Guidelines for the Control of Gastroenteritis Outbreaks in Long-Term Care and Other Institutional Settings

July 2016

Introduction

New Jersey Administrative Code, Title 8, Chapter 57 mandates that long-term care facilities immediately report any known or suspect communicable disease outbreak by phone to the local health department (LHD) with jurisdiction over the facility. State facilities are to report directly to the New Jersey Department of Health (NJDOH) which is responsible for leading state facility investigations.[1] NJDOH shall inform the LHD of a state facility outbreak to assure they are aware of communicable disease issues that may affect them, and request assistance in investigating and controlling these outbreaks.

Note - The Health Insurance Portability and Accountability Act of 1996 (HIPAA) includes a public health exception that allows for personally identifiable information (PII) to be released to public health authorities without patient permission or notification.

Gastroenteritis Outbreaks

Each year outbreaks of gastrointestinal illness occur in institutional settings such as long-term care facilities (LTCFs) and rehabilitation centers. The communal living in these settings makes transmission easier and, due to their underlying health status, these residents are at a higher risk for developing serious complications or dying when they become acutely ill. While norovirus is the most common cause of outbreaks of gastrointestinal illness in a LTCF, a number of other organisms may also be implicated. These include Shigella, Salmonella, Campylobacter and others.

Noroviruses are the predominant cause of gastroenteritis outbreaks worldwide. Data have demonstrated that norovirus is responsible for approximately 50% of all reported gastroenteritis outbreaks. Outbreaks occur throughout the year although there is a seasonal pattern with higher incidence from November through March. Because the virus can be transmitted by food, water, and contaminated environmental surfaces as well as directly from person to person, and because there is no long-lasting immunity to norovirus, outbreaks can occur in a variety of institutional settings (e.g., LTCFs and hospitals) and affect people of all ages. Multiple routes of transmission of norovirus can occur within an outbreak; for example, point-source outbreaks from a food exposure often result in secondary person-to-person spread within an institution.

Norovirus outbreaks most commonly occur in the health-care facility setting. This includes LTCFs and hospitals. Virus can be introduced from the community into health-

care facilities by staff, visitors and patients who might either be incubating or infected with norovirus upon admission, or by contaminated food products. Outbreaks in these settings can be prolonged, sometimes lasting months. Illness can be more severe in frail patients, and associated deaths have been reported. Strict control measures (including isolation or cohorting of symptomatic patients, exclusion of affected staff, and restricting new admissions into affected units) are disruptive and costly but are often required to curtail outbreaks.

While most outbreaks of gastrointestinal infection in long-term care facilities are caused by viruses and are transmitted from person to person among staff, residents and visitors, there are many enteric pathogens implicated in outbreaks of gastrointestinal disease, including some common bacteria such as Campylobacter, E. coli, Salmonella and Shigella. Though a food handler, those who directly handle or prepare food, is not at a higher risk for developing a foodborne illness they are at a higher risk for spreading pathogens. Therefore, they have an important responsibility to follow safe food preparation and handling practices to prevent illnesses. Infected food handlers, in particular carry a greater threat of transmitting the pathogens to others through food especially when bare hand contact with ready-to-eat-foods and poor handwashing are present. In addition, those who handle other items that will be ingested (e.g., a nurse who handles pills), should practice the same precaution as food handlers.
The following guidelines have been established to facilitate the investigation of gastrointestinal disease outbreaks and the implementation of control measures. These guidelines highlight priorities regarding gastrointestinal outbreak control:

- Early detection of an outbreak
- Stopping transmission through the implementation of control measures
- Identifying the agent responsible for the outbreak

Reporting

Immediate reporting of suspected or confirmed outbreaks of gastrointestinal illness is required (see “How to Report” below).

Reporting communicable disease outbreaks in healthcare institutions serves several purposes. The immediate goal is to control further spread of the disease. In addition, information obtained from outbreak investigations can help healthcare facilities and public health agencies identify, control and eliminate infectious sources, identify carriers to mitigate their role in disease transmission and implement new strategies for prevention and control within facilities.

