



Outbreak Management Protocol

Original: November 24, 2015

Revised January 2016

Contents

Acknowledgements.....	3
Introduction	3
Authority.....	3
Purpose.....	3
Objectives	4
Surveillance	4
Outbreak Investigation	5
Identifying an Outbreak.....	5
Determine if an Outbreak Exists.....	6
Implement Immediate Control Measures	6
Assemble an Outbreak Management Team (OMT).....	8
Epidemiological Process.....	10
Public Health Measures	13
Control Measures for Healthcare and Extended Care Facilities	15
Control Measures for Community	19
Education	20
Communication and Public Disclosure	20
Declaring the Outbreak Over	21
Evaluate Overall Investigation and Response	22
Write Report and Make Recommendations.....	22
Debrief Team	22
Implement or Enhance Long-Term Prevention and Control Measures.....	22
Appendix A: Outbreak Investigation Toolkit.....	23
Appendix B: Influenza-Like Illness (ILI) Outbreak Management Toolkit.....	32
B.1 Outbreaks of ILI in Healthcare Settings	33
B.2 Outbreaks of ILI in Personal Care Home and Residential Care Settings.....	38
B.3 Outbreaks of ILI in Community Settings (schools, workplaces, etc.)	42
Appendix C: Gastrointestinal Illness (GI) Outbreak Management Toolkit.....	44
C.1 Outbreaks of GI Illness in Healthcare Settings	45
C.2 Outbreaks of GI Illness in Personal Care Home and Residential Care Settings	50
C.3 Outbreaks of Gastrointestinal Illness in Community Settings.....	54
(schools, workplaces, etc.).....	54
Appendix D: Tuberculosis (TB) Outbreak Management Toolkit	56
Checklist for Outbreaks of TB	57
Acronyms	62
Definitions	63

Acknowledgements

The Department of Health and Community Services would like to acknowledge the work previously done by the regional health authorities in developing their regional outbreak management protocols. Some of the material contained in this provincial document has been taken from various protocols from across the province. We acknowledge and thank the Infection Control Practitioners and Communicable Disease Control Nurses who have contributed their comments and suggestions in the development of this document.

Introduction

An outbreak is the occurrence of cases of an illness, specific health-related behavior, or other health-related event clearly in excess of normal expectancy in a given community, district, region or facility for a given period of time. An outbreak may be a single case of a communicable disease long absent from a population (e.g., measles) or the first invasion by a disease in an area (e.g., SARS) that requires immediate response. The number of cases required to declare an outbreak will vary depending on the infectious agent, the size and type of the population exposed, previous exposure or lack of exposure to the disease, and time and place of occurrence. There are many steps that can be taken to help prevent and control disease outbreaks in facilities and the community, as described within this protocol. This Outbreak Protocol is provided for health practitioners to aid in the detection and control of communicable disease outbreaks by providing a framework of provincial legislation and policy.

The document includes a detailed overview of the principles of outbreak management; additionally, the appendices have outbreak specific toolkits for influenza like illness, gastrointestinal illness and tuberculosis.

Authority

The *Communicable Diseases Act* and the *Communicable Diseases Amendments Order, 1998* constitute the statutory basis for the control of communicable diseases in Newfoundland and Labrador. The Minister of Health and Community Services has the ultimate responsibility for this Act; however, this authority may be delegated to the Chief Medical Officer of Health (CMOH) or the Regional Medical Officer of Health (RMOH).

Purpose

The purpose of the Outbreak Protocol is to set out the provincial policies and procedures related to detection and control of disease outbreaks. This provides a mechanism for consistency across the province while allowing the flexibility that may be necessary within the regions.

Objectives

- Provide provincial policy and direction for the surveillance, detection and control of communicable and infectious disease outbreaks
- Be a resource for health practitioners on issues related to the prevention and control of disease outbreaks
- Serve as a guide for the orientation of new staff
- Ensure the protection of vulnerable populations

Surveillance

In order to identify an outbreak, it is important to know the expected number of cases of a disease in a given area at a given time. This baseline of disease information is established through disease surveillance. Surveillance also allows public health practitioners to monitor an outbreak and the effect of the implemented control measures.

