirus gastroenteritis outbreak and is intended to expand upon the Centers for Disease Control and Prevention (CDC), "Guideline for the Prevention and Control of Norovirus Gastroenteritis Outbreaks in Healthcare Settings, 2011." This document was created to provide staff from LTCFs with guidance when a norovirus outbreak occurs. The example on pages 19 to 25 illustrates tasks the facility should complete.

For the purposes of norovirus outbreak investigation, control and surveillance, a "long-term care facility" can be defined as several types of facilities, including but not limited to: skilled nursing, rehabilitation, assisted living, personal care homes and intermediate care facilities.

This document is only intended to elaborate upon currently accepted guidance and regulations. For further information, please contact your local health jurisdiction to report suspected or confirmed norovirus outbreaks and discuss outbreak control recommendations and surveillance (1-877-PA HEALTH) [1-877-724-3258]).

Background

Norovirus is the most common infectious agent that causes acute gastroenteritis. However, it is important to remember that norovirus is not the only cause of acute gastroenteritis.¹ It is estimated that norovirus may cause more than 23 million gastroenteritis cases every year in the United States, representing approximately 60 percent of all acute gastroenteritis cases.² According to CDC, “institutional settings such as hospitals and LTCFs commonly report outbreaks of norovirus gastroenteritis, which may make up over 50 percent of reported outbreaks.”

Because people who live in LTCFs often have health conditions that put them at higher risk for more severe outcomes or longer duration of illness, prevention and control of norovirus outbreaks in LTCFs is critical.

Norovirus may be introduced into LTCFs by ill patients, visitors, or staff. Transmission commonly occurs through exposure to direct or indirect fecal contamination found on objects or materials which are likely to carry infection, by ingestion of fecally-contaminated food or water, or by exposure to aerosols of norovirus from vomiting persons.^{3,4} Norovirus can spread easily and quickly through a LTCF because it has a low infectious dose, a short incubation period (24-48 hours), persistent shedding in stool, environmental persistence, and lack of lasting immunity following infection.^{4,5,6}

Even though there is currently no vaccine available to prevent norovirus, LTCFs can implement several practices to prevent norovirus outbreaks from occurring. Following hand hygiene protocols, using gloves and gowns when caring for symptomatic patients, routinely cleaning and disinfecting high-touch patient surfaces and equipment with a product registered with the U.S. Environmental Protection Agency (EPA) as effective against norovirus, removing and washing contaminated linens and clothing, and excluding healthcare workers who have symptoms consistent with norovirus can help reduce the spread of norovirus. For more resources, please visit CDC at <https://www.cdc.gov/HAI/organisms/norovirus.html>.

¹ MacCannell, Taranisia, et al. [Centers for Disease Control and Prevention \(CDC\). Guideline for the Prevention and Control of Norovirus Gastroenteritis Outbreaks in Healthcare Settings](https://www.cdc.gov/infectioncontrol/pdf/guidelines/norovirus-guidelines.pdf). 2017. (<https://www.cdc.gov/infectioncontrol/pdf/guidelines/norovirus-guidelines.pdf>) Accessed March 27, 2019

² Mead PS, Slutsker L, Dietz V, et al. Food-related illness and death in the United States. *Emerg Infect Dis*. 1999;5(5):607-625.

³Atmar RL, Estes MK. The epidemiologic and clinical importance of norovirus infection. *Gastroenterol Clin North Am*. 2006;35(2):275-290.

⁴ Patel MM, Widdowson MA, Glass RI, Akazawa K, Vinje J, Parashar UD. Systematic literature review of role of noroviruses in sporadic gastroenteritis. *Emerg Infect Dis*. 2008;14(8):1224-1231.

⁵ Caul EO. Small round structured viruses: airborne transmission and hospital control. *Lancet*. 1994;343(8908):1240-1242.

⁶ Hutson AM, Atmar RL, Estes MK. Norovirus disease: changing epidemiology and host susceptibility factors. *Trends Microbiol*. 2004;12(6):279-287.

Resources for Norovirus Outbreak Control in Long-Term Care Facilities

- **CDC Guideline for the Prevention and Control of Norovirus Gastroenteritis Outbreaks in Healthcare Settings (2011):**
 - <https://www.cdc.gov/infectioncontrol/guidelines/norovirus/>
- **MMWR Updated Norovirus Outbreak Management and Disease Prevention Guidelines (2011):**
 - <https://www.cdc.gov/mmwr/preview/mmwrhtml/rr6003a1.htm>
- **CDC Norovirus in Healthcare Facilities Fact Sheet:**
 - <https://www.cdc.gov/hai/pdfs/norovirus/229110-ANoroCaseFactSheet508.pdf>
- **CDC Key Infection Control Recommendations:**
 - <https://www.cdc.gov/hai/pdfs/norovirus/229110A-NorovirusControlRecomm508A.pdf>
- **EPA's Registered Antimicrobial Products Effective Against Norovirus (2018):**
 - https://www.epa.gov/sites/production/files/2018-04/documents/list_g_disinfectant_list_3_15_18.pdf
- **Clean-up and Disinfection for Norovirus ("Stomach Bug") (2015):**
 - <https://www.co.somerset.nj.us/home/showdocument?id=30538>
- **Help Prevent the Spread of Norovirus ("Stomach Bug"):**
 - <https://www.co.somerset.nj.us/home/showdocument?id=30534>
- **PA Department of Health Norovirus Fact Sheet (2013):**
 - <https://www.health.pa.gov/topics/Documents/Diseases%20and%20Conditions/Norovirus%20.pdf>
- **PA Patient Safety Authority:**
 - **Norovirus – Patient Safety Topic:**
 - <http://patientsafety.pa.gov/pst/Pages/Norovirus/hm.aspx>
 - **Norovirus Preparedness Checklist:**
 - <http://patientsafety.pa.gov/pst/Pages/Norovirus/checklist.aspx>
 - **Norovirus Preparedness – Outcomes and Process Measures Worksheet:**
 - <http://patientsafety.pa.gov/pst/Pages/Norovirus/measures.aspx>