Often in a residential setting it is difficult to determine whether or not an outbreak exists. Following are some examples of confirmed or suspected outbreaks which should be reported by the facility to their LHD. This is not a comprehensive list. If the situation does not fit any of these criteria but you think an outbreak might be occurring, you should consult your LHD for guidance.

An outbreak may be occurring if:

1. Several residents who exhibit similar gastrointestinal symptoms are in the same room, the same wing of a facility or attended a common activity.
2. Two or more residents develop gastrointestinal illness within 72 hours of each other.
3. There is an increase in employee absences with many staff reporting similar gastrointestinal symptoms.

Reporting refers not only to the initial outbreak notification, but also to routine updates of outbreak status. The facility and the LHD shall be in frequent contact as determined by the LHD in consultation with NJDOH regarding case numbers, control measures taken, and other pertinent information. Upon receiving the initial report, the LHD shall inform the NJDOH of the situation. Notification of the outbreak to the NJDOH provides the LHD access with consultation and assistance in managing the outbreak. NJDOH will establish procedures (format, frequency) with the LHD to receive regular updates on the status of the outbreak.

How to Report

The facility shall:

- Immediately contact their LHD to report a suspected or confirmed gastrointestinal outbreak. Contact information for LHDs can be found at www.localhealth.nj.gov. and after hours at: www.nj.gov/health/lh/documents/lhd_after_hours_emerg_contact_numbers.pdf
- Notify the New Jersey Division of Health Facilities Evaluation and Licensing at 609-292-0412. (*This applies to Assisted Living Facilities, Assisted Living Programs, Comprehensive Personal Care Homes, Residential Health Care Facilities, and Adult and Pediatric Day Health Services Facilities ONLY.)*
- When LHD staff cannot be reached, the facility shall make the report directly to NJDOH who will then contact the LHD. Telephone numbers are 609-826-5964 during business hours or 609-392-2020 on nights/weekends and holidays.

The LHD shall:

Immediately notify NJDOH at 609-826-5964 during business hours or 609-392-2020 on nights/weekends and holidays.

State facilities shall:

Make the report directly to NJDOH at 609-826-5964 during business hours or 609-392-2020 on nights/weekends and holidays.

Case Investigation and Outbreak Investigation Steps

Upon notification, NJDOH will assign an outbreak ("E") number. This number should be used on all correspondence and laboratory samples to correctly identify the outbreak.

The LHD, in consultation with the NJDOH epidemiologist, shall lead the investigation by providing the facility with guidance, support and assistance. The LHD should consider making an on-site visit for initial evaluation and ongoing assessment. The LHD, with cooperation of the facility nurse/director or designee, shall follow the basic steps listed below.

Note: Steps may or may not occur simultaneously during the course of the investigation.

- Confirm that an outbreak exists.
- Verify the diagnosis using clinical, epidemiological and lab test information, considering seasonal disease occurrence.
- Develop a case definition based on clinical and laboratory criteria.
- Perform active surveillance.
- Document cases in a line list.
- Identify and eliminate transmission sources when possible.
- Institute control measures, balancing infection control concerns with disruption of residents' quality of life routines.
- Evaluate effectiveness of control measures and modify as needed.
- Summarize the investigation in a written report to communicate findings.

In most outbreak investigations, the core investigative team is comprised of LHD public health nurses, environmental health specialists, epidemiologists, and microbiologists. Depending on the scope and size of an outbreak, the investigative team may include more or fewer investigators, and the different roles and responsibilities may overlap. Nonetheless, the outbreak investigators should work together to ensure that all necessary tasks are completed and evaluate the effectiveness of control measures and modify as needed.

A. Confirm that an outbreak exists

Gather information to confirm an outbreak is occurring within the facility; this would include initial information on the number of ill and well residents and staff.

Definition of a Gastrointestinal Outbreak in LTC Settings

One laboratory-confirmed positive case of norovirus along with other cases of gastrointestinal illness in the facility;

OR

Two or more laboratory-confirmed positive cases of an enteric pathogen (e.g., *Campylobacter*, *E. coli*, *Salmonella*, *Shigella*, etc.) in the facility;

OR

A sudden increase over the normal background rate of acute gastrointestinal illness, with or without lab confirmation (above the established baseline for that facility).

