

Enteric Outbreak Control Measures

Information Package for Institutions

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York Region Health Connection

Community and Health Services

Public Health

www.york.ca

Enteric Outbreak Control Measures

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Introduction

Outbreaks occur when the usual level of disease in a Long-Term Care Home (LTCH) is exceeded over a period of time. Early identification of an outbreak is essential since the implementation of precautions and therapeutic interventions can prevent the spread of infection and decrease the morbidity and mortality of a very frail, compromised population.

This package includes:

Sections

- A) Outbreak Definition
- B) Case Definition
- C) Collection of Laboratory Specimens
- D) Outbreak Control Measures
- E) Communication
- F) Declaring the outbreak over

Attachments

- Procedure for Stool Specimen Collection and Submission
- Sample Stop Sign
- Sample Contact Precautions signs
- Enteric Outbreak Checklist (for institutional use)
- Sample Transfer and Return Algorithm for use during Outbreaks

To report a suspect outbreak please call York Region Community and Health Services:

During Business Hours: 905-830-4444, ext.73588

After Business Hours & Weekends: 905-953-6478



A) Outbreak Definition

The facility will be placed under Surveillance mode (suspect enteric infection outbreak) when two residents/staff present with similar enteric symptoms (see below) in a relatively short period of time (e.g., 24-48 hours). The infection control designate from the Long-Term Care Home must notify York Region Community and Health Services.

Any further progression (additional cases or laboratory confirmations) of the Suspect Outbreak will be considered an outbreak.

Confirmed Outbreak Definition:

- Three or more cases with signs and symptoms compatible with infectious gastroenteritis in a specific unit or floor within a four-day period
- OR**
- Three or more units/floors having a case of infectious gastroenteritis within 48 hours

It is recognized that the confirmed outbreak definition may be overly sensitive. A gastroenteritis institutional outbreak should therefore be declared by the Medical Officer of Health (MOH) or designate, the Medical Director of the LTCH or the Director of Nursing and Personal Care of the LTCH.

If an outbreak is declared by the MOH or designate, the Medical Director of the LTCH or the Director of Nursing and Personal Care of the LTCH, then the outbreak is reportable.

B) Case Definition

- Two or more episodes of loose/watery bowel movements (conforms to the shape of the container) within a 24 hour period, or two or more episodes of vomiting within a 24 hour period
- OR**
- One episode of loose/watery bowel movements (conforms to the shape of the container) and one episode of vomiting within a 24 hour period
- OR**
- Both laboratory confirmation of a known gastrointestinal pathogen AND at least one symptom compatible with gastrointestinal illness – nausea, vomiting, diarrhea, abdominal pain or tenderness

Note: The following non-infectious causes must be ruled out:

- for diarrhea – laxative use, change in medication or diet
- for vomiting – change in medication or peptic ulcer disease

Physical examination findings (i.e., abdomen tenderness), diagnostic procedures (e.g., sigmoidoscopy) and laboratory tests (e.g., viral cultures) could also be used to develop a working case definition.



Different enteric microorganisms often cause similar acute enteric symptoms. Each enteric outbreak requires its own case definition. The initial working case definition could be modified if necessary, to ensure that the majority of cases are captured by the definition.

C) Collection of Laboratory Specimens

As soon as an enteric outbreak is declared, laboratory specimens should be collected to determine the causative organism (e.g., viruses, bacteria or parasites).

Generally specimens from 3 to 5 ill people will be needed initially. Specimens should be collected from line listed cases with the most recent onset of symptoms and during the first 48 hours after the onset of symptoms.

Outbreak related stool specimens will be tested with priority by the Ontario Agency of Health Protection and Promotion-Public Health Laboratories-Toronto, as long as the outbreak number is indicated on the lab requisition form.

To ensure the laboratory does not reject any stool samples, ensure the following:

- Check to ensure all enteric kit containers have not expired. Public Health can deliver new enteric kits if required.
- Specimen containers are properly labeled.
- Resident's/patient's name on the container and laboratory requisition form match.
- The requisition form is completed, including collection date and outbreak number.
- The specimen container is properly packaged to prevent leakage (ensure the specimen container cap is secure).
- The specimen is stored refrigerated (not frozen) until picked up for delivery to the laboratory.