Disease surveillance is the continuous collection, analysis, interpretation of data and the timely dissemination of that information to those who need to know. Surveillance is used to determine the extent and risk of disease transmission. The reports are collected for the purpose of noting changes in disease trends to allow for implementing disease prevention and control strategies that will decrease the burden of illness and the possibility of an outbreak. Prevention and control measures must be applied effectively and efficiently to minimize the burden of disease. Flow charts provided in Appendix A outline the activities required for surveillance and reporting. For disease-specific procedures, please refer to the appropriate section in the Newfoundland and Labrador Disease Control Manual.

Communicable disease surveillance is achieved by health professionals who carry out the following activities:

- Identify and describe each individual who has acquired a communicable disease
- Determine the source of the infection
- Identify exposed individuals to whom the infection may have been transmitted
- Specify the frequency and pattern of occurrence of infection in population groups at risk by person, place and time
- Identify populations that are experiencing or may experience an increased frequency of infection
- Prepare and distribute surveillance reports to health professionals

Healthcare professionals working in communicable disease control programs may use several types of surveillance to obtain information, including:

- Passive surveillance
- Active surveillance
- Sentinel surveillance
- Syndromic surveillance

Details for these types of surveillance can be found in the list of definitions.

Outbreak Investigation

There are several steps that must be followed when conducting an outbreak investigation. An outbreak management plan needs to be situation-specific, while still including the fundamental steps of an outbreak investigation. Any suspected outbreak requires an immediate response. When an outbreak is suspected, the ICP or CDCN should express in writing the need for an outbreak management team (OMT) to their immediate supervisor and implement immediate control measures.

The steps below constitute the outbreak investigation. They may occur simultaneously or in any order during the investigation.

Identifying an Outbreak

In Newfoundland and Labrador single cases of disease and outbreaks are investigated for all notifiable diseases. Investigation is carried out by health professionals under the direction of the RMOH. This may include Communicable Disease Control Nurses (CDCNs); Environmental Health Officers (EHOs) working within the Government Service Centre; or Infection Control Practitioners (ICPs) working within the acute care or long term care setting.

The investigation of illness may begin before a case is confirmed. This may include testing and control measures for the disease entity. Once a disease is confirmed the actions may involve investigation of single cases of illness and of suspected or confirmed outbreaks of illness. For a summary of disease reporting of single cases and outbreaks please see Appendix A.1, A.2 and A.3.

Single Case Investigation

- 1) Identify illness:** Single cases of illness should be investigated thoroughly. The information obtained from single cases could be important in preventing the case from suffering similar illness in the future, preventing others from becoming ill and identifying outbreaks.
- 2) Notification of illness:** Cases may be clinically diagnosed or lab-confirmed. Please refer to the Newfoundland and Labrador Disease Control Manual for disease-specific case definitions. The manual can be found @ http://www.health.gov.nl.ca/health/publichealth/cdc/health_pro_info.html#disease
- 3) Refer to CDCN or coordinator:** Laboratory confirmed reports are initially received by the Regional Health Authority (RHA) and forwarded to the CDCN (if the illness is nosocomial, the ICP may complete on behalf of the CDCN).
- 4) Follow disease specific protocol:** To ensure that information is collected consistently throughout the province, the Newfoundland and Labrador Notifiable Disease Report Form has been developed for use by investigators of single cases of illness. It is available at http://www.health.gov.nl.ca/health/publichealth/cdc/notifiable_disease_report_form.pdf. For some diseases, specific questionnaires have been developed. These are placed in the appropriate disease section in the Newfoundland and Labrador Disease Control Manual and also located on the

Department of Health and Community Services (HCS) website:

http://www.health.gov.nl.ca/health/publichealth/cdc/health_pro_info.html#forms.

The RMOH is responsible for the collection of this information, which may be with the cooperation of physicians or other healthcare professionals.