B. Verify the diagnosis

- Determine the cause of gastroenteritis based on the history, physical exam and/or laboratory findings of the resident or staff member. Diagnostic testing can aid clinical judgment and guide outbreak control decisions. Be alert for noninfectious causes of symptoms such as medication, gallbladder disease or other conditions.
- The type of testing done and the type of specimen collected can vary by the disease that is suspected. Regardless of laboratory findings, public health control measures still need to be implemented.
- Collect one stool specimen from approximately 3-5 newly symptomatic residents or staff, within 48 – 72 hours after onset, for laboratory confirmation of the infecting organism. [2]
- Lab testing should be performed through the facility's standard procedures when possible. If laboratory testing capabilities are limited, the LHD should consult with NJDOH to discuss testing at the state Public Health and Environmental Laboratory (PHEL). The LHD or NJDOH epidemiologist can facilitate lab testing and/or specimen transport. **All specimens sent to PHEL must be properly labeled (including e-number if applicable) and packaged.**
- At least two laboratory-confirmed cases are needed to confirm an outbreak's etiology. When necessary, collect additional specimens from newly ill cases. When fewer than two laboratory-confirmed cases are found, a probable infectious agent can be inferred through clinical signs and symptoms.

C. Develop a case definition

- An outbreak case definition describes the criteria that an individual must meet to be counted as an outbreak case, including clinical signs & symptoms, physical location and specific time period. This differs from a clinical case definition, which is a criteria of symptoms used to make a diagnosis.
    - The case definition will be developed collaboratively by the LHD and the NJDOH epidemiologist with cooperation from the facility based on the current situation. The case definition may change over time as information is gathered on the outbreak. The NJDOH epidemiologist is available for consultation as needed.
    - Two examples of case definitions for acute gastroenteritis associated with a long-term care facility or institutional setting are listed below:

        1. Fever, nausea, and abdominal discomfort on or after mm/dd/yy **plus** two or more episodes of vomiting and/or loose or watery stools ***above the expected norm*** for the resident or staff member on Unit XYZ within a 24-hour period.

        2. Laboratory evidence of a gastrointestinal pathogen such as norovirus, *Shigella*, *Escherichia coli*, *Campylobacter*, *Clostridium difficile,* in a resident or staff member of Unit XYZ on or after mm/dd/yy **AND** compatible with a gastrointestinal infection (e.g., nausea, vomiting, abdominal pain or tenderness, and diarrhea).

D. Perform active surveillance

- Seek out additional cases of gastrointestinal illness among residents and staff. Be alert for new-onset illness among exposed persons, and review resident and staff histories to identify previous onsets of illness that may not have been correctly recognized as being part of the outbreak.
- It may be necessary to collect additional specimens from newly ill cases if a diagnosis has not yet been established.

E. Document and count cases

- The facility shall develop and maintain a line list. This line list helps the facility to track new cases and monitor the progress of the outbreak. Persons should be included on the line list only if they meet the outbreak case definition. A sample line list for persons with gastrointestinal illness may be found at http://nj.gov/health/forms/cds-12.dot
- The LHD investigator shall review the line list with the facility and the NJDOH epidemiologist to assess the status of the outbreak and make recommendations regarding control measures.

F. Identify and eliminate possible transmission sources

- In general, food or waterborne transmission is suspected when illness onsets are clustered within a relatively short period of time. Person-to-person transmission is usually associated with cases that occur over a longer period of time. Norovirus has an incubation period of 12 – 48 hours.

The link below provides additional information regarding incubation periods for other etiologic agents: http://www.cdc.gov/foodsafety/outbreaks/investigating-outbreaks/confirming_diagnosis.html

- A floor plan may be used in conjunction with a line list to document the physical locations of case-patients and ill staff to identify possible transmission routes.
- **Exclude sick staff, both direct and indirect patient care staff.** Staff members who become sick with a fever or gastrointestinal symptoms shall be sent home immediately. Symptomatic staff members shall be restricted from performing direct patient care or preparation or distribution of food based on exclusion criteria below: http://www.nj.gov/health/cd/izdp/documents/foodhandler_exclusion_list.pdf
- **Inform receiving facilities of the outbreak when transferring residents.** Transfer notification applies to both ill residents and exposed well residents. If at all possible, limit transfers to medical necessity.
- The facility, LHD and NJDOH epidemiologist should collaborate to determine the outbreak source. Occasionally, even with thorough investigation, the source might not be identified.