See attached *Procedures for Stool Specimen Collection and Submission* instructions for more information.



D) Outbreak Control Measures

There are several measures that can be used to control the spread of an outbreak.

1. Hand Hygiene

Hand hygiene is the single most important procedure for preventing infections. Many viruses and bacteria can be spread through contaminated hands.

Hand hygiene is the responsibility of all individuals involved in health care.

There are two methods of removing/killing microorganisms on hands: washing with soap and running water or using an alcohol-based hand rub. Generally, the focus is on microorganisms that have been picked up by contact with patients/health care provider, contaminated equipment, or the environment (transient or contaminating bacteria).

- Hand sanitizing with a 70 to 90% alcohol-based hand rub (ABHR) is the preferred method (when hands are not visibly soiled) for cleaning hands. Using easily-accessible ABHR in health care settings takes less time than traditional hand washing and has been shown to be more effective than washing with soap (even using an antimicrobial soap) and water when hands are not visibly soiled.
- Hand washing with soap and running water must be performed when hands are visibly soiled. The effectiveness of alcohol is inhibited by the presence of organic material. The mechanical action of washing, rinsing and drying is the most important contributor to the removal of transient bacteria that might be present.

If hands are visibly soiled and running water is not available, use a moistened towelette to remove the visible soil, followed by alcohol-based hand rub.

During an enteric outbreak, hand washing frequency amongst staff, residents and visitors must be increased. Implement use of ABHR in areas where hand sinks are not readily available.

2. Enhanced Cleaning and Disinfecting

- Thorough and frequent cleaning of equipment and environmental surfaces should be reinforced during an outbreak. Areas of concern are, but not limited to, all washrooms, handrails, tables, doorknobs, elevator buttons, call bells, telephones, bed rails, light switches, toilet handles and commodes.
- If equipment is shared with other residents ensure the equipment is cleaned and disinfected before and after each use.
- Handle soiled resident care equipment in a manner to prevent contamination of clothing and the environment.
- Ensure that the chemical concentration of disinfectant is appropriate and the cleaning solutions containing the chemical disinfectant is changed frequently. Pay special



attention to the contact time needed for the disinfectant being used. Follow manufacturer's recommendations for use. Consult your Infection Control Liaison from the Health Protection Division for specific requirements.

3. Use of Personal Protective Equipment (gloves, masks and gowns) – PPE

PPE has to be put on before entering an ill resident/patient's room.

- Masks and eye protection to be used when within 2 metres of an ill resident who presents with vomiting.
- Gloves are recommended if contact with blood, body fluid, secretions, excretions or touching the resident's environment is likely to occur.
- Gowns are recommended to protect uncovered skin and clothing, if splashing is probable.
- Gloves, masks and gowns must be changed between clients and/or when contaminated.
- Staff to have completed resident care and be at least 2 metres distance from resident before any PPE is removed. Hand hygiene should be performed as PPE is removed.
- A sign should be placed on the resident's door indicating the appropriate PPE to utilize.

See attached sample York Region *Contact Precautions* sign.

4. Staff Control Measures

Staff: All persons who carry on activities in the LTCH, including but not limited to employees (permanent, temporary), students, attending physicians and both health care and non-health care contract workers, and any other staff (including persons with admitting/clinic privileges [MD, Mid-wives, Hearing Aid Centre]; maintenance workers (e.g., janitorial, repair, etc.) or other workers who carry on activities in resident care areas or come into contact with residents (e. g., hairdressers).

a) Exclusion of ill staff:

- Staff with enteric symptoms should not enter the facility.
- Ill staff should report the illness to their supervisor who will report it to the Infection Control Practitioner (ICP), or follow the reporting procedure of the LTCH.
- Ill staff should be excluded from work until no longer infectious. Consult with Public Health. If no organism is identified, exclude staff until they are 48 hours symptom-free.
- Encourage ill staff to submit stool specimens.

b) Staff working at other healthcare facilities:

- Staff with enteric symptoms should not work in any healthcare facility.
- Well staff who also work at other health-care facilities, day-care centres and food premises, should advise their employers that they have been working in an institution at which there is an outbreak.

c) Cohort staff:

- Designate some staff to look after only ill residents and other staff to look after only well residents, if feasible.
- If staff must move between affected and non- affected areas, staff should start their duties in the non-affected areas.
- Minimize the movement of staff within facility, especially if only some areas of the facility are in an outbreak mode.