- 5) **Assess the case for risk to specific groups:** The case's occupational status may impact his/her ability to attend work or school while infected. Specific risk groups include:
 - a. Food Handlers
 - b. Health Care Workers or attendants
 - c. Child Care Staff
 - d. Children below the age of five years
 - e. Older children and adults with inability to attend to personal hygiene

- 6) **Electronic reporting:** CDCN reports all notifiable diseases via the Newfoundland and Labrador CDC surveillance system once per week.

- 7) **Review other data for related cases:** The investigator will review historical data, which includes, but is not limited to: Newfoundland and Labrador CDC system data, provincial disease reports, previous investigation reports, discussions with other RHAs, historical trends of enteric disease, current events in the province or region, and Canadian Network for Public Health Intelligence (CNPHI).

- 8) **Determine if further investigation is necessary:** Single case investigations may lead to a suspected outbreak. If data for related cases shows a possible connection to this case, the CDCN or investigator will consult with the RMOH to determine if further investigation is necessary. If an outbreak is not suspected at this time, the CDCN shall document the conclusion of the case interview and this information should be considered in similar, future disease events.

- 9) **Expand investigation (if applicable):** Single case investigations may lead the investigator to suspect a communicable disease outbreak. When this occurs, the investigator shall immediately notify the RMOH by telephone and begin the outbreak investigation as per the procedures outlined in Figure 2, Appendix A.2.

Determine if an Outbreak Exists

The ICP or CDCN should consult with the MOH when an outbreak is suspected. The diagnosis should be confirmed by clinical or laboratory tests. If cases fit the established case and outbreak definitions, an outbreak exists.

Implement Immediate Control Measures

Hand Hygiene

Hand hygiene refers to hand washing and the use of alcohol-based hand rubs (ABHR). Proper, regular hand hygiene is the best defense against microorganisms. If the hands are not visibly soiled or there is no access to soap and water, ABHR can be used. Hand washing stations should be equipped with liquid soap and disposable paper towels.

Staff, clients/patients, visitors and the public should be taught and reminded of the importance of hand hygiene before eating or preparing food, after using the toilet or other personal hygiene activities, before leaving their rooms for common/public areas and when returning home from common/public areas.

Reinforce Routine Practices and Initiate Additional Precautions in Healthcare Settings

Routine Practices and Additional Precautions are practices recommended by the Public Health Agency of Canada (PHAC) to prevent and control the transmission of microorganisms in health care settings from recognized and unrecognized sources (Public Health Agency of Canada, 2012). Additional Precautions will depend on the type of microorganism involved in the outbreak. When an outbreak is suspected, these practices should be reinforced. Please refer to the following manuals for more information:

PHAC (2012). Routine practices and additional precautions for preventing the transmission of infection in healthcare settings. http://publications.gc.ca/collections/collection_2013/aspc-phac/HP40-83-2013-eng.pdf

Government of Newfoundland and Labrador (2014). Routine practices and additional precautions across the continuum of care. http://www.health.gov.nl.ca/health/publichealth/cdc/routine_practices_and_additional_precautions.pdf

Isolate/Cohort Suspected Cases

In the community and in healthcare and residential facilities, suspected/symptomatic cases should be placed in isolation.

In acute and LTC this may be a single room with toilet and hand hygiene facilities whenever possible to help contain the outbreak. When single rooms are scarce; it is advisable to cohort patients/residents with similar symptoms. When single rooms are not available and it is not possible to cohort patients/residents:

- avoid placing symptomatic patients/residents in rooms with individuals who are at high risk for complications (e.g. immunocompromised)
- patient/resident beds should be placed 2 meters apart with a curtain drawn between them
- ensure roommates and visitors are informed of the additional precautions to follow, as determined by the infectious agent

In community settings, depending on the epidemiology of the agent, suspected/symptomatic cases may be asked to stay home until symptoms have cleared or until they are considered non-infectious. When under home isolation, clients should:

- avoid common areas and contact with house mates as much as possible
- assign one bathroom for the ill and another for non-symptomatic individuals, if possible
- limit visitors

Personal Protective Equipment (PPE)

During an outbreak, care givers and staff should wear the following personal protective equipment when giving direct care to symptomatic individuals or when in contact with the equipment and surfaces in the individual's environment.

