Prevention and Control of Gastrointestinal Outbreaks In Residential and Acute Care Settings

Yukon Guidance Document
Yukon Communicable Disease Control
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Prevention and Control of Gastrointestinal Outbreaks in Residential and Acute Care Settings

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Acronyms

ABHR - Alcohol based hand rub

BCCDC - British Columbia Centre for Disease Control

CMOH – Chief Medical Officer of Health

EHO - Environmental Health Officer

EHS- Environmental Health Services

GI – Gastrointestinal

HCP – Health Care Provider

ICP – (Facility) Infection Control Practitioner/Professional

OPMT – Outbreak Prevention and Management Team

PCRA – Point of Care Risk Assessment

PICNET- Provincial Infection Control Network of British Columbia

PIDAC – Provincial Infectious Disease Advisory Committee, Ontario

PPE – Personal Protective Equipment

WGH – Whitehorse General Hospital

YCDC – Yukon Communicable Disease Control

1.0 Gastrointestinal Infection Outbreak Management

Introduction

Gastrointestinal (GI) infections may be caused by a variety of agents including bacteria, viruses and protozoa. Healthcare associated transmission of GI infections usually results from contact with infected individuals, from consumption of food, water, or other beverages, or from exposure to contaminated objects or environmental surfaces.

The most important characteristic of pathogens responsible for infectious GI infections is their ability to be rapidly transmitted in healthcare settings among individuals who often are highly susceptible. Episodes of infectious GI infections account for a significant proportion of all patients/residents/clients in healthcare settings who develop diarrhea with or without nausea and/or vomiting.

In residential care facilities, viral gastroenteritis is the leading cause of gastrointestinal illness spread from person to person and Norovirus is the most common viral agent identified. Residential care facilities are at high risk of having viral gastroenteritis because of the many people living in close quarters, sharing bathrooms and eating facilities and the difficulties in maintaining personal hygiene among residents who may be challenged by incontinence, immobility, or dementia. (Fraser Health, 2009)

For a table containing the most common agents that cause GI infection outbreaks and their individual characteristics (i.e. incubation period, duration of symptoms) please see Appendix A**.**

The recommendations presented in the document have been adapted (with permission) from PICNet BC: "Gastrointestinal Infection Outbreak Guidelines for Healthcare Facilities" – Reference Document for use by Health Care Organizations for Internal Policy/Protocol Development. This guidance is supported by the CMOH and YCDC as standards of practice and principles for outbreak management. This document will be updated by YCDC as required to reflect any pertinent changes in recommendations.

Purpose

This reference document is intended to provide information and guidance for all healthcare facilities when developing or updating their policies and processes that pertain to prevention, surveillance, identification and control of GI infection outbreaks. **This document was not developed to address an outbreak caused by Closdridium difficile, although many of the same principles still apply. Please consult literature written specifically for this organism such as "Control of Clostridium Difficile Infections (CDI) Outbreaks in Hospitals" by Ontario**
http://www.rcdhu.com/HealthInformation/infdisease_outbreak-control-of-CDI-hospitals.pdf

Effective outbreak management requires a collaborative effort between YCDC, EHS, Facility Infection Control Practitioners, facility Managers and facility HCPs.

For further reading on GI outbreaks refer to the BC PICNet GI Outbreak Guidelines for Health Care Facilities available at http://www.bccdc.ca/NR/rdonlyres/E2256DB6-A332-424E-A87C-7E68AFDF4F39/0/InfectionControl_GF_GEGuidelinesnov0503.pdf

Pre – Outbreak Preparation

- Order Specimen Outbreak Collection Kits from the WGH Laboratory, 867-393-8739. Use the "Request for Supplies" Form found in Appendix B. Facilities should have specimen collection containers on hand at all times for the initial cases when a GI outbreak begins and should have a mechanism to ensure containers are not expired. A GI outbreak kit should include six sterile vials for feces, six Ova and Parasite vials, two sterile vials for vomitus, eight biohazard bags and eight "Gastrointestinal Disease Requisition Forms" See page 11.

- Develop a facility protocol that outlines staff responsibilities for implementing outbreak response. Keep all records and procedures together in a binder/folder readily available to care staff for easy access.

- All residential facilities should have an individual who is identified as responsible for infection control activities. That person, assisted by other staff in the facility, should be responsible for ongoing surveillance and implementation of control measures in the event of a GI outbreak.

2.0 The Outbreak Prevention and Management Team (OPMT)

Organizational leadership is critical in all health care settings to ensure effective outbreak prevention and control. Ideally, all facilities should have a designated OPMT. This group is responsible for ensuring that measures for preventing outbreaks are in place and for directing and overseeing the management of all aspects of any outbreak. OPMT members should have decision making authority for their discipline within the facility or unit. A lead person from this group should be appointed to coordinate the meeting(s) during an outbreak. The membership of an OPMT will depend upon the facilities location, size and contractual status.
Membership may include:

- Medical Officer of Health or delegate
- Infectious Disease Nurse from Yukon Communicable Disease Control
- Director of Care/ Administrator or Manager
- An ICP or person responsible for infection control of that site
- Front line HCP representative (e.g. charge nurse, unit managers)
- An Environmental Health Officer
- A laboratory manager or representative
- A person responsible for support services such as housekeeping, laundry, material management (stores),
- Representative from Admissions and Discharge and scheduling.

- A foods services supervisor
- Communications coordinator

A written process for GI Outbreak Management which includes current membership of the OPMT with contact information should be available to all HCPs. This should be reviewed annually and updates made. Below is contact information for YCDC, CMOH, EHS, WGH Lab, and Health and Social Services Communications.
YCDC – 667-8323 Fax 667-8349
CMOH – office 456-6136/ cell 332-1160
Environmental Health Services – 667-8391 Fax 667-8322
WGH Laboratory – 393-8739
Communications, Health and Social Services – 667-3673

Facilities will have their own written guideline with key player information available for facility staff.

Roles and Responsibilities during a Gastrointestinal Infection Outbreak

Chief Medical Officer of Health (CMOH)

Consults with YCDC Nurse, EHO, Facility ICP, Director of Care, and Nursing HCPs, concerning outbreak declaration, control measures and declaration of end of outbreak.
The Chief Medical Officer of Health has legislative authority and responsibility, according to the Yukon Public Health and Safety Act, to direct the outbreak response. The CMOH may delegate this responsibility. In many situations, jointly developed protocols are in place to guide outbreak detection and management and the Chief Medical Officer of Health may not be directly involved with each outbreak. Even if such protocols are in place, the authority of the Chief Medical Officer of Health to direct the local response remains in place.

Environmental Health Officer (EHO)

Enforces Yukon Public Health and Safety Act legislation in regard to disease control and protection of the public. Works with the CMOH/YCDC in conjunction with the Facility ICP and HCPs to ensure that appropriate outbreak control measures will be put into place in preparation for an outbreak. Acts as a consultant and provides support/resources prior to and during an outbreak; communicates/liaises promptly with the CMOH, YCDC and Facility ICP when outbreaks are suspected and/or have been declared. Provides expertise in determining the source and means of spread of the agent, especially where food or waterborne spread may be involved

Facility Administrator/Manager or Director of Care

Ensures that patients/residents/clients receive care in a safe environment by working collaboratively with the Facility ICP /EHO/CMOH and YCDC to ensure that HCPs are familiar with outbreak prevention and control processes and ensures timely implementation of control strategies which may include providing additional resources. Works collaboratively with the Facility ICP to monitor and report HCPs illness.

Facility Infection Control Professional (ICP)

The senior ICP that is responsible for leading the infection control program in a facility and provides primary direction in outbreak pre-planning and control. This position or delegate is responsible for reporting to the CMOH and YCDC.

Health Care Provider (HCP: includes all disciplines who provide direct care)

Work collaboratively with the Facility ICP and Facility Managers to ensure best practices are used for the prevention and control of GI Outbreaks. This includes early recognition of clusters of GI infections, diligent use and promotion of hand hygiene, early recognition of possible outbreaks and timely implementation of control strategies.

Infectious Disease Nurse at Yukon Communicable Disease Control (YCDC)

Works with the CMOH, EHO, in conjunction with the facility ICP, Administrator and HCPs to ensure that appropriate outbreak mitigation measures are in place in preparation for an outbreak occurrence. Acts as a consultant and provides support/resources prior to and during an outbreak to ensure control strategies are initiated promptly. Communicates/liaises promptly with Environmental Health and/or the CMOH when outbreaks are suspected and/or have been declared.

British Columbia Centre for Disease Control (BCCDC) Public Health Microbiology & Reference Laboratory

Provides advice on sample collection and testing and timely processing of samples and reporting back to the contact that is named on the Outbreak Notification Form (most likely YCDC).

Local Laboratory

The Whitehorse General Hospital provides advice on appropriate lab specimens to facilitate diagnostics (in conjunction with BCCDC) and assists in timely transportation of specimens to BCCDC where appropriate.

Media/Public Relations – Yukon Government Communications Department

With guidance from the CMOH and Outbreak Prevention and Management Team develops appropriate public announcements.

Medical Director or Facility Individual Physicians

Works collaboratively with the Director of Care, Facility ICP and CMOH to ensure that patients/residents/clients receive care in a safe environment.

Support Services

Assists in outbreak management by ensuring additional resources such as personnel, supplies, enhanced cleaning etc. are available.