5. Resident/Patient Control Measures

a) Restriction of cases to their rooms:

- If the causative agent for the outbreak is unknown, restrict cases to their room until 48 hours after the last episode of vomiting or diarrhea as long as it does not cause the resident undue stress or agitation, and can be done without applying restraints. This isolation standard also applies after relapses.
- If the causative agent for the outbreak is known, apply disease specific isolation practices.
- If the case shares a room with one or more other residents who are not cases, a two metre distance around the bed space may be considered the isolation area for the client.
- No room restrictions required for asymptomatic roommates of cases, but roommates should be confined to affected areas of the facility.

b) Restriction of residents to their unit:

- If the outbreak is confined to one unit/floor of the facility, all residents (well and ill) from that unit should avoid contact with residents from the rest of the facility.

c) Notification of relevant individuals/agencies both internally and externally as appropriate, including but not limited to:

- Medical Director
- Director of Nursing and Personal Care
- Administrator
- Infection Prevention and Control Professional
- Director of Food Services
- Director of Housekeeping/Maintenance
- Staff members
- Attending physician

d) New admissions:

Generally, admission of new residents to the affected unit/floor is not recommended. Admission to non-affected units/floors is allowed. Changes to this control measure may be made in consultation with the Public Health Unit.

e) Re-admission of cases to a healthcare facility (i.e., LTCH) from a hospital:

(See attached *Sample Transfer and Return Algorithm for use during Outbreaks*)



If resident meets the case definition of the outbreak, re-admission to the LTCH from a hospital is permitted provided that appropriate accommodation and care can be provided. Isolation is required if the resident has not passed the infectious period.

f) Re-admission of non-cases to a healthcare facility (i.e., LTCH) from a hospital:

Re-admission to a LTCH from a hospital of residents who are not line listed is generally not permitted. Changes to this control measure may be made in consultation with the Public Health Unit. The following should be considered:

- What is the current status of the outbreak at the LTCH?
- Does the resident's attending physician at the hospital agree to the admission/return based on a review of the current health status of the resident? And are they aware of the outbreak?
- Is the resident protected from the outbreak pathogen through appropriate infection prevention and control measures in place at the LTCH?
- Are appropriate accommodations available for the returning resident at the LTCH?
- Will the resident return to an outbreak affected area of the LTCH?
- Has the resident or their substitute decision-maker been given information about the return to the LTCH?

g) Resident discharge from an outbreak facility to a private home:

A resident can be discharged from an outbreak facility to a private home with no restriction. Ensure that family is aware of the outbreak and symptoms that may develop. If the resident is re-admitted to an outbreak facility, follow re-admission requirements as noted above.

h) Resident transfers from an outbreak facility to a hospital/other health care facility:

When transferring any resident (case or non-case) from one healthcare facility to a hospital/ other health care facility, a facility must notify the receiving healthcare facility, the Patient Transfer Authorization Centre (PTAC), family members and Emergency Medical Services.

i) LTCH resident transfer to another LTCH:

LTCH residents (cases and non-cases) from anywhere in the home should not be transferred to another LTCH until the outbreak has been declared over. Discuss exceptions with Public Health.

j) Resident transfers within an outbreak facility:

Resident (case or non-case) transfers within an outbreak facility are not permitted until the outbreak is declared over. Discuss exceptions with Public Health.

k) Resident medical and other appointments:

- Non-urgent appointments made before the outbreak (e.g., dental appointments) should be rescheduled when there is no anticipated serious impact to the residents' health.
- Urgent appointments during enteric outbreaks may continue with precautions. EMS and receiving facility must be advised. Discuss urgent appointments with Public Health.