- Gloves – for providing direct care
- Gowns – when contamination of clothing is possible
- Facial protection (surgical masks, goggles and/or fluid shields) – to protect the mucous membranes from viral particles when assisting a symptomatic individual. Fluid shields should be worn when within 2 meters of a resident with respiratory symptoms
- All personal protective equipment should only be used once, removed before exiting the room or in the anteroom, and discarded immediately in the household garbage. In healthcare and residential facilities, staff should not roam the floor/unit wearing contaminated equipment
- Hand hygiene should be performed before and after putting on any protective equipment and when leaving the individual's care area

Notification

- Inform staff that you suspect an outbreak
- In non-healthcare facilities, contact your regional health authority immediately and inform them that you suspect an outbreak. They will advise you on how to manage this event and can provide you with more information regarding sample collection and reporting procedures.
- Advise unit staff to post corresponding signage outside affected room(s)/unit(s)
- Advise staff, patients/residents and visitors of additional procedures to follow to prevent the spread of illness within the unit/facility/community
- Contact your immediate supervisor/unit manager and inform them of the suspected outbreak
- If advised by the MOH, post signage at the doors to inform visitors of the infectious illness and to discourage entry. An example is given in Appendix A.6
- Initiate line listing for all new or suspected cases (Examples in Appendix B.1 and C.1)
- The Canadian Network for Public Health Intelligence (CNPHI) tool Outbreak Summaries is used to report and update the status of the outbreak <https://www.cnphi-rcrsp.ca/cnphi/index.jsp>
- The MOH advises the Communications division if deemed necessary

Assemble an Outbreak Management Team (OMT)

The effective control of disease outbreaks relies on the cooperation, collaboration and coordination among public health, acute care, laboratory and related health professionals at all levels. An OMT monitors the outbreak and oversees outbreak control measures. Assembly of an OMT may be initiated by the ICP or CDCN in consultation with the unit manager or delegate, or the MOH. It is vital that a team lead and chairperson be selected immediately upon forming an OMT. The team lead may be the ICP, CDCN, unit manager, MOH or delegate depending on the type of outbreak and the area it affects.

When an outbreak is **limited to one region**, a regional OMT should be assembled to carry out the investigation of a suspected or confirmed outbreak of illness. The ICP, CDCN, site manager, RMOH or

designate is usually the lead of this team. A rapid and thorough response to an outbreak may control the magnitude of the outbreak and prevent future outbreaks from occurring.

If an outbreak occurs in **more than one region**, the Communicable Disease Control and the CMOH of HCS will become involved in the coordination of the outbreak. The regional outbreak team(s) will work with the Province to ensure a consistent and coordinated approach.

If an outbreak occurs in **more than one province**, the Public Health Agency of Canada (PHAC) and other national authorities [e.g., Canadian Food Inspection Agency (CFIA)] will work with the provinces involved to ensure a consistent and coordinated approach.

Membership of the Outbreak Management Team may include:

- CMOH
- RMOH
- IPAC personnel
- CDC Coordinator
- CDCNs/Community Health Nurses
- Director of Environmental Health
- Environmental Health Program Manager
- EHOs
- Manager of Operations/Regional Director
- Communication Staff
- Occupational Health and Safety
- Provincial Epidemiologist
- Regional Epidemiologist
- Public Health Laboratory
- Microbiology Laboratory Manager
- Administrative representative

External agencies/individuals on the Outbreak Management Team may include:

- Other provincial government departments
- Individual(s) with content expertise
- CFIA
- Health Canada
- National Microbiology Lab
- Public Health Agency of Canada (PHAC)

A suggested description of the roles and responsibilities of members of the OMT are listed in Appendix A.4. Each region is responsible for assigning tasks as appropriate within the respective health authority.