Please note these links are current as of July 2019.

Outbreak Control Interventions for Long-Term Care Facility Norovirus Outbreaks

These interventions are recommended by the Pennsylvania Department of Health (DOH) for outbreak control in LTCFs. These recommendations are excerpted from CDC's "Guideline for the Prevention and Control of Norovirus Gastroenteritis Outbreaks in Healthcare Settings, 2011." Some aspects of these recommendations may be useful in other settings, including schools.

For more information and detail, please visit

<https://www.cdc.gov/infectioncontrol/guidelines/norovirus/index.html> or speak to your local health jurisdiction by calling (1-877-PA HEALTH) [1-877-724-3258]).

GI Illness Outbreak Recommendations Checklist

For GI illness outbreaks in Pennsylvania (PA) long-term care facilities (LTCFs)

RECOMMENDATIONS TO REVIEW	
<input type="checkbox"/>	CDC "Norovirus in Healthcare Settings." http://www.cdc.gov/HAI/organisms/norovirus.html
<input type="checkbox"/>	CDC "Fact Sheet: Norovirus in Healthcare Facilities." http://www.cdc.gov/hai/pdfs/norovirus/229110-ANoroCaseFactSheet508.pdf
<input type="checkbox"/>	CDC "Key Infection Control Recommendations." http://www.cdc.gov/hai/pdfs/norovirus/229110A-NorovirusControlRecomm508A.pdf

OUTBREAK CONTROL INTERVENTIONS THE FACILITY SHOULD IMPLEMENT	
<p><i>The facility and public health staff should discuss the interventions described below. Please check only the boxes for those that were implemented by the end of the outbreak. The recommendations summarized here are intended to supplement those put forth by CDC and other agencies.</i></p>	
Initial Outbreak Steps	
<input type="checkbox"/>	Facilities should contact the appropriate regulatory agency and report the event. Please note that working with public health staff during an outbreak is not a substitute for fulfilling regulatory requirements.
<input type="checkbox"/>	Submit stool specimens as early as possible during a suspected outbreak (within 2-3 days of onset). Work with public health staff to facilitate the submission of specimens to the DOH Bureau of Laboratories (BOL). Stool/vomit specimens should be sent to BOL for three to five currently symptomatic individuals. <i>Instructions to submit: https://www.health.pa.gov/topics/Labs/Pages/Stool-Pathogens.aspx</i>
<input type="checkbox"/>	Implement daily active surveillance for gastroenteritis among residents and staff (using DOH sample line listing). <i>This tool can be found on page 14 of this guide.</i>
<input type="checkbox"/>	Complete Form A: Initial GI Illness Outbreak Report Form. <i>Form A can be found on page 15 of this guide.</i>
Infection Control	
<input type="checkbox"/>	Place patients with suspected norovirus gastroenteritis on contact precautions until symptom-free for at least 48 hours.
<input type="checkbox"/>	For the duration of the outbreak, increase the frequency of hand hygiene audits on affected units. Provide written and verbal feedback to staff.
Cohorting and Social Distancing	
<input type="checkbox"/>	Cohort ill residents to a single unit or area if possible (e.g., symptomatic, asymptomatic exposed or asymptomatic unexposed patient groups).