3.0 Identifying a GI Outbreak (does not apply to C.difficle)

Case Definition (HCP may find the Bristol Stool Chart useful, Appendix C.)

A case of probable GI infection is defined as any one of the following conditions that **cannot be attributed to another cause** (e.g.: laxative use, medication side effect, diet, prior medical condition):

- Two or more episodes of diarrhea in a 24 hour period – above what is considered normal for that individual

  OR
- Two or more episodes of vomiting in a 24 hours period

  OR
- One episode each of vomiting and diarrhea in a 24 hours period

  OR
- Positive culture for a known enteric pathogen with a symptom of GI infection (e.g. vomiting, abdominal pain, diarrhea)

  OR
- One episode of bloody diarrhea

Potential Outbreak/Alert Stage

When one or two suspect cases of GI infection occur within a 4-day period, it is recommended that the facility:

- Immediately segregate any patient/resident/client with GI illness
- Continue to use routine practices plus droplet precautions when providing direct care. All GI illness is to be treated as if it is Norovirus until proven otherwise.
- Increase monitoring and recording of GI symptoms on remainder of patients/residents/clients.
- Record self-reported GI symptoms among HCP.
- Inform manager and facility ICP of situation.

Outbreak Definition

Three or more cases of GI infection (as defined above), potentially related, occurring within a four day period, within a specific geographic area (i.e. unit, ward).

4.0 Reporting a Suspected GI Outbreak

- A suspected gastrointestinal outbreak needs to be reported as soon as possible to the Director of Care or the facility designated most responsible person and the Facility ICP, if applicable, who will ensure outbreak measurers are put in place.
- The facility Manager/Director of Care and/or Facility Infection Control Professional should mobilize the Outbreak Prevention and Management Team.

- The facility must notify Yukon Communicable Disease Control (Monday to Friday 08:30-16:30) at 867-667-8323. If an outbreak is identified after business hours report it first thing on the next business day. On weekends between 08:30-16:30, notify the Chief Medical Officer of Health.
- Initiate staff and resident line list, Appendix D and E, and fax to YCDC. Submit the Initial Outbreak Form, Appendix F, to YCDC.

5.0 Identifying the Source(s)

Although it is often not initially clear what the source of the outbreak may be, it is important to think about this from the beginning. The type of specimens to collect and send may depend upon the suspected source (e.g. food borne versus viral pathogen). To determine the source one must understand the possible common sources, potential modes of transmission, usual reservoirs, incubation periods and the microbiological traits of the pathogen of concern. This information will enable one to formulate a hypothesis on the type of organism, index case or source, initiate the appropriate observation strategy and ensure the correct specimens are collected and sent for confirming the hypothesis. The ability to identify the source will also provide information that will be helpful in bringing the outbreak to an end. The CMOH or Environmental Health Officer will provide consultation for this process.

A common-source GI infection outbreak occurs from exposure to a pathogen in food or water. This can result from a single exposure to the agent or from repeated exposures. Usually, common-vehicle outbreaks are characterized by explosiveness of onset and limitation or localization in time, place and people. A typical example of this is a single source of exposure such as a pathogen from a food item. If a large number of people become ill within a very short time period and within a limited location, one should consider a "common source" such as food or water.

A propagated source occurs when there is successive transfer from person to person. These situations may begin as a few cases and each day bring a few more cases as the first ones recover. This usually occurs when someone introduces the infectious agent into the facility making one or two people ill, who in turn infect others, and so on.

Questions that should be considered are:

- Who were the first individuals to become ill?
- What was the timing between each case? Did they all become ill within a short period of time (minutes to a few hours) or was there a longer period of time between each case?
- Was there an activity or an outing that they have in common?
- Are they or were they located in the same place? (could be unit, site, area)
- Was there any object that they shared? (food, equipment)

Clusters of patients/residents/clients that develop diarrhea, nausea and vomiting lasting only a few days, accompanied by symptomatic healthcare workers should lead to seeking a viral etiology.

Collection of Specimens

Clinical Specimens

Clinical specimens include feces and vomitus. Collect specimens as early in the infection as possible (within 3 days of the onset of symptoms in the individual).

Use the GI outbreak kit, obtained from WGH Lab, for the collection of clinical specimens. (See page 6, Pre-Outbreak Preparation for ordering information). Each facility should have a kit ready to use.

If a bacteria or virus is suspected:

- The sterile dry fecal container with spoon is for bacteriological and viral testing, and has no liquid in it. This should be filled to the line, as a maximum (10ml of feces is minimum amount required).
- Larger vials with white lids are for vomitus specimens and contain no liquid.

If a protozoan/parasite is suspected:

- The red-capped vial contains SAF preservative and is for testing for the presence of protozoa (e.g. *Giardia*, *Cryptosporidium*). The preservative must be kept in the vial, and the ratio of specimen to liquid is 1:3 (about 2 to 3 spoonfuls of specimen using the built-in spoon). Note the expiry on the container.

Storage and shipping:

- Every effort should be made to get the specimen to WGH on the day it was collected.
- Feces and vomitus samples must be refrigerated until delivered to WGH Lab.
- BCCDC requires specimens to reach them **within three days.** WGH is able to transfer specimens to BCCDC within three days **except on weekends if the specimen comes in after 2200hrs Thursday night**. The next shipment would be Monday morning with specimens arriving at approximately 1400hrs in Vancouver.
- Vomitus should be kept at 4 degrees C during transport. A small ice pack may be added to the transport cooler as long as the specimens do not become frozen.

Requisitions

- The BCCDC "Gastrointestinal Outbreak Requisition" is required with each sample submitted. Appendix G**.** When a suspected outbreak is identified, YCDC will provide an Outbreak Identification code. It is important that the Outbreak Identification code is indicated on all requisitions.

YCDC's Role in Facilitating Specimen Submission

- YCDC is responsible for notifying BCCDC of an outbreak and providing the outbreak number to the facility/unit. GI outbreaks are reported to BCCDC Public Health and Microbiology Reference Laboratory via secured fax notification system. The GI Outbreak Fax number is (604) 707-2607. Follow up by a phone call to the reference lab at (604)707-2611.

- YCDC fills out the "Gastrointestinal Disease Outbreak Notification Form", Appendix H, and faxes it to BCCDC. YCDC assigns the Outbreak Identifier and includes the code on the form. The code usually includes facility name, month, year of outbreak. This Outbreak Identification code is given to the affected Facility so it may be used on every specimen requisition sent out.

- YCDC is responsible for notifying the WGH Lab Manager or designate of an outbreak.

- The facility is asked to use the line list, Appendix E, to record those who have had a stool sample collected and when. Fax line list to YCDC in a timely manner.

- YCDC notifies BCCDC regarding specimens collected by faxing an updated "GI Disease Outbreak Notification Form".

No more than six specimens from different clients are needed to confirm the source of the outbreak. (one sample per client)

Environmental Samples

If food or water is suspected as the source of the outbreak the EHO may request the collection of samples of food served recently (if available) or samples of the water. Food that has been implicated should be submitted in their original containers or placed into sterile plastic containers or plastic bags and refrigerated.
Requirements for water vary with the suspected microorganism. The EHO will provide direction regarding water specimen collection, if required.

6.0 Declaring an Outbreak

The CMOH is responsible for declaring the GI outbreak and determining when to close and reopen the facility to admissions and transfers. YCDC and the infection control practitioner (if applicable) within the facility will be consulted as required.

7.0 Outbreak Management/General Principles of Control

This section contains information and tools to assist facilities in managing an outbreak caused by a Gastrointestinal Infection.

A **"Quick Reference Checklist for GI Outbreak Management"** is found in Appendix I**.**

Mode of Transmission from Person to Person

GI infections are spread from person to person primarily through direct or indirect contact via the fecal/oral route. Direct contact can occur when the transfer of microorganisms results from direct physical contact between an infected or colonized individual and a susceptible host (body surface to body surface without barriers). Transfer of microorganisms to a host may also occur indirectly via an intermediate object, such as contaminated hands that are not cleaned between patients/residents/clients or contaminated patient/resident/client care equipment. Current literature also suggests that in the case of some small round structured viruses (e.g. Norovirus) exposure may occur from suspended droplets during some situations (e.g. someone is actively vomiting, gross contamination of environment from explosive vomitus or feces).
All GI illness is to be treated as if it is Norovirus until proven otherwise. Once Norovirus is ruled out it is quite possible that Infection Prevention and Control may modify some of the restrictions/precautions in place.

Routine Practices

Routine practices is the term used by Public Health Agency of Canada to describe the system of infection prevention and control practices used to prevent the transmission of infections in health care settings. Routine practices are for the care of all patients/residents at all times.
Close attention to routine practices is fundamental to preventing transmission of microorganisms among patients/residents/clients and HCP in all health care settings. The four basic elements of Routine Practice are outlined in Appendix J**.**

Additional Precautions

During an outbreak of GI infection, in addition to routine practices the following precautions should be instituted.

Contact and Droplet Precautions: (Appendix K)

- **Thorough hand washing before and after any patient contact**
- Wearing of a gown and gloves
- Surgical grade mask with attached visor or face shield to protect mucus membranes from exposure to viral particles when assisting someone who is actively vomiting, has explosive uncontained diarrhea or when cleaning an area grossly contaminated with vomitus or feces.