OMT Meetings and Responsibilities

The OMT should meet regularly to:

- Ensure that all members of the team have a common understanding of the situation
- Review the specifics of the outbreak and the case definition
- Develop a working case definition for the particular outbreak

- Discuss and implement the appropriate control measures for the outbreak
- Define the role and responsibility of each member of the team
- Plan and implement the communication strategy
- Create a coordinated approach to address staff, resident/patient, and/or visitor concerns

OMT responsibilities:

- Confirm the existence of an outbreak based on the case definition
- Take action to identify the source and nature of the outbreak
- Ensure that staff and management are aware of the outbreak and are advised of additional precautions and work restrictions
- Make decisions regarding control measures, such as closures and visiting
- Assign a person to do the epidemiological process
- Ensure that communicable disease prevention and control measures are being followed
- Monitor outbreak control measures and make changes as necessary
- Review issues related to communication and media coverage
- Provide daily/weekly updates regarding the extent of the outbreak and circulate to all departments/services who may be involved
- Discuss educational and awareness materials (posters, pamphlets, etc.) with staff
- Assure appropriate and adequate quantities of supplies (personal protective equipment, soap, ABHR, cleaner, disinfectants, etc.) are available
- Encourage staff and patients/residents to get vaccinated if the outbreak is caused by a vaccine-preventable illness
- Send symptomatic staff home as soon as possible
- Consult the MOH on issues pertaining to public health measures, admissions, discharges and transfers during an outbreak

A sample OMT meeting agenda is available in Appendix A.5.

Epidemiological Process

The following process will be completed by members of the OMT, which may include support from an epidemiologist. The information gathered from this process will help inform the OMT of the outbreak spread and guide staff in implementing the appropriate control measures.

Define a Case and Count Cases

An outbreak case definition is a set of criteria that *must* be fulfilled in order to identify a person as a case of this particular disease outbreak. Start with a broad definition to detect as many potential cases as possible; refine the case definition as more information becomes available.

The definition should include:

Person	Place	Time
Clinical or laboratory criteria	Where the exposure occurred	When the exposure occurred

Example: Living in a specific Long Term Care Facility in the 5 days prior to illness onset **AND** symptom onset on or after February 7, 2011 **AND** laboratory confirmation of Influenza A.

For each case collect all pertinent information including, but not limited to, demographics, medical information (symptoms and laboratory data), disease-specific risk factors, exposure to various sources (food, water, people, and environment), etc.

Orient Data in terms of Person, Place, Time

Using the information gathered from cases, begin descriptive analysis of the data. This should occur early in the investigation in order to focus subsequent data collection.

Investigation will provide time, place and/or person associations. Descriptive analyses may offer insight into vehicle or mode of transmission, exposure source and/or magnitude of the outbreak.

- **Person:** examine characteristics that show the uniqueness of the case population, such as demographics, occupation, culture, activities, presence at specific social event/venue, contact with vectors, and other potential exposures.
- **Place:** plot cases geographically to establish a distribution pattern
- **Time:** summarize onset and duration of symptoms and the number of cases over time (epidemic curve).

Determine who is at Risk

Determine potential cases based on risk factors, case definition and epidemiological data. Establish a list of contacts or potential cases in regards to the outbreak. Note: the emergent/urgent care services at area hospitals can be asked to provide line lists of suspect cases if case-finding is deemed necessary.

Epidemiological information required:

- Personal characteristics (age, sex)
- Location (unit, community)
- Details about the illness (date, time of onset, major symptoms)
- Laboratory tests
- Treatments (if any)
- Immunization status (if relevant)
- Identify close contacts

If another healthcare facility is involved, contact the facility, microbiology and nursing units. If it is a community outbreak, contact the emergency room, and physician's offices.

Confirm the Diagnosis

Cases may be clinically diagnosed, epidemiologically-linked or lab-confirmed. Please refer to related chapters of the Newfoundland and Labrador Disease Control Manual for disease-specific case definitions.

Follow Disease-Specific Protocol

Disease-specific investigation protocols are described in later chapters of this manual. As required by disease: conduct case history and/or environmental assessment; collect clinical specimens and/or food samples. Disease-specific questionnaires are available online:

http://www.health.gov.ni.ca/health/publichealth/cdc/health_pro_info.html#forms

The diseases which require enhanced surveillance and reporting include:

- Invasive Meningococcal Disease
- Invasive Group A Streptococcal Disease
- Measles Rubella
- Severe Acute Respiratory Illness
- Tuberculosis Treatment Outcome
- Tuberculosis Case Report Form

Control and contain outbreak according to the characteristics of the disease. This includes but is not limited to:

- increased surveillance (e.g., from passive to active)
- line listing of cases
- contact tracing
- immunization
- enhanced environmental cleaning
- decontaminating equipment
- staff restrictions
- patient/resident restrictions
- visitor precautions

Generate and Test Hypothesis

Develop working hypothesis regarding source, as well as mode and rate of transmission; modify case definition as needed. Test hypothesis based on clinical, laboratory and epidemiological facts of the investigation.