<input type="checkbox"/>	Have symptomatic residents remain in their rooms (i.e., restrict from activities and group meals).
<input type="checkbox"/>	Limit large group activities. Consider serving all meals in resident rooms.
<input type="checkbox"/>	Avoid new admissions or transfers to wards with symptomatic residents.
Hand Hygiene and PPE	
<input type="checkbox"/>	Actively promote adherence to hand hygiene among healthcare personnel, patients and visitors.
<input type="checkbox"/>	During outbreaks, use soap and water for hand hygiene (do not substitute alcohol-based hand gel).
<input type="checkbox"/>	Use personal protective equipment (PPE) (i.e., gowns and gloves) when entering affected patient care areas and remove carefully to avoid contaminating clothing.
Transfers and Admissions	
<input type="checkbox"/>	When transferring ill patients, notify receiving facility to ensure continuation of Contact Precautions.
<input type="checkbox"/>	When transferring well patients, notify receiving facility of the presence of a gastrointestinal outbreak.
Cleaning and Disinfection	
	Utilize commercial disinfection products registered with EPA for use in healthcare facilities; follow manufacturer instructions for methods of application, amount, dilution and contact time.
<input type="checkbox"/>	<i>EPA's Registered Antimicrobial Products Effective Against Norovirus (2018):</i> https://www.epa.gov/sites/production/files/2018-04/documents/list_g_disinfectant_list_3_15_18.pdf <i>Note: Not all commercial cleaning products act dually as a disinfecting agent.</i>
<input type="checkbox"/>	Perform routine cleaning and disinfection of frequently touched environmental surfaces and equipment in isolation and cohorted areas, as well as high-traffic clinical areas (i.e., commodes, toilets, faucets, hand/bedrailing, telephones, door handles, computer equipment and kitchen preparation surfaces). <i>Facilities should have a policy that provides guidance on how often and where routine cleaning and disinfecting should occur. For further guidance, please reach out to your local health jurisdiction.</i>
<input type="checkbox"/>	Increase the frequency of cleaning and disinfection of patient care areas (e.g., to twice daily) and frequently touched surfaces (e.g., to three times daily) during outbreaks of norovirus gastroenteritis.
Recommendations for Staff and Visitors	
<input type="checkbox"/>	Exclude ill personnel from work for a minimum of 48 hours after the resolution of symptoms. Once personnel return to work, the importance of performing frequent hand hygiene should be reinforced. Gloves should be used when appropriate such as when preparing food and should be changed frequently with hand washing between sets of gloves.
<input type="checkbox"/>	Cohort staff on each ward if possible. Ensure staff do not move between patient cohorts (e.g., symptomatic, asymptomatic exposed or asymptomatic unexposed patient groups).
<input type="checkbox"/>	Limit visitation and exclude ill persons from visiting the facility via posted notices.

Red Flags: When are Further Recommendations Needed for Outbreak Control?

1. **The facility continues to see an increasing number of cases, and/or the outbreak does not seem to be ending after implementation of outbreak control interventions.** If this is the case, your facility should review the outbreak control interventions to make sure they are being properly implemented. Additionally, further recommendations may be needed for outbreak control. Please contact your local health jurisdiction for further guidance (1-877-PA HEALTH) [1-877-724-3258]).
2. **Any patients have been hospitalized or have died during the outbreak.** If hospitalizations or deaths occur, it is important to contact your local health jurisdiction for further guidance (1-877-PA HEALTH) [1-877-724-3258]).
3. **Facility staff request further information or back-up.** Staff from your local health jurisdiction (1-877-PA HEALTH) [1-877-724-3258]) are available to answer any questions or provide guidance if your facility requests it.

If you believe that one or more of these scenarios are occurring in your facility, please immediately contact your local health jurisdiction (1-877-PA HEALTH) [1-877-724-3258]) for further guidance and recommendations for outbreak control.

Frequently Asked Questions (FAQs) for Long-Term Care Facilities Experiencing a Norovirus Outbreak

- **What is considered a long-term care facility (LTCF)?**
 - For norovirus outbreaks in Pennsylvania LTCFs, we include facilities regulated by both the Pennsylvania Department of Health (DOH) and the Department of Human Services (DHS). These include skilled nursing, rehabilitation, assisted living, personal care homes and intermediate care facilities.
 - The department can also help to provide guidance for other types of facilities and group settings if norovirus outbreaks are identified.
- **How is a “case” of norovirus in a LTCF outbreak defined?**
 - Norovirus (lab-confirmed case)— clinically compatible symptoms (diarrhea- defined as three or more loose stools in 24-hour period, vomiting, abdominal cramps, and/or nausea) AND detection of norovirus in the lab, such as by PCR (polymerase chain reaction) or similar nucleic acid tests.
 - Norovirus (probable case)— clinically compatible symptoms (diarrhea- defined as three or more loose stools in 24-hour period, vomiting, abdominal cramps, and/or nausea) AND detection of norovirus antigen by EIA or ELISA, OR epidemiologically linked to a confirmed case
- **What is the definition of a norovirus outbreak in a LTCF?**
 - An outbreak of norovirus is defined as an occurrence of two or more similar illnesses resulting from a common exposure that meet either the confirmed or probable case definition for norovirus.
- **How can health departments determine if the likely cause of an outbreak is norovirus if it is not possible to get lab confirmation?**
 - The Kaplan Criteria can be used.⁸
 - A mean (or median) illness duration of 12 to 60 hours,
 - A mean (or median) incubation period of 24 to 48 hours,
 - More than 50 percent of people with vomiting, and
 - No bacterial agent found.
 - *When all four criteria are present, it is very likely that the outbreak was caused by norovirus. However, about 30 percent of norovirus outbreaks do not meet these criteria. If the criteria are not met, it does not mean that the outbreak was not caused by norovirus.*
 - The Lively Criteria is an alternative that can be used.⁷
 - A greater proportion of cases with vomiting than with fever,
 - Bloody diarrhea in less than 10 percent of cases, and
 - Vomiting in greater than 25 percent of cases.

⁷ [Responding to Norovirus Outbreaks](https://www.cdc.gov/norovirus/trends-outbreaks/responding.html). 2018. (<https://www.cdc.gov/norovirus/trends-outbreaks/responding.html>) Accessed March 27, 2019.