Care givers should wear the above PPE when giving direct care to symptomatic patients/residents/clients. See Appendix L for Personal Protective Equipment Procedure.

Placement of Patient/Resident/Client

Any resident/client with symptoms that are consistent with GI infection should be confined to their room until asymptomatic for 48 hours.
It should be noted that confinement of residents, even for a few days, could have adverse effects on their wellbeing. Staff needs to make an effort not to socially isolate these residents and to keep confinement time to a minimum.

In facilities, a single room with a toilet and hand hygiene facilities is preferable. When single room accommodation is not possible, it is advisable to cohort patients/residents/clients with similar symptoms. When single rooms are scarce and/or cohorting is not feasible:

- Avoid placing a patient/resident/client with GI symptoms in the same room as a patient who is at high risk for complications (e.g. immunocompromised, recent surgery etc.).
- In a shared room, a patient/resident/client with symptoms should not share a toilet with a well patient/resident/client. Assign a dedicated toilet or commode.
- In shared rooms, roommates and all visitors must be aware of the precautions to follow. Select roommates for their ability to comply with precautions

Whenever possible dedicate equipment to be used only on that patient/resident/client. In the event that equipment must be shared it requires thorough cleaning and disinfection in between patients/residents/clients.

Limiting movements of Patients/Residents/Clients

Patient/Resident/Client Safety

Research has shown an increase in feelings of depression and anxiety and adverse events in patients/residents/clients that are isolated. Time spent segregated or isolated should be kept as short as possible. When isolation cannot be avoided, strategies designed to diminish the negative impact and protect the patient/residents/clients should be implemented.
Examples of these are:

- one to one supervision of meals for those who have difficulty swallowing
- monitoring of patients/residents to ensure adequate nutritional and fluid intake
- increasing frequency of rounds to provide oral fluids for patients/residents/clients
- planned one to one (or room to room) interactions with priority given to those who have cognitive issues
- physiotherapy or other rehabilitative therapy should continue only if individual well enough and does NOT have diarrhea and can be compliant with hand hygiene.

Discontinue group activities, shared food and outings until the outbreak is resolved. It should be noted that limitation of such activities could be very disruptive to the residents/clients. Limiting activities to restrict movement of residents only between units or floors may be an option.

Common Areas

If, upon consultation with the CMOH or delegate, it is decided that some activities may continue, these should be restricted to individuals who are symptom free and non-exposed. Encourage hand hygiene for all patients/residents/clients prior to and following meals. Ensure all common touch items from the shared areas (e.g. salt and pepper shakers, sugar bowls, table cloths) are cleaned before and after meals. Remove and discard food in refrigerators found in common areas (including staff fridges) or nourishment areas and clean these appliances. Clean fridges on unit and staff room.

HCPs should also avoid sharing meals or leaving food items open in their HCPs staff room. No food items (e.g. bowl of candy, tray of cookies, bags of chips/popcorn) should be left open in or near patient/resident/client areas (e.g. nursing station).

Restrictions of Units

Restricting new admissions and/or transfers to units or facilities is a commonly used control strategy during GI outbreaks. Restricting admissions helps to control outbreaks by reducing the pool of susceptible people and thus the potential for ongoing spread of infection.

Repatriation or transfers of patients/residents between acute and residential care sites should be evaluated on an individual basis. Patients/residents may be transferred to other healthcare facilities for a higher level of care (e.g. Emergency), should their condition require. Emergency Medical Services and receiving facility must be notified of the precautions required.
The CMOH should be consulted when considering restrictions or closures of units or facilities.

HCPs Exposure and Illness

Any HCP who develops symptoms consistent with a GI infection (e.g. vomiting, diarrhea) while at work should be required to leave the workplace immediately. During an outbreak, the HCP should leave the workplace when experiencing nausea.

There is evidence that suggests that exclusion of employees from work for 48-72 hours after their last symptoms resolve may decrease attack rates. It is difficult to know the exact contribution of any one action since outbreak control measures are usually implemented and are most effective when implemented in combination. Infected individuals will continue to shed the pathogen for longer than 48hours following resolution of symptoms and it is unclear when they no longer are infectious to others. **It is recommended that employees remain off work for at least 48 hours following resolution of symptoms**. This may decrease the risk of the individual relapsing while at work.

Infections caused by microorganisms such as Verotoxigenic *E.coli*, *Salmonella* typhi and paratyphi, and some *Shigella* and *V. cholerae* species have specific requirements before an individual may return to work. Consult with the CMOH/YCDC or EHO. As well, the "Exclusion of Enteric Cases and Their Contacts in High Risk Settings" Policy in the BCCDC Communicable Disease Control

Manual may serve as a good reference guide for managing such situations. http://www.bccdc.ca/NR/rdonlyres/56C97580-5A9C-41C5-8F22-3818337C55A5/0/Epid_GF_EntericCasesContacts_Oct_0808.pdf

When possible it is advisable to have the same HCP caring for those who are ill to limit HCP exposure. Since some individuals acquire short term immunity following illness, HCPs who return to work after becoming ill with GI symptoms should also be assigned to ill patients whenever possible.

As much as possible, within the limitations of personal privacy issues, HCP illness should be tracked and recorded by the Facility ICP and Manager. This allows for better surveillance of the extent of the outbreak, provides information regarding HCP resources available and may contribute important information towards determining the etiology of the outbreak.

In some settings some health care providers move continually between units/sites as an integral element of their work (e.g. physiotherapists, laboratory technologists, patient porters). It is very important that these individuals are adept and vigilant with the use of PPE and hand hygiene.

Sometimes it is unavoidable and some health care providers must work in more than one unit or site. In these cases it is recommended that they have a shower and change clothes before working elsewhere. As well, HCPs must be vigilant in self-assessment for symptoms and be excused from work immediately should they begin to have symptoms.

Housekeeping

Dirt, organic material and debris acts to protect microbes from contact with disinfectants. Thorough cleaning removes this protection and facilitates effective disinfection. Consistent, regular cleaning assists in reducing the potential for environmental transmission of microorganisms and processes should already be in place to ensure effective cleaning. Cleaning methods which use firm contact and friction reduces the numbers of organisms. Use a separate cloth for cleaning and another for disinfection. Cleaning cloths should be changed frequently to prevent spreading microorganisms from surface to surface and should not be shared between patient/resident spaces (e.g.multiple patient rooms). Do not "double dip" a cloth into disinfectant solution.

Increased frequency of cleaning high touch surfaces is an important contribution to the control of spread. Surfaces that are considered to be "high touch" include:

- Bed rails
- Call bell cords
- Bathroom surfaces(taps, toilet handle)
- Door knobs, light switches
- Hand rails in rooms and hallways
- Elevator buttons
- Tables, counter tops
- Nourishment areas (fridges, ice machines, cupboard handles)
- Nurses station

Equipment that is dedicated or shared between patients/residents/clients should be thoroughly cleaned and disinfected in between each use.

For more detailed guidelines please follow the Facility Infection Control Practitioner Housekeeping Standards.

- **Disinfectants**

Currently, available solutions that are effective for common microbes responsible for GI outbreaks are accelerated hydrogen peroxide 0.5% and sodium hypochlorite 1000ppm. A limited number of quaternary ammonium products have demonstrated effectiveness in recent studies. New products are in development and may be appropriate in the future. Any disinfectant used in a health care setting is required to have a DIN number assigned by Health Canada. The manufacturer should be able to provide evaluations that demonstrate the product's effectiveness against common enteric agents (preferably from a third party**). Follow the manufacturer's instructions regarding dilution and contact time required to be effective**. When organic matter is present (e.g. vomitus, feces) many disinfectants require the surfaces be cleaned with a detergent prior to disinfection. If in doubt about a cleaning product please contact the EHO or ICP in your area. See Appendix M for a table of commonly used products.

- **Cleaning Up Vomit and Feces**

During an outbreak of GI infection, special consideration must be given to the cleaning and disinfection of areas contaminated from either a vomiting or fecal accident. The area should be cordoned off to prevent other patients/residents/clients from unintentional exposure and cleaned immediately. Failing to immediately clean and disinfect contaminated areas may contribute to rapid spread and continuation of outbreaks. For a detailed procedure for cleaning up excrement see Appendix N**.**

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Visitors and Volunteers

Visitors and volunteers play an important role in supporting the provision of health care and the quality of experience of the patient/resident/client in all settings. Visitors and volunteers should be advised not to visit the facility if they have GI symptoms such as nausea, diarrhea etc. **During an outbreak**, visitors and volunteers should be warned that they may be at risk of acquiring infection within the facility, instructed how to wear appropriate PPE and required to use hand hygiene upon entrance and exit to the building and before and after visiting the client's room. Visitors should only visit their own friend/relative in their own room, unless otherwise approved by the HCP.

Animals and Pets

Animals or pets may be a source of a GI outbreak via direct or indirect contact. Patients/residents/clients should not be in contact with pets/animals that are unwell. Diligent hand hygiene practices are recommended before and after handling any animal, pet or providing any form

of food (e.g. treats) to them. It is recommended that reptiles and/or amphibians are not housed or allowed to visit any type of health care facility.
During an outbreak no pets are allowed on affected units.

8.0 Ongoing Surveillance and Reporting

- Remain alert for new cases.
- Maintain staff and resident line lists (Appendix D and E) and submit to YCDC daily.
- Submit the Daily Update Outbreak Report Form (Appendix O) daily to YCDC.