Factors such as incubation period, type of illness, duration of illness, population affected and contributing factors leading to contamination of food/water and the proliferation or survival of organism in food/water should be consistent with the known facts of the suspected agent.

Analyze Data and Interpret Results

As the outbreak progresses, perform ongoing analysis of information including, but not limited to, refining the case definition, revising the descriptive analysis, conducting more advanced epidemiological analysis, interpreting laboratory results, refining geographic information system (GIS) tracking, etc.

Based on hypothesis and analytical evidence, identify the responsible outbreak source and recommend or take precautionary control actions.

Elements to consider in the analysis include:

- an epidemiological description of the index case
- the total number of cases and incidence rate of infection
- demographic characteristics
- routes of transmission
- risk factors or groups most affected
- regional vaccination coverage (for vaccine-preventable outbreaks)
- an assessment of the effectiveness of IPAC measures

Public Health Measures

Public health measures are actions taken to prevent, control or mitigate the effects of an outbreak. These decisions will range from population-based recommendations to individual measures. The type of public health measures used and their timing will depend on the epidemiology of the outbreak.

Immunization

Immunization is the most effective way to prevent illness. A list of publicly-funded immunizations and the provincial immunization schedule are available at

<http://www.health.gov.nl.ca/health/publichealth/cdc/immunizations.html>. All staff should ensure that their immunizations are up-to-date, including annual immunization for influenza.

Clients/patients/residents, visitors, and the general public should be encouraged to get immunized, especially during outbreaks of vaccine-preventable disease.

Public Education

The public should be educated on basic principles of disease control. The public may also be advised of any outbreaks within the community. Public education can be achieved through a variety of mechanisms such as posters, radio advertisements, inclusion in school curriculums, public meetings, public health nurse (PHN) visits to community programs, etc. Education should be provided on the following topics:

- the importance of strict hand hygiene
- cough etiquette
- how to appropriately clean and/or disinfect surfaces
- safe food handling practices
- safe sex practices
- the signs and symptoms of the outbreak-causing illness
- where to go/who to contact if symptoms present

Case and Contact Management

Case and contact management allows early identification of probable cases and persons through surveillance, contact tracing, and communication. Depending on the disease-causing agent and route of transmission, contacts may include persons who:

- may have cared for a case

- have close contact in households, healthcare facilities, or community settings with a case
- had sexual contact with a case
- have handled biological samples from known cases

Early identification of symptoms and isolation of confirmed and probable cases can reduce disease transmission and facilitate prompt medical intervention and laboratory diagnostic testing. Case and contact management allows public health to educate probable cases about disease transmission, signs and symptoms of illness, preventive measures to follow, the rationale for contact tracing and what to do if symptoms present. The RMOH will work with staff for case and contact management.

Isolation

Isolation is used to separate persons who are known or suspected to have a communicable disease from those who are healthy. Isolation restricts the movement of ill persons in order to stop the spread of disease. In healthcare settings, ill patients may be asked to remain in their room or may be grouped together until symptoms have cleared. This allows for the delivery of specialized health care to ill patients. Similarly, in community settings, ill individuals may be asked to remain home from school or work. Isolation measures are usually voluntary but can be mandatory if the benefits for the public good override individual autonomy. The RMOH has the authority under legislation to mandate isolation in exceptional circumstances.