- **Is norovirus reportable in Pennsylvania?**
 - Individual cases of norovirus are not reportable; however, an outbreak of any etiology is. Therefore, all outbreaks of norovirus are reportable by PA law (28 Pa. Code § 27.3).
- **What should my facility do if we believe we have a norovirus outbreak?**
 - Please call your local health jurisdiction to report the outbreak and to discuss recommendations for outbreak control. If you aren't sure where to report, contact the Pennsylvania Department of Health at (1-877-PA HEALTH) [1-877-724-3258]).
 - Your facility is also responsible for reporting the outbreak to your regulatory agency.
- **How soon after an outbreak is identified should the local health jurisdiction be notified?**
 - All outbreaks in Pennsylvania should be reported within 24 hours.
- **When should my facility consider testing for norovirus?**
 - Long-term care facilities should use a low threshold for norovirus testing.
 - BOL offers free testing to help characterize an outbreak. This testing is NOT meant to be for diagnostic purposes for clinical management of individual patients. Facilities can work with DOH to submit samples. Public health strongly recommends sampling 3-5 stool or vomit specimens from persons who most recently became ill. BOL will provide the stool kits.
- **How do we know if the outbreak is over?**
 - For surveillance purposes, the outbreak can be considered "over" when at least seven days have passed since the most recent illness onset in patients or staff, though this may vary in specific circumstances.
- **What information will help my facility and the local health jurisdiction to manage the outbreak?**
 - When an outbreak is first identified, DOH or your local health jurisdiction will be available to provide resources and recommendations for outbreak control.
 - The best way to understand how an outbreak is progressing and evaluate outbreak control is to maintain a patient and staff line listing using the template provided by your local health jurisdiction (this tool can be found on page 14 of this guide). This is a way to list all the affected patients and staff and have clinical information available about their illnesses. A template, instructions and example are included in this toolkit.
 - Your local health jurisdiction may request additional information about the outbreak. Using the outbreak line list template will help provide most of the information they may need.
- **What are common ways that norovirus can be transmitted in LTCFs?**
 - Norovirus can spread from person-to-person. This occurs when someone who is infected with norovirus has direct contact with other individuals or surfaces that other individuals have contact with. This type of outbreak will have onset dates that are spread out over time. This is the type of norovirus outbreak most commonly seen in LTCFs.
 - Norovirus can also be foodborne. Sometimes food and drinks become contaminated with norovirus. This type of outbreak will have onset times more closely clustered together than a person-to-person outbreak. This type of norovirus outbreak is uncommon in LTCFs.

- If epidemiological and/or laboratory information suggests something other than person-to-person transmission of norovirus, recommendations for control may differ from those in this toolkit.

Outbreak Case-Patient Line Listing

A case-patient line listing is designed to collect information about all ill cases (residents and staff) during an outbreak of norovirus in a long-term care facility. A line listing can also help the facility track the outbreak and monitor case counts until the outbreak has finished. It can also help your local health jurisdiction gather required information that will be collected when the outbreaks have finished.

Instructions

Upon identification of an outbreak, use this template to collect and organize information on cases. During an outbreak, collect key information to assist with controlling the outbreak and to inform your local health jurisdiction about outbreak details.

Each ill resident or staff member's information should be entered in a unique row on the line listing. Please use resident or staff identifiers as well as their initials. Information should be updated periodically (e.g., daily) during the outbreak for all cases. The data fields contained in this template are explained in the data field table on the following page.

Outbreak Case-Patient Line Listing Data Fields

Data Field	Description
Identifiers	
Name	Resident or staff member's name (Does NOT need to be given to DOH)
Age	Age in years
Sex	Sex, M (male) or F (female)
Resident or Staff	R (resident) or S (staff)
Room # (residents only)	Patient's room number
Job duties (staff only)	Staff role codes: P (patient care- all types) F (food service) H (housekeeping) M (maintenance) A (administrative/clerical) O (other)
Clinical	
Onset date	Date when symptoms first started (MM/DD/YYYY)
Nausea	Did the patient have nausea? Y (yes), N (no), U (unknown)
Vomiting	Did the patient have vomiting? Y (yes), N (no), U (unknown)
Diarrhea (3+ loose stools in 24 hrs)	Did the patient have diarrhea (3+ Loose Stools in 24 hrs)? Y (yes), N (no), U (unknown)
Fever (documented only)	Did the patient have a documented fever? Y (yes), N (no), U (unknown)
Abdominal cramps	Did the patient have cramps? Y (yes), N (no), U (unknown)
Other (specify)	Did the patient have other symptoms? (Please list)
Lab	
Specimen to state lab?	Was a specimen sent to the state lab? Y (yes), N (no) *Reminder- Stool/vomit specimens should be sent to BOL for 3 to 5 currently symptomatic individuals.
Outcome	
Duration of illness	Duration in hours
Seen by physician	Was the ill individual seen by a physician? Y (yes), N (no)
Sent to ER	Was the ill individual sent to the ER? Y (yes), N (no)
Hospitalized	Was the ill individual admitted to the hospital? Y (yes), N (no)
Died	Did the ill individual die? Y (yes), N (no)