9.0 Notification/Education Strategies/Communications

Timely, accurate communication is a critical contribution to limiting the spread of a GI outbreak, both within and beyond a facility/unit. It is recommended that the OPMT delegate one person to speak with the media (this would be Yukon Govt Communications) to ensure that messages use consistent wording in the event that media statements are needed. All communications should be done in consultation with CMOH.
Appendix P provides an example of an Outbreak Communication Memo.

External ancillary services such as Yukon EMS, Oxygen services etc. should be notified as soon as the outbreak is confirmed. Should they be required to attend the facility/unit they would be expected to use the same precautionary levels as the health care providers.

Information for visitors should begin as soon as an outbreak has been confirmed and include the type of outbreak suspected, restrictions for visiting (e.g. relatives only) and emphasis on hand hygiene before and after visit.

GI infection outbreak signs should be posted at all entrances to the facility indicating that there is an outbreak. For an example of a sign see Appendix Q.

10.0 Declaring the Outbreak Over

The CMOH has the legal authority and discretion to declare the outbreak over. Often protocols and guidelines are in place that enables YCDC, the Facility ICP and Facility Manager to lift the outbreak control measures. It is the responsibility of the facility operator to inform the OPMT when nearing or meeting the criteria for declaring the outbreak over. The CMOH's office is to be notified at the time of restrictions being lifted. Even under these circumstances the authority of the Chief Medical Officer of Health remains in effect.

If the causative agent is known, usually an **outbreak is considered to have ended when there are no new cases after 2 incubation periods following the onset of the last case and terminal cleaning is completed**. If the causative agent is unknown usually the outbreak is considered to have ended when there have been no new cases **96 hours** after the resolution of acute symptoms of the last identified case. It is important that vigilant observation for new cases continues even after the outbreak is declared over, especially when the causative agent has not yet been identified. A summary of the outbreak should be compiled and sent to the OPMT. An example of an Outbreak Summary form is provided in **Appendix R.**

11.0 Debriefing the Outbreak Prevention and Management Team

It is strongly recommended that the OPMT schedule a debriefing session as soon as feasible following the conclusion of an outbreak. The purpose of the debriefing session is to evaluate how the outbreak management process unfolded and identify new interventions that worked well and opportunities for improvement. Examples of opportunities for improvement are:

- Communication within OPMT and to media
- Timeliness in recognizing and reporting outbreak
- Timeliness in implementing control measures
- Effectiveness of control measures in limiting the outbreak

Glossary (adapted from PICNet BC, 2011)

Acute Care Facility: A hospital where lengths of stay average < 30 days, and where a variety of services are provided, including surgery and intensive care.

Additional Precautions: Interventions implemented for certain pathogens or clinical presentations in addition to routine infection control practices, to reduce the risk of transmission of microorganisms from patient to patient, patient to HCP, and HCP to patient

Case: In epidemiology, a person in the population or study group identified as having the particular disease, health disorder or condition under investigation. A variety of criteria may be used to identify cases: e.g. diagnosis, registries and notifications, abstracts of clinical records, reporting of defects such as a dental record. The epidemiologic definition of a case is not necessarily the same as the ordinary clinical definition.

Case Definition: A set of diagnostic criteria that must be fulfilled in order to identify a person as a case of a particular disease. Case definition can be based on clinical, laboratory or combined clinical and laboratory criteria or a scoring system with points for each criterion that matches the features of the disease. If the diagnosis is based on a scoring system e.g. Multiple Sclerosis, it is important to abide by the system for surveillance purposes and when deciding whether to include or exclude cases in an epidemiologic study.

Chief Medical Officer of Health: A medical practitioner with training, knowledge, skills and experience in community medicine who is designated to this position by the Government of Yukon. The CMOH provides advice and direction on public health issues including health promotion and health protection and their related practices, bylaws and policies. The CMOH reports to the public those matters which are deemed to be in the public interest. The authority of the CMOH regarding communicable diseases lies within the Yukon Public Health and Safety Act (2009) available at: http://www.hss.gov.yk.ca/ifo_professionals.php

Cleaning: The physical removal of foreign material e.g. dusts, soil, organic material such as blood, secretions, excretions and microorganisms using mechanical and/or chemical means. Cleaning physically removes rather than kills microorganisms.

Cohort: Two or more patients/residents/clients colonized or infected with the same organism that are separated physically, in a separate room or ward, from other patients who are not colonized or infected with that organism

Contact Precautions: Interventions to reduce the risk of transmission of microorganisms through direct or indirect contact. Contact precautions include the use of gloves and gowns when giving direct patient/resident/client care or when in contact with their environment.

Diarrhea: Three or more loose or liquid stools per day, that is above the norm for that individual.

Drug Identification number (DIN): In Canada, disinfectants are regulated under the Food and Drugs Act and Regulations. Disinfectants must have a drug identification number (DIN) from

Health Canada prior to marketing. This ensures that labeling and supportive data have been provided and that it has been established by the Therapeutic Products Directorate (TPD) that the product is effective and safe for its intended use.

Disinfection: The inactivation of disease-producing microorganisms. Disinfection does not destroy bacterial spores. Disinfection usually involves chemicals, heat or ultraviolet light.

Droplet precautions: Interventions to reduce the risk of transmission of microorganisms via respiratory droplets or norovirus droplets from explosive diarrhea and vomiting. . Droplet precautions include the use of a surgical mask and eye/face protection whenever one is within 2 meters of the patient/resident.

Environmental Health Officer (EHO) (Public Health Inspectors): Enforces the Yukon Public Health and Safety Act legislation in regard to disease control and protection of the public. Works with the CMOH/YCDC in conjunction with the facility ICP management and HCP to ensure that appropriate outbreak mitigation measures will be put into place in the event of an outbreak. Acts as a consultant and provides support/resources prior to and during an outbreak; communicates/liaises promptly with Infection Control and/or the CMOH when outbreaks are suspected and/or have been declared. Provides expertise in determining the source and means of spread of the agent, especially where food or waterborne spread may be involved.

Hand Hygiene: A process for the removal of soil and transient microorganisms from the hands. Hand hygiene may be accomplished using soap and running water or by the use of alcohol-based hand rubs. Optimal strength of alcohol-based hand rubs should be 70% to 90% alcohol. Hand washing is required whenever hands are visibly soiled. Alcohol based hand rubs have limited effect on non-enveloped viruses (depending upon concentration) and spore forming bacteria (e.g. C. difficile).

Health Care Provider: Individual providing or supporting health care services that will bring them into contact with patients/clients/ residents. This includes, but is not limited to: emergency service providers, physicians, dentists, chiropractors, nurses, podiatrists, respiratory therapists and other allied health professionals, students, support services (e.g. administrative staff, housekeeping, dietary, maintenance, hairdressers), and volunteers.

Hospital-grade Disinfectant: A disinfectant that has a drug identification number (DIN) from Health Canada indicating its approval for use in Canadian hospitals.

Infection Control Professional (ICP): Trained individual responsible for a health care setting's infection prevention and control activities.

Isolation: The physical separation of infected individuals from those uninfected for the period of communicability of a particular disease.

Personal Protective Equipment (PPE): Clothing or equipment worn by individuals for protection against hazards such as blood, body fluids, and infectious secretions.

Residential Care Facility: Residential care facilities provide 24-hour professional nursing care and supervision in a protective, supportive environment for people who have complex care needs and can no longer be cared for in their own homes

Routine Practices: Routine practices is the term used by Health Canada/Public Health Agency of Canada to describe the system of infection prevention and control practices recommended in Canada to be used with all clients/patients/residents during all care to prevent and control transmission of microorganisms in health care settings.

Surveillance: Systematic, ongoing collection, collation, and analysis of health-related information that is communicated in a timely manner to all who need to know which health problems require action. Surveillance is a central feature of epidemiological practice, where it is used to control disease. Information that is used for surveillance comes from many sources, including reported cases of communicable diseases, hospital admissions, laboratory reports, cancer registries, population surveys, reports of absence from school or work, and reported causes of death.