- All attempts should be made to keep specialist appointments provided the resident is well enough to attend (i.e., medically stable) and the specialist agrees to the appointment in light of the resident's status. Otherwise, these appointments must be rescheduled.

1) Communal activities:

- Reschedule communal meetings on the affected unit/floor. However, other meetings or activities may proceed in non-affected areas.
- Discontinue group outings from the affected unit/floor.
- Restricting meetings or activities in the entire institution if the outbreak spreads to two or more units/floors.

6. Visitor Control Measures

a) Advise visitors of the outbreak:

- Post outbreak notification (*Stop* signs) at all entrances to the facility, indicating that the facility is in outbreak. See attached sample York Region *Stop* sign.
- Post appropriate contact precautions notices on the room doors of ill residents advising visitors to check in at the nursing station before entering the room to reinforce routine practices (i.e., hand hygiene, PPE use)

b) Advise visitors of restrictions:

- Ill visitors are not permitted in the facility.
- Visitors must follow the appropriate infection prevention and control measures in place.
- Visitors should only visit one resident and exit the facility immediately after the visit.

c) Advise about visiting a well resident:

- Visitors visiting well residents with an ill roommate are not required to wear PPE provided they stay at least 2 metres away from the ill resident at all times and clean their hands as they leave the room.
- There are no restrictions for visiting well residents in private rooms although visitors should not visit other residents during the outbreak.

d) Advise about visiting an ill resident:

- Ill residents should be visited in their room only, by only one visitor at a time, if possible.
- Discourage visitors from providing direct care to residents. If they choose to provide direct care, ensure they use appropriate PPE and perform careful and frequent hand hygiene without using the resident's sink.
- Visitors should be instructed about how to put on and remove PPE.



e) Advise about visiting by outside groups:

- Visits by outside groups (i.e., entertainers, community groups, volunteer organizations) are generally not permitted during an outbreak.
- Conduct onsite adult programs – such as physiotherapy and foot care – for well residents in their rooms, if possible.
- Ensure there is no interaction between the affected floor/unit and participants in onsite child-care or other day programs.

E) Communication

- The facility will provide the Public Health Investigator with daily updates by noon of the line list. If there is a significant change in severity of illness, number of hospitalizations and/or deaths, contact Public Health immediately.
- The phone number for on- call staff outside normal office hours is 905-953-6478.
- The facility will ensure the Coroner is advised immediately of any deaths (case or non-case) that occur during the outbreak.

F) Declaring the Outbreak Over

The Public Health Unit shall declare the outbreak over in consultation with the LTCH.

The MOH retains the final authority to determine if an outbreak is over. The outbreak may be declared over when the criteria specified below are met.

Criteria for Declaring an Outbreak Over

The end of an outbreak is determined on a case-by-case basis. The specific period will be decided by the Public Health Unit in consultation with the LTCH.

Criteria for declaring an outbreak over varies by micro-organism and is based on the transmission risk, but often is set at:

- If the etiologic agent is known:
No new cases after one infectious period plus one incubation period from the date of onset of symptoms of the last case (resident or staff).

Example: Laboratory confirmed *Norovirus* outbreaks can be declared over after five days from the date of onset of symptoms of the last case (resident or staff).
- If the etiologic agent is unknown:
48 hours after the symptoms of the last case have resolved and when the following criteria have been met:
 - All appropriate precautions were taken
 - *Norovirus* was not suspected
 - There was no confirmed etiologic agent
 - Kaplan's criteria were used.



Note: In some circumstances, the Public Health Unit, in consultation with the LTCH, may decide that it is possible to resume some activities and discontinue some control measures during this period if:

- The last case was an isolated case on a unit. It may be possible to declare the outbreak over with the assurance that strict infection prevention and control measures will remain in place until all symptoms of the case have disappeared.
- The last case occurred in a staff person now excluded from the LTCH. It may be possible to declare the outbreak over once one incubation period has passed since the staff member was last present in the LTCH.

Since LTCHs have some sporadic gastrointestinal infection cases in non-outbreak situations, the OMT may need to attempt to differentiate between these sporadic cases and outbreak-associated cases in identifying the last outbreak-related resident case.