G. Institute control measures

Control measures are the tools that can end the outbreak by halting transmission. The LHD, in consultation with the NJDOH epidemiologist, shall provide recommendations and guidance to the facility regarding control measures. Control measures can negatively impact residents' quality of life by restricting their lifestyle, and staffing limitations are difficult to implement. Nevertheless, the facility should make every effort to institute and maintain adequate control measures until the outbreak is declared over.

Basic control measures are listed below.

1. Cohort residents, staff, equipment and supplies according to the living/work area

- Identify three cohort groups: 1.) "Ill" 2.) "Exposed" (not ill, but potentially incubating) and 3.) "Not ill/not exposed" (new admissions/staff.)
- Restrict use of equipment and supplies to use within a specific area, and do not allow residents/staff from one cohort to mix with other cohorts. For example, suspend community dining or recreational activities where ill and well would otherwise intermingle.
- Close the facility to new admissions if the physical set-up does not allow for complete segregation between "not ill/not exposed" and "ill/exposed" cohorts.
- Symptomatic residents should remain in their rooms for at least 24 - 48 hours after the resolution of symptoms.[2]

- Periods longer than 24 – 48 hours should be considered for complex medical patients (e.g., those with cardiovascular, autoimmune, immunosuppressive, or renal disorders) as they can experience protracted episodes of diarrhea and prolonged viral shedding. Patients with these or other comorbidities have the potential to relapse, and facilities may choose longer periods of isolation based on clinical judgement. The clinical benefits and harms to the resident should be considered when making this decision.[3]
- Staff assigned to affected unit(s) should not rotate to unaffected units until the LHD and NJDOH epidemiologist have determined that the outbreak is under control. This restriction includes prohibiting staff from working on unaffected units after completing their usual shift on the affected unit(s).
- Restrict use of cleaning equipment such as mops and brushes to their specific area within a unit. Restrict exchange of resident supplies between cohorts (e.g., bed linens, water pitchers, towels.) Use disposable non-critical patient care equipment (e.g., blood pressure cuffs) or dedicate use of such equipment to individual residents. If common use of equipment for multiple residents is unavoidable, clean and disinfect such equipment before it is used on another resident.

2. Institute contact precautions

Symptomatic patients should be on contact precautions for a minimum of 48 hours after the resolution of symptoms. [2]

The following information about contact precautions is excerpted from the 2007 Guidelines for Isolation Precautions: Preventing Transmission of Infectious Agents in Healthcare Settings
http://www.cdc.gov/hicpac/pdf/isolation/Isolation2007.pdf

Note: There are three categories of transmission-based precautions: contact precautions, droplet precautions, and airborne precautions. Transmission-based precautions are used when routes of transmission are not completely interrupted using standard precautions alone. Use contact precautions (in addition to standard precautions) for residents with known or suspected infections or evidence of syndromes that represent an increased risk for disease transmission.

a. Resident placement

- Acute care hospitals place patients who require contact precautions in a single-patient room.
- In long-term care and other residential settings, make decisions regarding resident placement on a case-by-case basis, balancing infection risks to roommates with the adverse psychological impact room placement might have.

b. Gloves
    - Hands should be washed prior to donning gloves and after removing gloves.
    - Don gloves upon entry into the patient area/room.
    - Wear gloves whenever touching the resident's skin or surfaces and articles in close proximity to the resident (e.g., medical equipment, bed rails).
    - Remove and dispose of gloves after completing tasks, before touching anything else and dispose before leaving patient area/room.

c. Gowns
    - Don gown upon entry into the room or cubicle.
    - Remove gown and observe hand hygiene before leaving the patient-care environment.
    - After gown removal, ensure that staff clothing and skin do not touch potentially contaminated environmental surfaces that could result in the possible transfer of microorganism to other residents or environmental surfaces.
    - Gowns should be disposed of in a closed receptacle inside the resident room.