Appendix A - Agents that are Common in Gastrointestinal Infection Outbreaks

Agent	Reservoir	Incubation Period	Symptoms	Duration of Symptoms	Period of Communicability	Person to Person Transmission	Type of Precautions and duration
Calicivirus such as Norovirus or Sapovirus	Humans are the only known reservoir	Usually 24-48 hours (range-10-50 hours)	Self-limited mild to moderate vomiting and diarrhea	24-48 hours	During acute symptoms and up to 48 hours after symptoms resolve	yes	Contact until asymptomatic for 48 hours. Use a surgical mask with eye/facial protection in specific situations
Rotavirus	Probably humans	24-72 hours	Abrupt onset of vomiting and diarrhea and rapid dehydration, low grade fever	4-6 days	During acute symptoms, not usually after 8 days post infection	yes	Contact until asymptomatic for 48 hours. Use a surgical mask with eye/facial protection in specific situations
Adenovirus	Humans	3-10 days	Abrupt onset of vomiting and diarrhea and rapid dehydration, low grade fever	4-6 days	During acute symptoms and up to 14 days after onset	yes	Contact and use a surgical mask with eye/facial protection in specific situations until asymptomatic for 48 hours or longer if poor hygiene or continence issues
***Campylobacter* species (bacteria)**	Animals, mostly raw poultry; pets	Usually 2-5 days (range 1-10 days)	Diarrhea, abdominal pain, malaise, fever, nausea and vomiting	2-5 days	Throughout infection, from several days to weeks if not treated	Low communicability but may be possible in food handlers or if individual faecally incontinent and has poor hygiene	Routine

Agent	Reservoir	Incubation Period	Symptoms	Duration of Symptoms	Period of Communicability	Person to Person Transmission	Type of Precautions and duration
Clostridium difficile **(bacteria)**	Humans some animals	unknown	Mild to severe diarrhea capable of causing bowel perforation	Several days to months	While symptoms persist	yes	Contact precautions until normal stools for 48 hours Please refer to the Guidelines for Cdifficle:http://www.rcdhu.com/HealthInformation/infdisease_outbreak-control-of-CDI-hospitals.pdf
Clostridium perfringens **(bacteria)**	Soil; GI tract of healthy people and animals (cattle, fish, pigs, poultry)	Usually 10-12 hours (range= 6-24 hours)	Mild disease of short duration; sudden onset abdominal cramping and diarrhea; vomiting and fever usually absent	1 day or less	N/A	no	Routine
E. coli **O157:H7 (bacteria)**	Agricultural animals especially cattle, goats, sheep and humans	2-8 days	Range from mild non-bloody diarrhea to feces that are virtually all blood. Hemolytic uremic syndrome in 2-7% of cases	Typically less than a week, usually longer in children	1 week in adults; up to 3 weeks in children	yes	Contact for 1-3 weeks depending upon age, ability to control excretions and hygiene
Salmonella **(bacteria)**	Domestic and wild animals and humans	Usually 6-12 hours (range= 6-72 hours)	Sudden onset headache, abdominal pain, diarrhea, nausea and sometimes vomiting. Usually fever	Several days to several weeks Can become a chronic carrier	Throughout course of infection	yes	Contact until asymptomatic for 48 hours or longer if poor hygiene, continence issues or if person is employed as a food handler

Agent	Reservoir	Incubation Period	Symptoms	Duration of Symptoms	Period of Communicability	Person to Person Transmission	Type of Precautions and duration
***Salmonella* Typhi *and* Paratyphi (bacteria)**	Humans	*S*. Typhi 5-28 days *S*. Paratyphi 1-10 days	Often begins with fever, Abdominal pain, later diarrhea, Multiple side effects	*S*. Typhi can become a chronic infection, especially if treated with incorrect antibiotic	Primarily while GI symptoms are occurring	yes Food borne spread is usually via infected food handlers. Generally low communicability	Contact while symptoms last
***Shigella* species (bacteria)**	Humans	1-3 days	Diarrhea accompanied by fever, vomiting and cramps.	4-7 days	During acute symptoms and up to 4 weeks after illness	yes	Contact until asymptomatic for 48 hours or longer if poor hygiene or continence issues or if person is employed as a food handler
***S. aureus* enterotoxigenic (bacteria)**	Humans sometimes cows, dogs, and fowl	Usually 2-4 hours (range= 30 min.-8 hours)	Abrupt onset nausea, cramps, vomiting and sometimes diarrhea	1-2 days	N/A	no	Routine

Appendix B-Request for Supplies

yukon
hospital corporation

WGH LABORATORY
PHONE: 867 393 8739
FAX: 867 393 8772

REQUEST FOR SUPPLIES
For Gastrointestinal Outbreak

_____Gastrointestinal Outbreak Kit

Includes:

- 6 sterile vials for stool culture
- 6 Ova and Parasite vials with SAF preservative
- 2 sterile vials for vomitus
- 8 biohazard bags
- 8 PHSA Gastrointestinal Disease Outbreak Requisitions

Requestor Name:_____ Date:_____

Address:_____ Delivery Method:_____

_____

Phone:_____ Fax:_____

Fax Request to WGH Lab at 867-393-8772

Yukon
Health and Social Services

Appendix C: - BRISTOL STOOL CHART _____

Addressograph

Date	Time	Volume	Colour	Odour	Bristol Stool Chart Type* (see reverse chart)
YYYY/MM/DD	(Hrs)	(insert number) 1) < ½ cup 2) > ½ cup to 1 cup 3) 1 cup to 1 ½ cups 4) Other (please describe)	(insert letter Br-Brown Y-Yellow G-Green Bl-Black O-Other (If Other, please describe)	(Yes/No) If "Yes" please describe	

Bristol Stool Chart

Type 1		Separate hard lumps, like nuts (hard to pass)
Type 2		Sausage-shaped but lumpy
Type 3		Like a sausage but with cracks on its surface
Type 4		Like a sausage or snake, smooth and soft
Type 5		Soft blobs with clear-cut edges (passed easily)
Type 6		Fluffy pieces with ragged edges, a mushy stool
Type 7		Watery, no solid pieces. **Entirely Liquid**

Yukon
Health and Social Services
Yukon Communicable Disease Control

GI Outbreak Surveillance Form - Staff

Case Definition: _____

Investigation/Outvreak Identication: _____

Patients / Residents / Clients					Clinical Presentation			Specimen(s) sent	
Name	D.O.B (yyyy-mm-dd)	Occupation	Units workd	Date of symptoms	Onset at work?	Symptoms	Duration of symptoms resolved	Collection Date / Date submitted	Result

SYMPTOMS: **V**=Vomiting **D**=Diarrhea **C**=Cramps **N**=Nausea **F**=Fever **H**=Headache **A**=Abdominal Pain **M**=Myalgia

Adapted from BC Provincial Infection Control Network, GI Outbreak Guideliners for Healthcare Facilities June 2010

Yukon
Health and Social Services
Yukon Communicable Disease Control

GI Outbreak Surveillance Form - Patients/Residents/Clients

Case Definition: _____

Investigation/Outvreak Identication: _____

Patients / Residents / Clients					Clinical Presentation			Specimen(s) sent		Isolation	
Name	D.O.B (yyyy-mm-dd)	Unit	Room #	Room type	Date of symptoms	Symptoms	Duration of symptoms No. of hours No. of days	Collection Date / Date submitted	Result	Date of Isolation Start	Date of Isolation End

SYMPTOMS: **V**=Vomiting **D**=Diarrhea **C**=Cramps **N**=Nausea **F**=Fever **H**=Headache **A**=Abdominal Pain **M**=Myalgia
ROOM TYPE: **P**=Private **S**=Semi-private **M**=Multi-bed

Adapted from BC Provincial Infection Control Network, GI Outbreak Guideliners for Healthcare Facilities June 2010

Appendix E:

Yukon
Health and Social Services

Yukon Communicable Disease Control
Phone: (867) 667-8323 Fax: (867) 667-8349

Appendix F: - Initial Outbreak Report Form
Fax to YCDC (867) 667-8349

Location: _____ Unit / Area: _____ Facility description: _____

Address: _____ Phone/Fax #: _____

Contact Person: _____ Phone/Fax #: _____

Brief Description of Outbreak **Onset date of first case:** _____
(yyyy-mm-dd)

Predominant symptoms: _____

Progression to others: _____

Description of event associated with the outbreak: _____

Actions Taken

Date and time reported to CMOH: _____

Notification of external service providers (e.g. EMS, WGH):

_____

In-services to staff: _____

Cohorting of patients/residents and/or staff: _____

_____

Enhanced cleaning: _____

Restriction (visitors, staff, unit closure): _____

Extra hand hygiene stations/signage: _____

Line list initiated for residents and staff (Location on shared drive):_____

Specimen collection:

List names and D.O.B of residents/staff: _____

Date specimen(s) sent to WGH lab: _____Tests ordered:_____

Current Status:

# of symptomatic patients/residents: _____ # of symptomatic staff: _____

Total # of patients / residents: _____ Total # of staff approx: _____

Name of Reporting Person: _____

Disclaimer: This information is being collected for the purpose of determining appropriate communicable disease control measures.
Adapted from BC Provincial Infection Control Network, GI Outbreak Guidelines for Healthcare Facilities June 2010

Appendix G: – BCCDC Public Health and Microbiology Reference Laboratory GI Disease Outbreak Requisition Form

GIOB GIOB

PHSA Laboratories

Public Health Microbiology & Reference Laboratory

Gastrointestinal Disease Outbreak Requisition

BC Centre for Disease Control, 655 West 12th Avenue, Vancouver, BC V5Z 4R4 www.phsa.ca/bccdcpublichealthlab

Section 1 - Patient Information

PERSONAL HEALTH NUMBER (or out-of province Health Number and province)	**DOB** (DD/MMM/YYYY)	**GENDER** ☐ M ☐ F ☐ UNK
PATIENT SURNAME	**PATIENT FIRST AND MIDDLE NAME**	
ADDRESS	**CITY**	**POSTAL CODE**

DATE RECEIVED

PHSA LABORATORIES USE ONLY

OUTBREAK ID

Section 2 - Healthcare Provider Information

ORDERING PHYSICIAN (Provide MSC#)
Name and address of report delivery

☐ **I do not require a copy of the report**

CLINIC OR HOSPITAL
Name and address of report delivery

PHSA CLIENT NO.

ADDITIONAL COPIES TO: (Address / MSC#)

1.

2.

3.

SAMPLE REF. NO.