TEMPLATE – Outbreak Case-Patient Line List

Outbreak Case-Patient Line List

County: _____ Facility: _____

Outbreak: _____ Location (unit, floor, ward, etc) in facility: _____

IDENTIFIERS						CLINICAL						LAB	OUTCOME						
List all residents and staff with any gastrointestinal illness	Age	Sex	Resident or staff	Room # (residents only)	Job duty (Staff only- see below)	Onset date	Nausea	Vomiting	Diarrhea (3+ loose stools in 24 hr)	Documented fever only	Abdominal cramps	Other (specify)	Specimen to state lab?	Duration of illness	Seen by physician	Sent to ER	Hospitalized	Died	
	years	F/ M	R/ S			mm/dd/yyyy	Y/N/U	Y/N/U	Y/N/U	Y/N/U	Y/N/U		Y/ N	hours	Y/ N	Y/ N	Y/ N	Y/ N	

Instructions: Record patient data as indicated. If unsure about an item, leave it blank. Use a separate sheet for each residential location (unit, ward, floor, etc). Use additional sheets as necessary. Fax them daily to your local health department or as instructed.

- Staff Job Duty**
- P Patient care- all types
 - F Food service
 - H Housekeeping
 - M Maintenance
 - A Administrative/clerical
 - O Other

Form A: Initial GI Illness Outbreak Report Form

For GI illness outbreaks in Pennsylvania long-term care facilities (LTCFs)

Please submit this form within one workday of outbreak identification. Typed forms are preferred.

IMPORTANT DEFINITIONS

- *GI Illness*– Illnesses that can be caused by a variety of different disease-causing microbes and germs. Common symptoms may include diarrhea, nausea, vomiting, abdominal cramps and fever.
- *LTCF GI Illness Outbreak*– An occurrence of two or more similar GI illnesses resulting from a common exposure.
- *LTCF Outbreak is "over"*– An outbreak is considered over when no new cases have occurred for seven days.

FACILITY INFORMATION			
Facility Name			
Street Address		City	
County		Zip code	
Name of Reporter		Title	
Phone & Fax		Email	
Type of facility (<i>check all that apply</i>)			
<input type="checkbox"/> Skilled nursing <input type="checkbox"/> Rehabilitation <input type="checkbox"/> Assisted living <input type="checkbox"/> Personal care home <input type="checkbox"/> Other (explain): _____			
PA DOH License No.		PA DHS License No.	
INITIAL OUTBREAK INFORMATION AT TIME OF INITIAL REPORT			
Date initial form completed			
Date of symptom onset for first case of GI illness			
Date of symptom onset for most recent case of GI illness			
Current number of residents in facility			
Current number of staff			
		Residents	Staff
Number with GI illness			
Number hospitalized (<i>only hospitalizations related to GI illness</i>)			
Number of deaths (<i>only deaths related to GI illness</i>)			
Where do staff with GI illness work?		<input type="checkbox"/> Single unit <input type="checkbox"/> Multiple units	
Where do residents with GI illness reside?		<input type="checkbox"/> Single unit <input type="checkbox"/> Multiple units	
Facility reviewed current CDC guidelines for Norovirus in Healthcare Settings: http://www.cdc.gov/HAI/organisms/norovirus.html		<input type="checkbox"/> Yes; review date: _____	

LABORATORY TESTING AT TIME OF INITIAL REPORT				
Organisms tested for				
	# of residents tested	# of residents with positive test results	# of staff tested	# of staff with positive test results
Norovirus				
<i>Salmonella</i>				
<i>Campylobacter</i>				
<i>E. coli</i>				
<i>Shigella</i>				
Other (please specify): _____				
<input type="checkbox"/> No laboratory testing done to date				

DOH USE ONLY: DOH INVESTIGATOR INFORMATION			
Name		DOH office/ Jurisdiction	
Phone/Fax		Email	
OUTBREAK INFORMATION			
How was the outbreak reported to DOH?			
<input type="checkbox"/> Notification by facility/provider <input type="checkbox"/> PA-NEDSS positive report <input type="checkbox"/> Notification by licensing agency (e.g., QA/nursing care facilities) <input type="checkbox"/> Other (explain): _____			
Date of Notification		Time of Notification	
Will specimens be sent to BOL for testing?		<input type="checkbox"/> Yes <input type="checkbox"/> No	
BOL FI # (if assigned)			
PA-NEDSS Outbreak ID			
NOTES			

Form B: Final GI Illness Outbreak Report Form

For GI illness outbreaks in Pennsylvania long-term care facilities (LTCFs)

Please submit this form after the outbreak is over (no new cases for seven days). Please include final line list (patient tracking) with your submission. Typed forms are preferred.

IMPORTANT DEFINITIONS

- *GI Illness*– Illnesses that can be caused by a variety of different disease-causing microbes and germs. Common symptoms may include diarrhea, nausea, vomiting, abdominal cramps and fever.
- *LTCF GI Illness Outbreak*– An occurrence of two or more similar GI illnesses resulting from a common exposure.
- *LTCF Outbreak is "over"*– An outbreak is considered over when no new cases have occurred for seven days.