d. Face protection
    - Because spattering or aerosols of infectious material might be involved in disease transmission, wearing masks and goggles should be considered for persons who clean areas substantially contaminated by feces or vomitus. [4]

e. Resident Transport
    - Limit transport and movement of residents outside of the room to medically necessary purposes.
    - Don gown and gloves before preparing resident for transport.
    - After resident is placed in transport vehicle (e.g., stretcher, wheelchair) remove and dispose of contaminated personal protective equipment (PPE) and perform hand hygiene.
    - Change into clean PPE to handle the resident at the transport destination.

f. Environmental measures
    - Ensure that units and rooms of residents on contact precautions are prioritized for frequent cleaning and disinfection.
    - Unit level cleaning should be increased to twice daily.
    - Frequently touched surfaces, e.g., bed rails, over bed table, bedside commode, lavatory surfaces in resident bathrooms, doorknobs, telephones, kitchen prep areas and equipment in the immediate vicinity of the resident, should be disinfected on each shift using EPA-approved products for healthcare settings.
    - Frequently touched surfaces in common areas (hallways and dining rooms) should also be prioritized for frequent cleaning.

- Change privacy curtains when they are visibly soiled and upon patient discharge or transfer.
- Disinfect surfaces as listed below:
    - Use a broad spectrum product registered with the EPA as being tuberculocidal or effective against norovirus, according to manufacturer's instructions https://www.epa.gov/pesticide-registration/selected-epa-registered-disinfectants

OR

    - A self-made bleach solution (1/4 cup bleach per gallon of cool water or one tbsp. bleach per quart of cool water) prepared daily given the potential for evaporative dilution

OR

    - Use of a bleach wipe with a 6% concentration of chlorine bleach for a 2 ½ minute contact time followed by air drying

- In areas with high levels of soiling and resistant surfaces, initial cleaning of contaminated surfaces to remove organic loads such as fecal material should be performed before chlorine bleach disinfection.
- Do not use a common cloth for cleaning/disinfecting. Use paper towels and dispose of them immediately after use.
- After use, soak cleaning equipment such as mop heads and brushes for 30 minutes in a solution of chlorine bleach equal to 2600 parts per million (3/4 cup bleach to 1 gallon of water, prepared and mixed daily.)
- Change mop heads when a new bucket of cleaning solution is prepared, or after cleaning large spills of emesis or fecal material.

3. Reemphasize hand hygiene among residents, staff and visitors

The CDC has identified hand washing as the single most important means of preventing the spread of infection at all times. During the outbreak all staff, residents and visitors must be reminded to observe meticulous hand hygiene. The following points should be stressed:

- After soaping, all surfaces of the hands should be rubbed together vigorously for at least 20 seconds then rinsed thoroughly. Hands should be dried completely, using a disposable paper towel or hand dryer.
- Hands should be washed before donning and after doffing gloves.
- Hands should be washed prior to contact with or the preparation of food items and beverages.
- Eliminate bare-hand contact with ready-to-eat foods – those foods which are meant to be eaten without additional preparation.
- Hand sanitizers should not be substituted for soap and water handwashing during a GI outbreak, since alcohol-based sanitizers have been shown to

be ineffective against spore-forming bacteria such as C. difficile, or viruses such as norovirus.[5]
- Ensure that supplies for hand washing are available where sinks are located and provide dispensers of alcohol-based hand rubs in other locations. Provide hands-free waste receptacles where possible.

4. <u>Provide in-service education to all staff on all shifts</u>

- In addition to all direct caregivers employed by the facility, staff includes volunteers, private duty, contracted or agency personnel who perform housekeeping, recreational, laundry, dietary, social service, and administrative activities.
- Education is mandatory for all shifts, even if a staff in-service program has been completed recently.
- Place major emphasis on meticulous hand hygiene since it is the most effective control measure in ceasing further spread. Provide information on the infecting organism and its transmission, contact precautions, and movement restriction. Reinforce staff illness reporting procedures and advise staff not to provide patient care in any setting if ill.
- Contact the LHD for fact sheets or other pertinent educational materials.