DATE COLLECTED (DD/MMM/YYYY)

TIME COLLECTED (HH:MM)

Section 3 - Outbreak Information

OUTBREAK IDENTIFICATION: _____

Outbreak ID is specific to the event/facility/hospital ward followed by the year (e.g. Boardwalk Place 2009), as per instructions on page 2 of the *GI Outbreak Notification Form*

SUSPECTED ETIOLOGICAL AGENT: _____

Section 4 - Test Information

TEST REQUESTED

☐ Viral / Bacterial Outbreak Test (do not use SAF vial)
☐ Ova & Parasitic Test (use SAF vial)
☐ Other, specify: _____

SAMPLE TYPE

☐ Feces ☐ Vomitus
☐ Other, specify: _____

For other available tests and additional information, consult the Public Health Microbiology & Reference Laboratory's *Guide to Programs and Services* at www.phsa.ca/bccdcpublichealthlab

SIGNS / SYMPTOMS

☐ Diarrhea: ☐ Watery ☐ Bloody ☐ Persistent
☐ Vomiting
☐ Abdominal cramps
☐ Fever
☐ Other, specify: _____

ADDITIONAL INFORMATION

☐ Initial sample ☐ Follow-up sample
☐ Food handler ☐ Staff member
☐ Recent travel, specify: _____
☐ Current antibiotics, specify: _____
☐ Other, specify: _____

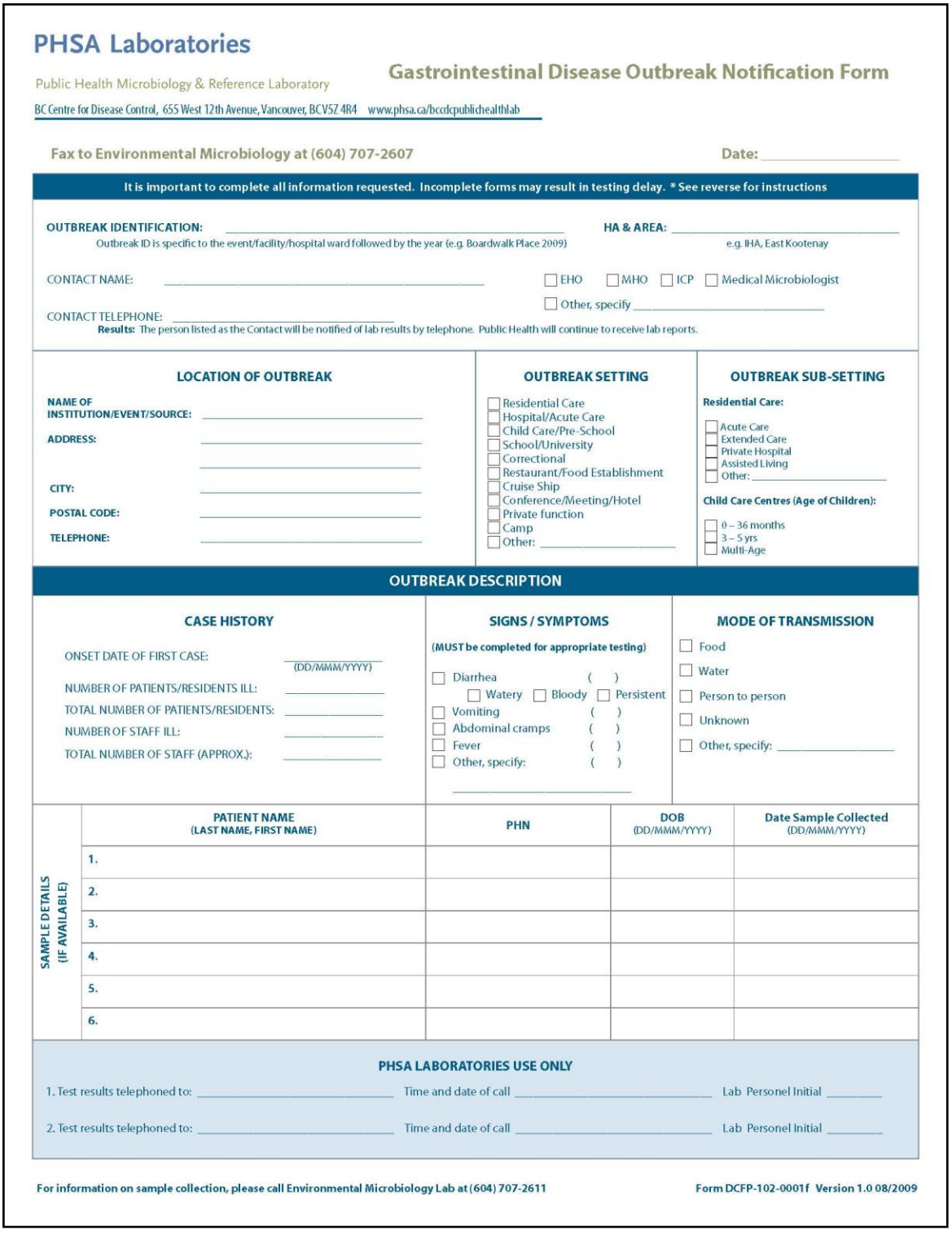
INSTRUCTIONS FOR SAMPLE COLLECTION / SUBMISSION

1. Label vial with patient name before collecting sample.
2. Pass feces or vomitus into a clean container avoiding contamination from urine or water from toilet.
3. Use a **dry** sterile vial and fill up to the line indicated.
4. Replace and tighten cap.
5. Place vial in the biohazard bag and completed requisition in the outside pocket. Do not place the requisition inside the biohazard bag containing the specimens.
6. Ova and Parasite Testing: Fill **red-capped vial** (with SAF) with 2-3 spoonfuls of feces to the line indicated and mix well. **Red-capped vial (with SAF) is not a suitable specimen for Viral/Bacterial Outbreak Test.**
7. Return to Health Unit or BCCDC Public Health Microbiology & Reference Laboratory at 655 W. 12th Avenue, Vancouver BC V5Z 4R4 as soon as possible.
8. Keep specimens at 10°-20°C for immediate (same day) delivery, otherwise, refrigerate at 4°C before transport with ice pack.
9. Do not freeze sample.

For information on sample collection, please call Environmental Microbiology Lab at (604) 707-2611 **Form DCFP_102_1001F2 Version 1.0 09/2009**

GIOB GIOB

Appendix H: – BCCDC Public Health Microbiology and Reference Laboratory Notification Form



PHSA Laboratories

Public Health Microbiology & Reference Laboratory

BC Centre for Disease Control, 655 West 12th Avenue, Vancouver, BCV5Z 4R4 www.phsa.ca/bccdcpublichealthlab

Gastrointestinal Disease Outbreak Notification Form

Fax to Environmental Microbiology at (604) 707-2607 Date: _____

It is important to complete all information requested. Incomplete forms may result in testing delay. * See reverse for instructions

OUTBREAK IDENTIFICATION: _____ **HA & AREA:** _____

Outbreak ID is specific to the event/facility/hospital ward followed by the year (e.g. Boardwalk Place 2009) e.g. IHA, East Kootenay

CONTACT NAME: _____ ☐ EHO ☐ MHO ☐ ICP ☐ Medical Microbiologist

☐ Other, specify _____

CONTACT TELEPHONE: _____

Results: The person listed as the Contact will be notified of lab results by telephone. Public Health will continue to receive lab reports.

LOCATION OF OUTBREAK

NAME OF INSTITUTION/EVENT/SOURCE: _____

ADDRESS: _____

_____

CITY: _____

POSTAL CODE: _____

TELEPHONE: _____

OUTBREAK SETTING

☐ Residential Care
☐ Hospital/Acute Care
☐ Child Care/Pre-School
☐ School/University
☐ Correctional
☐ Restaurant/Food Establishment
☐ Cruise Ship
☐ Conference/Meeting/Hotel
☐ Private function
☐ Camp
☐ Other: _____

OUTBREAK SUB-SETTING

Residential Care:

☐ Acute Care
☐ Extended Care
☐ Private Hospital
☐ Assisted Living
☐ Other: _____

Child Care Centres (Age of Children):

☐ 0 – 36 months
☐ 3 – 5 yrs
☐ Multi-Age

OUTBREAK DESCRIPTION

CASE HISTORY

ONSET DATE OF FIRST CASE: _____ (DD/MMM/YYYY)

NUMBER OF PATIENTS/RESIDENTS ILL: _____

TOTAL NUMBER OF PATIENTS/RESIDENTS: _____

NUMBER OF STAFF ILL: _____

TOTAL NUMBER OF STAFF (APPROX.): _____

SIGNS / SYMPTOMS

(MUST be completed for appropriate testing)

☐ Diarrhea ( )
☐ Watery ☐ Bloody ☐ Persistent
☐ Vomiting ( )
☐ Abdominal cramps ( )
☐ Fever ( )
☐ Other, specify: ( )

_____

MODE OF TRANSMISSION

☐ Food
☐ Water
☐ Person to person
☐ Unknown
☐ Other, specify: _____

SAMPLE DETAILS (IF AVAILABLE)

	PATIENT NAME (LAST NAME, FIRST NAME)	PHN	DOB (DD/MMM/YYYY)	Date Sample Collected (DD/MMM/YYYY)
1.				
2.				
3.				
4.				
5.				
6.				