FACILITY INFORMATION			
Facility Name			
Street Address		City	
County		Zip code	
Name of Reporter		Title	
Phone & Fax		Email	
Type of facility (<i>check all that apply</i>)			
<input type="checkbox"/> Skilled nursing <input type="checkbox"/> Rehabilitation <input type="checkbox"/> Assisted living <input type="checkbox"/> Personal care home <input type="checkbox"/> Other (explain): _____			
PA DOH License No.		PA DHS License No.	
FINAL OUTBREAK INFORMATION AT TIME OF FINAL REPORT			
Date final outbreak summary form completed			
Date of symptom onset for first case of GI illness			
Date of symptom onset for most recent case of GI illness			
Current number of residents in facility			
Current number of staff			
	Residents	Staff	
Number with GI illness			
Number hospitalized (<i>only hospitalizations related to GI illness</i>)			
Number who visited ED (<i>only visits related to GI illness</i>)			
Number who visited healthcare provider (<i>only visits related to GI illness</i>)			
Number of deaths (<i>only deaths related to GI illness</i>)			
Where do staff with GI illness work?		<input type="checkbox"/> Single unit <input type="checkbox"/> Multiple units	
Where do residents with GI illness reside?		<input type="checkbox"/> Single unit <input type="checkbox"/> Multiple units	

LABORATORY TESTING AT TIME OF FINAL REPORT

Organisms tested for				
	# of residents tested	# of residents with positive test results	# of staff tested	# of staff with positive test results
Norovirus				
<i>Salmonella</i>				
<i>Campylobacter</i>				
<i>E. coli</i>				
<i>Shigella</i>				
Other (please specify): _____				
<input type="checkbox"/> No laboratory testing done to date				
What were specimens tested for? (<i>check all that apply</i>)				
<input type="checkbox"/> Bacteria <input type="checkbox"/> Chemicals/Toxins <input type="checkbox"/> Viruses <input type="checkbox"/> Parasites				
Which of the following was the infectious agent detected in? (<i>check all that apply</i>)				
<input type="checkbox"/> Patient Specimen <input type="checkbox"/> Staff Specimen <input type="checkbox"/> Environmental Specimen <input type="checkbox"/> Food Worker Specimen <input type="checkbox"/> Food Specimen				

DOH USE ONLY: DOH INVESTIGATOR INFORMATION

Name		DOH office/ Jurisdiction	
Phone/Fax		Email	
OUTBREAK INFORMATION			
How was the outbreak reported to DOH?			
<input type="checkbox"/> Notification by facility/provider <input type="checkbox"/> PA-NEDSS positive report <input type="checkbox"/> Notification by licensing agency (e.g., QA/nursing care facilities) <input type="checkbox"/> Other (explain): _____			
BOL FI # (if assigned)			
PA-NEDSS Outbreak ID			
NOTES			

Sample Outbreak Scenario

The following describes an outbreak of gastroenteritis that may be similar to what you encounter at your facility. This is a fictional scenario created for instructional purposes only, to illustrate key aspects of recognition, reporting, case tracking and closure of an outbreak of gastroenteritis.

Initial Report:

On February 1, a long-term care facility calls their local health department office to report an outbreak of gastroenteritis. The facility is a 120-bed facility comprised of four units; current resident census is 120 (30 residents per unit) and 210 staff are employed at the facility. At the time of the report, five residents on two units and three staff are known to be ill with GI symptoms. The Infection Prevention designee (IPD) also notes that three of the ill residents were tested for *Clostridium difficile* (*C. diff*) and test results for all three were negative. No other lab testing was done at the time of the initial notification. The IPD completed an initial Outbreak Case-Patient Line List and Form A: Initial GI Illness Outbreak Report Form from the Toolkit. The IPD faxed or emailed both forms to her contact at the local health department office.

EXAMPLE – Outbreak Case-Patient Line List

Outbreak Case-Patient Line List

County: ABCD Facility: Pleasant Time Acres
 Outbreak: Location (unit, floor, ward, etc) in facility: Units A and D

IDENTIFIERS					CLINICAL							LAB	OUTCOME					
List all residents and staff with any gastrointestinal illness	Age	Sex	Resident or staff	Room # (residents only)	Job duty (Staff only - see below)	Onset date	Nausea	Vomiting	Diarrhea (3+ loose stools in 24 hr)	Documented fever only	Abdominal cramps	Other (specify)	Specimen to state lab?	Duration of illness	Seen by physician	Sent to ER	Hospitalized	Died
A.R.	82	F	R	108-A		01/29/2018	Y	Y	N	N	Y		N	48	N	N	N	N
D.B.	78	M	R	105-B		01/31/2018	N	N	Y	N	Y		N		N	N	N	N
S.S.	88	F	R	108-B		01/30/2018	N	Y	Y	N	Y		N		N	N	N	N
T.W.	67	F	R	202-A		01/29/2018	N	N	Y	N	N		N	36	N	N	N	N
M.H.	77	F	R	208-A		02/01/2018	Y	Y	N	Y	Y		N	72	N	N	N	N
E.N.	27	F	S		P	01/27/2018	N	N	Y	U	U		N	48	N	N	N	N
K.F.	35	F	S		P	01/29/2018	Y	Y	Y	N	Y		N	36	N	N	N	N
B.C.	28	F	S		A	02/01/2018	N	Y	N	U	Y		N		N	N	N	N

Staff Job Duty

Instructions: Record patient data as indicated. If unsure about an item, leave it blank. Use a separate sheet for each residential location (unit, ward, floor, etc). Use additional sheets as necessary. Fax them daily to your local health department or as instructed.