5. <u>Restrict visits from family, friends and volunteers as necessary</u>

- Advise visitors of the need to adhere to contact precautions and strict hand hygiene. Emphasize that using hand sanitizer cannot be substituted for soap and water hand washing.
- Post signs to reinforce infection control measures. Signage should be eye-catching and posted at building entrances as well as outside resident rooms. At a minimum, signs should cover proper hand washing technique, and instructions on the use and disposal of gowns and gloves.
- Provide adequate supplies of soap, hand towels, gowns and gloves in residents' rooms.
- Provide and maintain disposal receptacles for infection control supplies.

H. Special Considerations for Foodborne Transmissions

A foodborne disease outbreak is defined as an incident in which two or more persons experience a similar illness resulting from the ingestion of a common food, and it is important to realize that it could have started with a point source such as an ill staff member or contaminated food or utensils. A thorough foodborne outbreak investigation cannot be completed without these three major components: Epidemiologic investigation; Laboratory Analysis and Environmental Assessment. If contaminated food is strongly suspected as the source of the outbreak you may be asked to:

- Provide a recent menu for the facility and complete food history on symptomatic and asymptomatic residents.

- Submit policies and procedures related to food handling staff, records of food suppliers, storage, temperature records of cooked food, records of holding temperatures, catered food, food brought in by families, sanitizing records and kitchen equipment installation/maintenance records, water sampling records.
- Share frequency and procedures on staff handwashing, glove usage, staff knowledge of cross-contamination prevention, and staff absenteeism.
- Collect and send samples of implicated food for testing. Symptomatic staff members shall be restricted from performing direct patient care, preparation or distribution of food as specified in the exclusion criteria from section F above.

Closing the Outbreak Investigation

Generally, the outbreak is considered to be over when two incubation periods have passed without a new case being identified. Waiting two incubation periods allows for recognition of potential secondary case-patients that are still asymptomatic but in whom the disease may be incubating.

- If new cases are identified after control measures have been instituted for one incubation period, continue outbreak control measures in consultation with the facility administration, LHD and the regional epidemiologist. Evaluate and enforce adherence to infection control precautions by all staff, residents and visitors. Continue control measures until no new cases are identified for two incubation periods.
- When no new cases are identified after two incubation periods, control measures may be suspended. Continue active surveillance for new cases according to LHD recommendations.

Summarizing the Investigation in a Written Report

The LHD and facility shall collaborate on a final report and submit it to NJDOH within 30 days of completion of the investigation. See the NJDOH website for the report format, available at http://www.state.nj.us/health/forms/cds-30.dot (form CDS-30).

References

1. New Jersey Administrative Code, Title 8. Department of Health, Chapter 57: Communicable Diseases. Available at https://www.nj.gov/health/cd/reporting/. Accessed October 27, 2015.

2. Centers for Disease Control and Prevention, Updated Norovirus Outbreak Management and Disease Prevention Guidelines, MMWR Morbidity and Mortality Weekly Report. March 4, 2011; 60:RR-03; 1-44.

3. Centers for Disease Control and Prevention, Guideline for the Prevention and Control of Norovirus Gastroenteritis Outbreaks in Healthcare Settings. Available at http://www.cdc.gov/hicpac/pdf/norovirus/Norovirus-Guideline-2011.pdf. Accessed June 7, 2016.

4. Centers for Disease Control and Prevention, Norovirus in Healthcare Facilities Fact Sheet, Available at http://www.cdc.gov/hai/pdfs/norovirus/229110-ANoroCaseFactSheet508.pdf. Accessed June 7, 2016.

5. Centers for Disease Control and Prevention, Hand Hygiene in Healthcare Settings http://www.cdc.gov/handhygiene/providers/index.html

Instructions for collection, packaging and submission of specimens for Norovirus and Enteric Bacterial Pathogen Testing at New Jersey Public Health and Environmental Laboratories (PHEL)

If laboratory testing capabilities are limited, the LHD should consult with NJDOH to discuss testing at the state Public Health and Environmental Laboratory (PHEL). PHEL has the ability to test for Norovirus and bacterial pathogens such as *Salmonella, Shigella* and *E. coli* species associated with an ongoing outbreak. The following is a guide on appropriate collection, testing and shipping of norovirus and enteric bacterial pathogen specimens to PHEL. However, no specimen will be tested by PHEL until the case has been reviewed and approved by the NJDOH staff. Decisions on the type of testing would depend on clinical presentation and in consultation with the NJDOH staff. Lab testing should be performed through the facility's contracting lab when possible and facilities should adhere to contracting laboratory protocols for samples being sent to commercial laboratories. The LHD may be asked to facilitate specimen collection and/or transport and be responsible to obtain supplies from PHEL/contracting lab in the event of an outbreak.