PHSA LABORATORIES USE ONLY

1. Test results telephoned to: _____ Time and date of call _____ Lab Personel Initial _____

2. Test results telephoned to: _____ Time and date of call _____ Lab Personel Initial _____

For information on sample collection, please call Environmental Microbiology Lab at (604) 707-2611

Form DCFP-102-0001f Version 1.0 08/2009

Appendix I: - Quick Reference Checklist

This list is an example and meant to be modified and/or re-organized to meet individual facility needs.

Case Definition (refer to the Bristol Stool Chart, Appendix C)

A case of GI infection is defined as any one of the following conditions that **cannot be attributed to another cause** (e.g.: laxative use, medication side effect, diet, prior medical condition):

- Two or more episodes of diarrhea in a 24 hour period – above what is considered normal for that individual

  OR
- Two or more episodes of vomiting in a 24 hours period

  OR
- One episode each of vomiting and diarrhea in a 24 hours period

  OR
- Positive culture for a known enteric pathogen with a symptom of GI infection (e.g. vomiting, abdominal pain, diarrhea)

  OR
- One episode of bloody diarrhea

Outbreak Definition

Three or more cases of GI infection that are potentially related occur within a four day period, in a specific geographic area (i.e. unit, ward).

Report

- Report outbreak to the CMOH or delegate
- Notify appropriate Managers and Patient Care Leaders
- Outbreak Prevention and Management Team should meet as soon as possible.
- Notify service providers such as oxygen services, laboratory services, Yukon EMS, etc. of outbreak and control measures required
- Notify any facility that admitted a patient/resident/client from the outbreak area within the past 72 hours
- Complete line listing of ill patients/residents/clients (**see Appendix: E**)
- Complete line listing of ill HCPs (discuss with person responsible for occupational health) (**see Appendix: D**)

Discuss with CMOH or delegate the need to:

- Postpone transfers to other units or facilities, admissions or re-admissions unless medically warranted. Depending upon the physical layout of the building and the extent of the outbreak, restrictions may apply to one wing or one unit, one floor or the entire facility. A

mentioned before it would be good to have a generally accepted guideline for the most common outbreak types.

- Decrease or discontinue group activities and outings until the outbreak is resolved
- Restrictions on visitors

Collect

- Collect and send specimens as outlined on page 11

Establish Outbreak Control Measures

- Wherever possible, confine ill patients/residents to rooms until 48 hours post symptoms
- As much as possible, assign the same HCPs to take care of ill clients over the duration of the outbreak.
- Post outbreak signage and ABHR at each entrance to unit/facility
- Reinforce good hand hygiene practices with all HCPs, administrative and support staff.
- Ensure everyone has easy access to hand hygiene stations (e.g. soap and water, ABHR)
- HCPs to use contact and droplet precautions when caring for ill individuals.
- When caring for individuals who are actively vomiting or when cleaning up areas grossly contaminated by vomitus or feces use droplet precautions in addition to Contact Precautions.
- Advise all visitors of outbreak, emphasize hand hygiene upon entering and exiting site
- Remind visitors not to enter the facility if they have vomiting and/or diarrhea
- Ensure all visitors wear personal protective equipment as recommended by the HCPs
- Visitors should only visit one patient/resident/client and not travel from room to room during visit
- Increase cleaning and disinfection procedures for washrooms, common areas and all frequently touched surfaces.
- Ensure soiled laundry is handled as little as possible, with minimum agitation and transported in closed bags
- Whenever possible dedicate equipment to be used only on that patient/resident/client and be cleaned frequently while in use In the event that equipment must be shared it requires thorough cleaning and disinfection in between patients/residents/clients.

Ongoing surveillance

- Management and HCPs should maintain a watch for GI symptoms in patients/residents/clients and report any new onset to patient/resident/client care leaders
- HCPs should self-monitor for GI symptoms and report illness to supervisor. **HCPs that are ill must remain away from work until symptom free for 48 hours**, regardless of whether they feel well enough to work.
- HCPs returning after illness must be meticulous and consistent with hand hygiene.
- Communicate status of outbreak daily to YCDC and the CMOH. (**Appendix O**).

Appendix J: The Four Basic Elements of Routine Practice

Hand Hygiene

Hand hygiene is everybody's responsibility: HCPs, clients, visitors and volunteers. Hand hygiene is the most effective way to prevent the transmission of microorganisms. Compliance with hand hygiene recommendations requires continuous reinforcement.

- Either alcohol based hand rub (ABHR) or soap and warm water are accepted methods of hand hygiene.
    - soap and water is required if hands are visibly soiled
    - ABHR is recommended at "point of care" places in patient care areas

- Patients/residents/clients who are able to participate in self-care should be taught, encouraged and reminded, or helped with hand hygiene before eating or preparing food, after using the toilet or other personal hygiene activities, before leaving their homes for common/public areas and when returning home from public places.

Risk Assessment

A Risk Assessment is the evaluation of the interaction between the Health Care Provider (HCP), the patient/resident/client and the environment to determine the potential for exposure to pathogens. Prior to any patient/resident/client interaction all HCP have a responsibility to always assess the infectious risk posed to themselves and to others (e.g. other patients/residents/clients, visitors, other HCP).

Risk Assessments for any interaction includes:

- The patient/resident's/client/s symptoms and whether they may be consistent with an infectious process
- The type of interaction will occur (e.g. direct care vs. bringing something into the room for them)
- The potential for contamination of themselves or any equipment used
- Identification of barriers (e.g. PPE) required to prevent transmission
- Whether all secretion/excretions are contained (e.g. continence, wounds well covered)
- Whether the person is able to follow instructions (e.g. cognitive abilities, mental health condition)
- The setting in which the interaction will take place (e.g. single room vs. multi-bed room, vs. outpatient or common area)

In reality, HCP do Risk Assessments many times a day for their safety and the safety of others in the healthcare environment. During a GI infection outbreak HCPs should be especially vigilant in identifying risk of exposure to GI pathogens, especially when assisting those who are ill (e.g. actively vomiting).

Risk Reduction Strategies

Risk reduction strategies include: engineering measures (e.g. negative pressure rooms) client screening, using personal protective equipment (PPE), cleaning of environment, equipment, and laundry, using "single use" only equipment or ensuring proper disinfection and sterilization of reusable equipment**,** appropriate waste management and safe sharps handling**,** client placement and using preventative workplace practices such as HCPs immunization policies.

Education of Health Care Providers, Clients and Families/Visitors/Volunteers

All health care providers should receive general education on agency policies, which includes information regarding the principles of infection prevention and control. Review of hand hygiene; routine practices and additional precautions; and chain of infection should be included and refreshed at intervals. Specific information should be emphasized, as it relates to the work environment.

Education for clients should include specific information about their general condition (usually this is provided by the attending physician), and specific information concerning any infection. If the client has an infection, this information should include practices necessary to reduce the risk of spread. The health care provider should provide education for the client and family as appropriate for the presenting condition.

Appendix K:

DROPLET/CONTACT PRECAUTIONS
To be followed in addition to Routine Precautions

GLOVES

- **Wear gloves**

GOWN

- **Wear a gown if contamination or soiling likely**
- **Remove gown before leaving resident room or bed space**

MASK/PROTECTIVE EYEWEAR

- **Wear procedure mask and protective eyewear within one meter of the resident. Eyewear should be worn if there is likelihood of spray**

HAND HYGIENE

- **Before and after any contact with resident**
- **After touching contaminated articles**
- **After removing gloves**
- **An alcohol hand product may be used for routine decontamination of hands unless hands are visibly soiled**
- **Use soap and water if hands are visibly soiled**

EQUIPMENT

- **Dedicate equipment for resident care**
- **Wash and disinfect equipment before removing from resident's room or bed space**

RESIDENT TRANSPORT

- **Resident must wear procedure mask during transport**
- **Notify receiving department of infection control precautions**

RESIDENT Placement

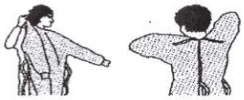
- **Maintain a distance of at least two meters (6 feet) between residents**
- **Door may remain open**

Appendix L:

SEQUENCE FOR DONNING PERSONAL PROTECTIVE EQUIPMENT (PPE)

The type of PPE used will vary based on the level of precautions required; e.g. Standard plus Contact, Droplet or Airborne Precautions.