- P Patient care- all types
- F Food service
- H Housekeeping
- M Maintenance
- A Administrative/clerical
- O Other

EXAMPLE – Form A: Initial GI Illness Outbreak Report Form

For GI illness outbreaks in Pennsylvania long-term care facilities (LTCFs)
Please submit this form within one workday of outbreak identification. Typed forms are preferred.

IMPORTANT DEFINITIONS

- *GI Illness*– Illnesses that can be caused by a variety of different disease-causing microbes and germs. Common symptoms may include diarrhea, nausea, vomiting, abdominal cramps and fever.
- *LTCF GI Illness Outbreak*– An occurrence of two or more similar GI illnesses resulting from a common exposure.
- *LTCF Outbreak is "over"*– An outbreak is considered over when no new cases have occurred for seven days.

FACILITY INFORMATION			
Facility Name	Pleasant Time Acres		
Street Address	123 Maple Street	City	Springtown
County	Main County	Zip code	13579
Reporter Name	Mary Smith, RN	Title	DON
Phone & Fax	987-654-3210 & 987-654-1234	Email	Mary.Smith@pleasanttime.com
Type of facility (<i>check all that apply</i>)			
<input checked="" type="checkbox"/> Skilled nursing <input type="checkbox"/> Rehabilitation <input type="checkbox"/> Assisted living <input type="checkbox"/> Personal care home <input type="checkbox"/> Other (explain): _____			
PA DOH License No.	987654	PA DHS License No.	
INITIAL OUTBREAK INFORMATION AT TIME OF INITIAL REPORT			
Date initial form completed		2/1/2018	
Date of symptom onset for first case of GI illness		1/27/2018	
Date of symptom onset for most recent case of GI illness		2/1/2018	
Current number of residents in facility		120	
Current number of staff		210	
		Residents	Staff
Number with GI illness		5	3
Number hospitalized (<i>only hospitalizations related to GI illness</i>)		0	0
Number of deaths (<i>only deaths related to GI illness</i>)		0	0
Where do staff with GI illness work?		<input type="checkbox"/> Single unit <input checked="" type="checkbox"/> Multiple units	
Where do residents with GI illness reside?		<input type="checkbox"/> Single unit <input checked="" type="checkbox"/> Multiple units	
Facility reviewed current CDC guidelines for Norovirus in Healthcare Settings: http://www.cdc.gov/HAI/organisms/norovirus.html		<input checked="" type="checkbox"/> Yes; review date: 2/1/2018	

LABORATORY TESTING AT TIME OF INITIAL REPORT

Organisms tested for				
	# of residents tested	# of residents with positive test results	# of staff tested	# of staff with positive test results
Norovirus				
<i>Salmonella</i>				
<i>Campylobacter</i>				
<i>E. coli</i>				
<i>Shigella</i>				
Other (please specify): <u><i>Clostridium difficile</i></u>	3	0		
<input type="checkbox"/> No laboratory testing done to date				

DOH USE ONLY: DOH INVESTIGATOR INFORMATION

Name		DOH office/ Jurisdiction	
Phone/Fax		Email	
OUTBREAK INFORMATION			
How was the outbreak reported to DOH?			
<input type="checkbox"/> Notification by facility/provider <input type="checkbox"/> PA-NEDSS positive report <input type="checkbox"/> Notification by licensing agency (e.g., QA/nursing care facilities) <input type="checkbox"/> Other (explain): _____			
Date of Notification		Time of Notification	
Will specimens be sent to BOL for testing?		<input type="checkbox"/> Yes <input type="checkbox"/> No	
BOL FI # (if assigned)			
PA-NEDSS Outbreak ID			
NOTES			

EXAMPLE – Recommended actions that were put into place:

Control Measures:

- Ill residents were confined to their room and placed in contact precautions until symptom-free for at least 48 hours.
- Ill staff were excluded until symptom-free for 48 hours.
- In-services for hand hygiene and use of personal protective equipment were provided to all staff on all shifts.
- IPD increased frequency of hand hygiene audits on all affected unit. IPD provided written and verbal feedback to staff.
- Group activities on the two affected units were limited.
- New admissions were placed in units that were not affected.
- Environmental services staff verified products used were registered with EPA as effective against norovirus and increased cleaning frequency.
- Environmental services manager increased frequency of cleaning audits to assure proper cleaning procedures and adequate contact time.
- Signage regarding occurrence of illness was posted at entrances.

Tracking and Testing:

- The IP ensured daily monitoring of residents for new occurrence of GI illness.
- The IP encouraged staff who developed GI illness to report this to their supervisor.
- The IP obtained specimen testing kits from DOH.