PROCEDURES FOR STOOL SPECIMEN COLLECTION AND SUBMISSION

The following equipment will be needed:

- Gloves
- Enteric Outbreak Kit
- Test requisition form
- Brown paper bag

A. PREPARE ENTERIC OUTBREAK KIT FOR USE

1. Remove specimen containers from the plastic bag.

- Check to ensure containers are intact and not leaking.
- Check expiry dates on containers. Expired containers should not be used.

2. Complete the required information on the main, large label on the bag with a ballpoint pen:

- Patient's Name (last name, first name)
- Date Collected
- Onset Date
- Health No.
- Outbreak No.
- Resident, Staff (check appropriate box)
- Symptomatic, Asymptomatic (check appropriate box)

Do not peel off main label.

3. Peel off the corresponding kit numbered, small labels located on the biohazard bag.

- Place one label on each container used.

4. Complete the following information on each container:

- Patient's name
- Date of collection

Note: The specimens will be rejected if the patient name and kit number label (small label) are not placed on each of the containers.



B. FILL OUT THE “GENERAL TEST REQUISITION” SUBMISSION FORM (F-SD-SCG-1000)

as follows:

1. Submitter:

- Provide return address: **York Region Community and Health Services
Infectious Diseases Control
17250 Yonge Street, Box 147
Newmarket, ON, L3Y 6Z1**
- Clinician Initial/Surname and OHIP/CPSO Number:
Dr. Karim Kurji - MOH OHIP Billing N/A
- Tel: 905-895-4511, ext. 7XXXX
Note: Indicate the extension of the Public Health Investigator! (i.e., NOT Dr. Kurji’s extension number)
- If not available, ext. 73588
- Fax: 905-898-5213

Note: When the outbreak is declared and the investigation is started outside regular business hours (after-hours, weekends, holidays) by an on- call Public Health Investigator and a stool specimen is submitted to the lab, fill out this section as follows:

- Dr. Karim Kurji - MOH
- OHIP Billing N/A
- Telephone:
 - After hours: 905-953-6478
 - Business hours: 905-895-4511, ext. 73588
- Fax: 905-898-5213

The next day, after the weekend or after the holidays, the outbreak investigation will be taken over from the on- call investigator by the regular, day-time investigator. At this time, the regular investigator will contact you and provide you with his/ her name and phone number.

When submitting subsequent stool specimens to the lab, use the daytime investigator’s contact information when filling out lab requisition forms.

- CC Doctor Information:
If you require the laboratory to send a copy of the test results to another healthcare provider, enter the clinician’s complete return address, full name, postal code, telephone number and fax number.



2. Patient Information:

- Health No.
- Sex
- Date of Birth
- Medical Record No.
- Patient's Last Name (per OHIP card)
- First Name (per OHIP card)
- Patient address: Name, Address, City & Province of the Institution
- Postal Code: of the Institution
- Public Health Unit Outbreak No.

Public Health Investigator Information:

- Name
- Health Unit: York Region Community and Health Services
- Tel: 905-895-4511, ext. 7XXXX. If not available, ext. 73588
- Fax: 905-898-5213

Patient Setting:

- Institution (check box)

3. Test(s) Requested:

- Bacterial Culture and Sensitivity
- Virus Isolation/Detection
- Stool Parasites

4. Specimen type and site:

- Faeces (check box)

5. Reason for Test:

- Diagnostic (check box)
- Date Collected:
- Onset Date:
- Clinical Information: Gastroenteritis (check box)



C. COLLECT STOOL SPECIMEN

- Have the patient deposit a stool into a clean container.
- Collect faeces sample from soiled diaper if appropriate.
- Faeces specimens that have been in contact with toilet water are unacceptable.

D. PLACE SPECIMEN IN SPECIMEN CONTAINER

Put on gloves.