1. **GOWN**
   - Fully cover torso from neck to knees, arms to end of wrists, and wrap around the back
   - Fasten in back of neck and waist



2. **MASK OR RESPIRATOR**
   - Secure ties or elastic bands at middle of head and neck
   - Fit flexible band to nose bridge
   - Fit snug to face and below chin
   - Fit-check respirator

3. **GOGGLES OR FACE SHIELD**
   - Place over face and eyes and adjust to fit

4. **GLOVES**
   - Extend to cover wrist of isolation gown

USE SAFE WORK PRACTICES TO PROTECT YOURSELF AND LIMIT THE SPREAD OF PATHOGENS

- Keep hands away from face
- Limit surfaces touched
- Change gloves when torn or heavily contaminated
- Perform hand hygiene

SEQUENCE FOR REMOVING PERSONAL PROTECTIVE EQUIPMENT (PPE)

1. **GLOVES**
   - Outside of gloves is contaminated
   - Grasp outside of glove with opposite gloved hand; peel off
   - Hold removed glove in gloved hand
   - Slide fingers of ungloved hand under remaining glove at wrist
   - Peel glove off over first glove
   - Discard gloves in waste container

2. **GOWN**
   - Gown front and sleeves are contaminated
   - Unfasten ties
   - Pull away from neck and shoulders, touching inside of gown only
   - Turn gown inside out
   - Fold or roll into a bundle and discard
   - Hand hygiene and leave isolation room

3. **GOGGLES OR FACE SHIELD**
   - Outside of goggles or face shield is contaminated
   - To remove, handle by head band or ear pieces
   - Decontaminate with disinfectant
   - Hand hygiene

4. **MASK OR RESPIRATOR**
   - Front of mask/respirator is contaminated – DO NOT TOUCH
   - Grasp bottom, then top ties or elastics and remove
   - Discard in waste container
   - Final HAND HYGIENE

Appendix M: - Disinfectants Commonly Used in GI Outbreaks

Agent and Concentration	Uses	Active Against	Properties/Cautions
Chlorine: Household bleach (5.25%) 1:100 (500 ppm solution) 10 ml bleach to 990 ml water	Used for disinfecting general household surfaces. (make fresh daily) Allow surface to air dry naturally	Vegetative bacteria (*Salmonella, E. coli*), Enveloped viruses (Hepatitis B and C)	All organic matter must be cleaned from surface first Make fresh daily as shelf life shortens when diluted Store in closed containers which do not allow light to pass through away from light and heat Irritant to skin and mucous membranes Area should be well ventilated to prevent respiratory tract irritation Corrosive to metals Discolors carpets and clothing **NEVER** mix with any other cleaning solution
1:50 (1,000ppm solution) 20 ml bleach to 980 ml water	Used for disinfecting surfaces contaminated with bodily fluids and waste like vomit, diarrhea, mucus, or feces. Allow surface to air dry naturally	Vegetative bacteria Enveloped viruses Non-enveloped viruses (Norovirus, Hepatitis A)	
1:10 (5,000ppm solution) 100 ml bleach to 900 ml water	Used for disinfecting surfaces contaminated by blood Allow surface to air dry naturally	Bacterial spores (e.g. *C difficile*)	
Accelerated hydrogen Peroxide 0.5%	Used for disinfecting general surfaces and surfaces contaminated with body fluids and waste 5 minute contact time at 20° C	Bacteria Enveloped viruses Non-enveloped virus (norovirus)	Active in the presence of organic matter Good cleaning ability due to detergent properties Non-toxic
Accelerated hydrogen Peroxide 4.5%	Use for cleaning and disinfecting toilet bowls, sinks, basins, commodes Sporicidal efficacy in	Sporicidal, use when *C. difficile* is suspected	

	10 minutes		
Quaternary Ammonium Compounds (QUAT)	Use for general cleaning of floors, walls, furnishings Allow surfaces to air dry naturally	Vegetative bacteria Enveloped viruses Some fungi	Good cleaning ability as usually has detergent properties Non-corrosive Do NOT use to disinfect instruments Many preparations have limited effectiveness against common organisms that cause GI infections (e.g. norovirus). Use in well-ventilated areas Always check for DIN number and manufactures list of indications

VERY IMPORTANT:
* Ensure product has a DIN number.
* Check manufacturers information to ensure that product is effective against organisms in question.
* Follow product instructions for dilution and contact time
* Unless otherwise stated on the product, use a detergent to clean surface of all visible debris prior to application of disinfectant.
* Alcohol may be used on some small equipment such as stethoscopes but not as a general surface disinfectant

Appendix N: - Cleaning Up Vomitus and Feces

- Attend to the patient/resident/client first, if necessary.
- Isolate the area, if possible, and place a wet floor sign/flag to prevent slipping.
- Wear disposable gloves or household rubber gloves (these will need to be disposed or decontaminated after) as well as other personal protective equipment (surgical mask, eye protection, gloves, gown or apron).
- Gross soiled material must be removed prior to cleaning and disinfecting. Wipe up excrement using absorbent disposable material (e.g. paper towels). Use a wipe up technique that does not agitate excrement and place directly into a regular garbage bag.
- Clean the surface with neutral detergent to remove any trace residual dirt or body fluids.
- Disinfect the area to a radius of 2 meters with an accelerated hydrogen peroxide 0.5% ensuring a 5 minute contact time or a fresh 1/10 dilution of household bleach 5.25% (e.g. 100 ml bleach to 900 ml water) and allow to air dry naturally. **NB. Ensure that area is very well ventilated.**
- Discard waste including gloves into regular garbage immediately.
- If the area involved was so large that a mop had to be used, wash the mop head, soak in disinfectant and place into a leak proof laundry bag when finished. The bucket contents should be carefully poured into the available sewage outlet and the bucket rinsed and wiped with the disinfectant.
- Remove personal protective equipment and discard in regular garbage.
- Perform hand hygiene hands at the end of the procedure.
- If vomiting or fecal accident occurs in an area where food is handled, dispose food that has touched surfaces the ill person may have touched since symptom onset, or been present or handled/stored within 2 meters of a vomiting incident.
- Wash all dishes, utensils and trays in hot water and detergent (minimum of 74^{o} for 10 seconds). Be careful not to cross-contaminate dirty and clean dishes.

Health and Social Services
Yukon Communicable Disease Control
Phone: (867) 667-8323 Fax: (867) 667-8349

Appendix O: - Daily Update Outbreak Report Form
Fax to YCDC (867)667-8349

Location: _____

Date: _____ Day _____ of Outbreak

Number of new cases today - Patients/Residents/Clients: _____

Number of new cases today – staff: _____

Date of symptom onset of last case: _____

Number of patients/residents currently symptomatic: _____
(include new cases)

Number of patients/residents recovered: _____

Specimen collection (list names and DOB):
_____

New developments/concerns:

_____

_____

_____

_____

Further actions required:

_____

_____

_____

_____

Report provided by: _____ Designation: _____
Phone: _____

Disclaimer: This information is being collected for the purpose of determining appropriate communicable disease control measures Adapted from BC Provincial Infection Control Network, GI Outbreak Guidelines for Healthcare Facilities June 2010

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Appendix P: - Outbreak Communication Memo

From: _____ Date: _____

To: All units/ departments/ancillary services

An outbreak of gastroenteritis has been declared today *(date),* ___ _____on unit _____

The unit is reporting _____ *(specify number of ill patients/number of total unit patients)* patients ill with new symptoms of vomiting and/ or diarrhea since _____ *(specify date)*

Actions taken

- Contact Precautions have been implemented on all symptomatic patients
- Additional hand hygiene stations have been set up at the point of entry to the unit
- Fact sheet on Viral Gastroenteritis is available at the hand hygiene station and nursing station
- Signage is posted at the point of entry to _____*(unit)*
- Specimens are being collected/ sent to BCCDC to identify the organism
- Symptomatic patients will remain in their rooms unless medically warranted
- _____*(unit)* will notify _____ of all new cases
- Visitor restrictions are in place on the affected unit
- Restriction on transfers/admissions of patients to _____*(unit)* until further notice
- Patients will be cohorted where ever possible
- Cohorting of Staff is in place; if possible.
- **All** Staff and visitors are reminded to practice meticulous hand hygiene before and after contact with each patient and to use masks, protective eyewear, gloves and gowns appropriately
- Housekeeping have been notified to implement “Enhanced Cleaning”
- Healthcare provider exclusion: During an outbreak, _____ will provide direction to Staff presenting with signs & symptoms of gastroenteritis.
- Treatment: no specific therapy exists for viral gastroenteritis. Symptomatic therapy consists of replacing fluid losses and correcting electrolyte disturbances through oral and intravenous fluid administration
- Daily updates will be provided to YCDC / CMOH

Adapted from BC Provincial Infection Control Network, GI Outbreak Guidelines for Healthcare Facilities June 2010

Appendix Q: - Sign for Entrance

ATTENTION VISITORS!!!

We presently have a number of ill residents/patients. You may wish to reconsider visiting at this time.

Please let the Health Care Provider know who you will be visiting and they will give you any other necessary instructions.

Please wash your hands or apply alcohol hand sanitizer to your hands before visiting and before leaving.

Please do not visit if you are ill.

Health and Social Services

Yukon Communicable Disease Control
Phone: (867) 667-8323 Fax: (867) 667-8349

Appendix R: - Outbreak Summary Report
Fax to YCDC (867) 667-8349

Date of onset of outbreak: _____ Date outbreak declared over: _____

Microorganism identified: _____Laboratory Confirmed? Yes___ No___

Number of specimens identified in: _____ Suspected source: _____

Number of patients/residents exposed: _____ Total number of cases (patients/residents): _____

Attach rate for patients/residents (# of exposed divided by # of cases, multiply by 100):_____

Number of staff exposed: _____ Total number of cases (staff): _____

Attach rate for staff (# of exposed divided by # of cases, multiply by 100): _____

Number of cases requiring higher level of care: _____
(e.g. transfer to hospital, transfer to ICU)

Number of deaths: _____

Unusual situations:

_____

_____

_____

Report provided by: _____ Designation: _____
Phone: _____

Disclaimer: This information is being collected for the purpose of determining appropriate communicable disease control measures.

Adapted from BC Provincial Infection Control Network, GI Outbreak Guidelines for Healthcare Facilities June 2010

References

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