Collection

To collect a stool specimen, before using the toilet, lift up the toilet seat and place a piece of wax paper or plastic wrap over the toilet bowl secured by adhesive tape to prevent the sample from falling into the toilet bowl. Make a depression in the plastic wrap or wax paper to aid specimen collection. Do not expel the specimen into the toilet, urinate on the specimen or expel directly into the container/vial. Use a disposable spoon or the one built into the container to transfer samples that appear bloody, watery or slimy. Mix the contents, recap and ensure the lid is tightly secured.

Norovirus Testing

1. Acute, diarrheal stool is the preferred specimen when testing for norovirus and should be collected within 48-72 hours after the onset of illness. Obtain stool specimens from 3-5 residents who are currently experiencing diarrhea with only one stool specimen submitted from each resident.
2. Stool should be collected as described above and placed in a clean catch container (i.e., urine specimen cup) with a secure screw-on lid; no fixatives, preservatives or enteric medium are needed. Label each specimen container in a water proof manner with patient name, DOB, collection date, and assigned "E" outbreak number. Specimens should be kept refrigerated at 39°F (4°C) either in a refrigerator or on a freeze pack in a cooler until ready to be shipped. Do not freeze.

3. A Request for Immunological/Isolation Services (SRD-1 Form) should be completed for each specimen and is available at https://healthapps.state.nj.us/forms/subforms.aspx?pro=phel
    a) Enter the assigned "E" outbreak number in the text box entitled "Pertinent Clinical Information"
    b) Under "Test Requested," check "other tests" and write in "norovirus testing."

Enteric Testing

1. Whole stools can be swabbed and put into the Cary-Blair medium. Label each specimen container in a waterproof manner with patient name, DOB, collection date, and assigned "E" outbreak number. Specimens should be kept refrigerated at 39°F (4°C) either in a refrigerator or on a freeze pack in a cooler until ready to be shipped.

2. A Request for Enteric Testing (BACT-109 Form) should be completed for each specimen and is available at http://www.state.nj.us/health/forms/bact-109.pdf

    a) Enter the assigned "E" outbreak number in the text box entitled "Pertinent Clinical Information"
    b) Under "Test Requested," check "other tests" and write in name of 'organism suspected' based on incubation, signs and symptoms and as determined in conjunction with CDS.

Packaging and Shipping

1. Place LABELED specimen container(s), along with frozen refrigerant packs in insulated, waterproof containers (do not use loose ice) and do not include the completed SRD-1/BACT - 109Form(s) unprotected within the same container.

2. Commercial carriers can be used to ship samples, which should be handled as Biologic Substance, Category B. Samples should be packaged in accordance with DOT regulation 49 CFR 178.199 utilizing packaging meeting DOT specifications for biological substances. Information on shipping regulations for these carriers can be found at www.iata.org or https://www.fmcsa.dot.gov/regulations/hazardous-materials.

3. For optimal test results, refrigerate the specimen and ship immediately. Facilities should ensure that specimens will be received at PHEL during normal business hours Monday through Friday. Samples collected on Friday or Saturday should be held in refrigeration and shipped on Sunday or Monday.

4. Specimens should be mailed to the following address:
    New Jersey Public Health, Environmental and Agricultural Laboratories
    3 Schwarzkopf Drive
    Ewing, NJ 08628

Laboratory Resources

Specimen collection:

Centers for Disease Prevention and Control, Foodborne Outbreaks
http://www.cdc.gov/foodsafety/outbreaks/investigating-outbreaks/specimen-collection.html

Stool Specimen Collection Video
http://progressive.powerstream.net/008/00153/Stool_Sample_Collection_for_Patients.mp4

Directions to NJDOH PHEL

http://www.state.nj.us/health/forms/vir-16inst.shtml

http://nj.gov/health/phel/documents/contact.pdf