Quarantine

Quarantine can be defined as all steps taken, both mandatory and voluntary, that restrict the activities of individuals who have been exposed to a communicable disease but are not yet symptomatic from others who have not. Quarantine measures are usually voluntary but can be mandatory if the situation warrants it. The Canadian Quarantine Act protects public health by taking comprehensive measures to prevent the introduction of communicable diseases into Canada. The Act authorizes measures that can be taken in respect of international travelers, or other persons at an entry or departure point, who have or might have a communicable disease (one that poses a risk of significant harm to public health). It also authorizes measures that can be taken in respect of conveyances arriving in or departing from Canada, and cargo on those conveyances, which could be the source of a communicable disease.

The Canadian Quarantine Act is available at <http://laws-lois.justice.gc.ca/eng/acts/Q-1.1/index.html>

The authority to initiate the Quarantine Act lies with Public Health Agency of Canada Quarantine Officers.

Closures and Visitor Restrictions

If an outbreak is widespread and/or difficult to control public health may make recommendations to increase social distance by closing affected facilities (e.g. schools, workplaces, personal care homes, long-term care facilities, etc.) or limiting public gatherings. The OMT, in consultation with the MOH/CMOH, will decide whether the outbreak warrants facility closures, visitor precautions, visitor restrictions or limited public gatherings.

Control Measures for Healthcare and Extended Care Facilities

Environmental Cleaning

Dirt and debris can protect microbes from disinfectants. Thorough cleaning removes this protection and ensures effective disinfection of surfaces. During an outbreak, enhanced environmental cleaning is required, including:

- Enhanced environmental cleaning using an appropriate disinfectant
- A “wipe twice” process (i.e. wipe surfaces thoroughly to clean visibly soiled material then wipe again with a clean cloth saturated with disinfectant to disinfect)
- Cleaning high touch surfaces such as door knobs, hand rails, counters in common areas, elevator buttons, bathroom surfaces, dining areas etc. at least twice per day
- Cleaning of common equipment
- The use of single use cloths and mop heads
- More frequent garbage removal and laundering of linens/clothing
- Evaluating the need for higher concentration of cleaning chemicals
- Discarding items that cannot be appropriately cleaned/disinfected, when possible/appropriate
- Thorough, enhanced/terminal cleaning in all affected areas at the end of the outbreak, including patient/resident beds and curtains, as advised by the OMT and as per RHA policy

Patient/Resident/Client Control Measures

- Effort should be made to separate symptomatic individuals from non-symptomatic individuals
- Symptomatic individuals should remain in their rooms for the duration of acute illness, if possible
- In healthcare facilities, when single rooms are limited, cohort individuals with the same illness
- Symptomatic individuals should only leave the outbreak unit/facility when it is medically necessary; in which case all involved personnel (receiving unit, diagnostic services, and transport personnel) should be advised of the outbreak and of the additional precautions to follow
- Symptomatic individuals should not participate in group activities; the OMT will provide guidance on whether group activities should be permitted in the facility
- If the outbreak is contained to one unit, all patients/residents on that unit should remain on their own unit and avoid contact with other patients/residents in the facility
- Asymptomatic patients/residents may request a pass to leave a site/facility that is under restrictions due to an outbreak. The OMT will provide guidance for this. If permitted to leave, patients should be advised that if they become symptomatic while away from their site/facility, they should return to or contact their site/facility, or seek medical attention
- Previously scheduled social and special events (e.g. entertainers, school groups, community presentations, etc.) may need to be rescheduled until after the outbreak is declared over
- Hand hygiene should be promoted and performed by all residents and staff before and after any activities
- During prolonged outbreaks measures to reduce the psychological impacts of long-term isolation should be implemented, where possible. This may include free access to a telephone and/or TV for isolated patients/residents/clients. In addition, patients/residents/clients should also have access to other health professionals such as chaplains, social workers, psychologists, etc.