Follow-up Reports:

The IP submitted a follow-up line list on February 8 that noted that GI illness was detected in 18 more residents and staff – a summary of information on the latest line list:

- Three additional ill residents on Unit A
- Four additional ill residents on Unit B
- Three additional ill residents on Unit C
- Five additional ill residents on Unit D
- Three additional ill staff members
- The most recent onset of illness amongst all the new cases was February 7.

Stool specimens were submitted to the state lab on patient M. H. (on line list above) & five other recently-ill residents and **norovirus** was detected in four of the six specimens.

Final Report:

No new cases were detected in the facility since the February 8 report noted above and the outbreak was considered closed seven days after the date of onset of the most recent case (February 14). The Infection Prevention staff (IP) completed Form B: Final GI Illness Outbreak Report Form from the Toolkit and made sure the most recent line listing was current. She sent both forms to her contact at the local health department office.

In total, 20 resident cases were detected, and six staff member cases were identified, with cases occurring between 1/27/2018 and 2/7/2018. Laboratory testing at the state public health lab confirmed that norovirus was associated with this outbreak. Because all units were affected, 120 residents and all staff were considered exposed to norovirus during the outbreak. One resident case was seen at the emergency room for rehydration but not admitted for in-patient care; no other cases required medical care, and none died.

EXAMPLE – Form B: Final GI Illness Outbreak Report Form

For GI illness outbreaks in Pennsylvania long-term care facilities (LTCFs)

Please submit this form after the outbreak is over (no new cases for seven days). Please include final line list (patient tracking) with your submission. Typed forms are preferred.

IMPORTANT DEFINITIONS

- *GI Illness*– Illnesses that can be caused by a variety of different disease-causing microbes and germs. Common symptoms may include diarrhea, nausea, vomiting, abdominal cramps and fever.
- *LTCF GI Illness Outbreak*– An occurrence of two or more similar GI illnesses resulting from a common exposure.
- *LTCF Outbreak is "over"*– An outbreak is considered over when no new cases have occurred for seven days.

FACILITY INFORMATION			
Facility Name	Pleasant Time Acres		
Street Address	123 Maple Street	City	Springtown
County	Main County	Zip code	13579
Name of Reporter	Mary Smith, RN	Title	DON
Phone & Fax	987-654-3210 & 987-654-1234	Email	Mary.Smith@pleasanttime.com
Type of facility (<i>check all that apply</i>)			
<input checked="" type="checkbox"/> Skilled nursing <input type="checkbox"/> Rehabilitation <input type="checkbox"/> Assisted living <input type="checkbox"/> Personal care home <input type="checkbox"/> Other (explain): _____			
PA DOH License No.	987654	PA DHS License No.	
FINAL OUTBREAK INFORMATION AT TIME OF FINAL REPORT			
Date final outbreak summary form completed		2/14/2018	
Date of symptom onset for first case of GI illness		1/27/2018	
Date of symptom onset for most recent case of GI illness		2/7/2018	
Current number of residents in facility		120	
Current number of staff		210	
		Residents	Staff
Number with GI illness		20	6
Number hospitalized (<i>only hospitalizations related to GI illness</i>)		0	0
Number who visited ED (<i>only visits related to GI illness</i>)		1	0
Number who visited healthcare provider (<i>only visits related to GI illness</i>)		0	0
Number of deaths (<i>only deaths related to GI illness</i>)		0	0
Where do staff with GI illness work?		<input type="checkbox"/> Single unit <input checked="" type="checkbox"/> Multiple units	
Where do residents with GI illness reside?		<input type="checkbox"/> Single unit <input checked="" type="checkbox"/> Multiple units	

LABORATORY TESTING AT TIME OF FINAL REPORT				
Organisms tested for				
	# of residents tested	# of residents with positive test results	# of staff tested	# of staff with positive test results
Norovirus	6	4	0	0
<i>Salmonella</i>				
<i>Campylobacter</i>				
<i>E. coli</i>				
<i>Shigella</i>				
Other (please specify): <u><i>Clostridium difficile</i></u>	3	0	0	0
<input type="checkbox"/> No laboratory testing done to date				
What were specimens tested for? (<i>check all that apply</i>)				
<input checked="" type="checkbox"/> Bacteria <input checked="" type="checkbox"/> Chemicals/Toxins <input checked="" type="checkbox"/> Viruses <input type="checkbox"/> Parasites				
Which of the following was the infectious agent detected in? (<i>check all that apply</i>)				
<input checked="" type="checkbox"/> Patient Specimen <input type="checkbox"/> Staff Specimen <input type="checkbox"/> Environmental Specimen <input type="checkbox"/> Food Worker Specimen <input type="checkbox"/> Food Specimen				

DOH USE ONLY: DOH INVESTIGATOR INFORMATION			
Name		DOH office/ Jurisdiction	
Phone/Fax		Email	
OUTBREAK INFORMATION			
How was the outbreak reported to DOH?			
<input type="checkbox"/> Notification by facility/provider <input type="checkbox"/> PA-NEDSS positive report <input type="checkbox"/> Notification by licensing agency (e.g., QA/nursing care facilities) <input type="checkbox"/> Other (explain): _____			
BOL FI # (if assigned)			
PA-NEDSS Outbreak ID			
NOTES			