Using the plastic spoon from each container, select different sites of the faeces specimen, preferably those with blood, mucus or pus, and transfer to the containers as follows:

- Bacteriology – Green-capped container with red-coloured transport medium. The plastic spoon is fitted inside the cap. Add 2-3 spoonfuls of faeces, mix into transport medium, and replace and tighten the cap.
- Virology/Toxin – Use the empty white-capped container. Use plastic spoon to add faeces up to the line indicated. Replace and tighten the cap.
- Parasitology – Yellow-capped container with clear liquid preservative. Use plastic
 - spoon to add faeces up to the line indicated. Mix well and replace and tighten the cap.

E. PREPARE ENTERIC OUTBREAK KIT FOR TRANSPORTATION

- Place all three containers in the biohazard bag.
- Place the completed requisition form in the outside pocket of the biohazard bag.
- Place the sealed enteric kit(s) in a brown paper bag. Label the brown paper bag with the following information:
 - Stool Sample (s)
 - To: Public Health Ontario Laboratories -Toronto
 - From: York Region Community and Health Services
 - Outbreak No.
- Refrigerate specimens immediately. Do not freeze.
- Inform the Public Health Investigator that specimens have been collected.

F. SUBMIT SPECIMEN(S)

Send specimen(s) to Public Health Ontario Laboratories in Toronto by courier as soon as possible.

1. Request courier information from your Public Health Investigator:
 - The name and phone number of the current courier service
 - The York Region Community and Health Services Department account name and number



2. Call courier and inform them of the following:
 - The time the specimen(s) will be ready for pick-up from your facility
 - The address of the Ontario Agency of Health Protection and Promotion-Public Health Laboratories in Toronto: 81 Resources Road, Toronto, Ontario.
 - York Region Community and Health Services Department account name and number

3. Ensure shipment requirements are met:
 - Ensure that the courier driver has an insulated container (blue transport cooler bag) for the transportation of the specimen to the laboratory.
 - The cooler bag must carry the marking *Biological Substance Category B*, to indicate the stool specimen's classification according to the *Transportation of Dangerous Goods Regulations*. Please see attached sample.
 - Observe that the courier places the specimen in the cooler.
 - If you have any concerns please do not submit the specimen and call your public health investigator immediately. Call the on call number if outside of regular business hours.



ATTENTION VISITORS



We are experiencing an outbreak!
Please speak to the nursing staff prior to your visit
You may be at risk of becoming ill within the facility

Visitors Report to Nursing Station

Contact Precautions



Use With Routine Practices

Dedicate or Wipe Shared Equipment

Contact Precautions

(Use with Routine Practices)

Potential for environmental contamination

Use Contact Precautions for:

- Diarrhea
- Draining infected wounds if secretions cannot be contained
- *C. difficile*
- Norovirus: use Droplet/Contact Precautions if vomiting
- Antimicrobial Resistant Organisms (ARO)

Example:

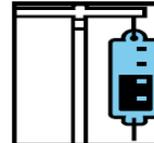
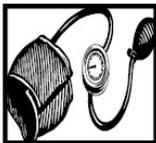
1. MRSA (Methicillin Resistant *Staphylococcus aureus*)
2. VRE (Vancomycin Resistant Enterococcus)
3. ESBL (Extended Spectrum Beta-Lactamase)
4. Multi-drug Resistant Pseudomonas

TO DO

- Use single room, or designated bed space in shared room: consult Infection Prevention & Control regarding cohorting and shared rooms
- Wear gloves and gown when entering patient/resident room, or their designated bed space in a shared room

Notify Infection Prevention & Control

Dedicate or wipe shared equipment after each use
as per Routine Practices



Enteric Outbreak Checklist (For Institutional Use)

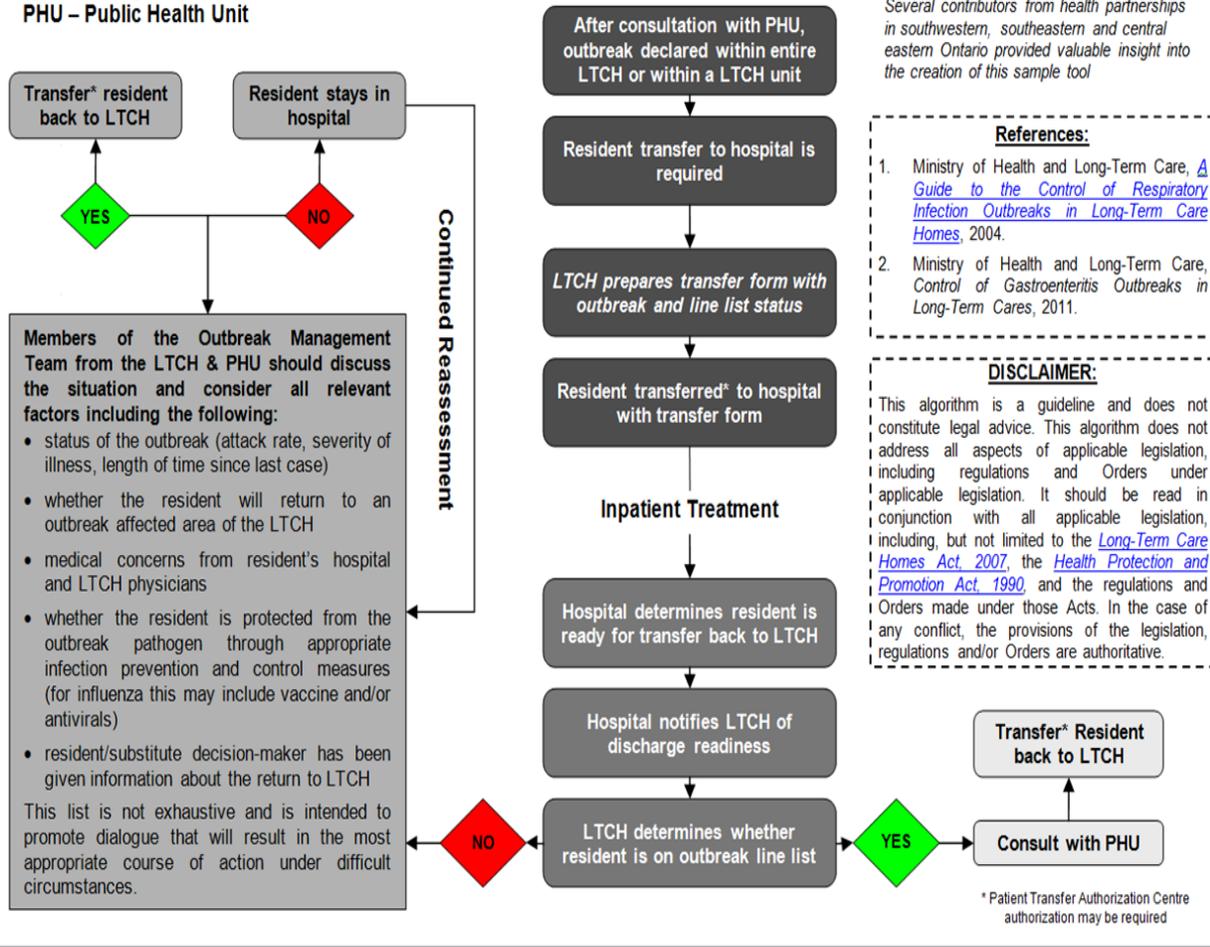
- Assess the suspected or confirmed outbreak
- Implement infection control measures
- Notify the local MOH or Designate of the suspected or confirmed outbreak
- Declare an outbreak in consultation with Public Health
- Obtain an outbreak number
- Hold an initial Outbreak Management Team meeting within 24 hours of an outbreak being declared
- Notify appropriate health care organizations and persons of the outbreak
- Collect and submit specimens for laboratory analysis
- Review communication of laboratory results
- Monitor the outbreak on an ongoing basis
- Public Health will declare the outbreak over
- Notify appropriate health care organizations and persons that the outbreak has been declared over

Sample Transfer & Return Algorithm for use during Outbreaks

Communication for Transfer & Return between Long-Term Care Homes and Hospitals



LTCH – Long-Term Care Home
PHU – Public Health Unit



Source: Ministry of Health and Long-Term Care, Public Health Division, October 2013, *Control of Gastroenteritis Outbreaks in Long-Term Care Homes. A Guide for Long-Term Care Homes and Public Health Unit Staff*; page 87