- Health professionals providing supportive services should be informed of precautions required

Restrictions for Affected Units/Sites

- The facility/unit status (e.g. open or restricted admissions) will be determined by the OMT in consultation with the RMOH
- Unit/site restrictions should be discussed when the outbreak is declared
- The scope of unit restrictions is typically dependent on the extent of the outbreak activity within the facility (one unit, one floor, one wing or the entire facility), the ability to cohort staff to affected areas, and severity of the outbreak (e.g. many residents and staff affected, new cases continue to develop in spite of implemented control measures)
- Admissions and transfers to affected units should be paused until the outbreak is over; however, exceptions may be made on a case-by-case basis as directed by the MOH
- In the case that a new admission must occur, the new resident must be fully informed of the situation and prepared to get immunized/take prophylaxis if recommended, where applicable

Admissions/Transfers from an Acute Care Site to an Outbreak Site

As a general rule:

- A resident who is hospitalized **prior** to the outbreak should not be transferred back to the outbreak site until the outbreak is declared over as they may be at risk for infection
- If the resident was hospitalized **due to the outbreak-causing agent**, he/she may return to the outbreak facility upon discharge since he/she will likely have been exposed already
- If a resident is hospitalized **during** an outbreak at their residence site for an unrelated condition (e.g. fracture) the resident may return to his/her facility **if** (s)he is on recommended chemoprophylaxis, where applicable

Transfers from an Outbreak Facility to Acute Care

- Residents who require urgent medical attention and transfer to a healthcare facility must wear appropriate PPE (e.g. surgical mask)
- All involved personnel (receiving unit, diagnostic services, and transport personnel) should be advised of the outbreak and of the additional precautions to follow prior to the transfer
- The facility receiving the patient should ensure IPAC measures are in place when the patient arrives

Staff Control Measures

- If the outbreak is caused by a vaccine-preventable disease, all staff should be strongly encouraged to receive immunization
- Symptomatic staff members are required to report to their manager/designate and should stay home until symptoms have cleared. The length of time for which a symptomatic worker should stay off work will be decided by the OMT at the time of the outbreak based on the etiology of the agent
- Staff who develop symptoms at work, should leave as soon as possible
- Staff with symptomatic household members can report to work if (s)he is asymptomatic and practices appropriate personal hygiene

- Movement of staff, students, and volunteers between units/floors/facilities should be minimized, especially if some units/floors/facilities are not affected
- Consider excluding non-essential staff, students, and volunteers from working in affected areas
- When possible, staff should be assigned to the same unit for all their shifts until the outbreak has cleared
- When required to work in multiple areas, staff should work in the non-outbreak area first then finish the shift in the outbreak area
- When working between facilities, asymptomatic staff should change uniforms and practice appropriate personal hygiene
- Staff members who work on more than one unit or at more than one site need to be diligent with the use of personal protective equipment and hand hygiene
- Staff should change gloves between each contact with different residents. Perform hand hygiene each time gloves are changed and after gloves are removed

Visitor Precautions

Clear and consistent information about visitor restrictions and the rationale for those restrictions needs to be communicated to patients, visitors, staff, and the public through a variety of means (e.g. e-mail, bulletin boards, newspaper, television, radio, entrances to facilities). The restrictions implemented must be proportional to the potential risk.

- A public notification may be advised by the RMOH
- Outbreak notification signs should be posted at all entrances. These should advise visitors of the risk of acquiring/introducing infections into the facility and encourage visitors to delay their visit until the outbreak is over
- All visitors who present with symptoms of illness should not visit the facility until they are well and able to fully participate in their usual day-to-day activities
- Visitors should report to the front/nursing desk before visiting patients/residents
- Visitors should be strongly encouraged to receive immunization for the outbreak-causing agent, if one exists and is readily available
- Visitors who choose to enter a facility during an outbreak should be required to:
 - carry-out hand hygiene upon entering and immediately prior to exiting the resident's room and the facility
 - visit only one resident and exit the facility immediately after the visit (i.e. do not roam the facility or visit other residents during the visit)
 - follow infection prevention and control procedures as directed by facility staff, including wearing PPE if visiting symptomatic patients/residents
- Children under the age of 14 years are not permitted to visit during an outbreak unless absolutely necessary
- Complete restriction to visitation is not recommended by Public Health since it may cause emotional hardship to both patients/residents and families. However, if a facility is having difficulty controlling an outbreak, the OMT in consultation with the MOH will determine further visitor restrictions.

Sample Visitor Policy for Outbreaks in Healthcare Facilities That Require Visitor Restrictions

Patient Categories	Visitors Allowed	Length of Visitation	Exceptions to Policy
Is the patient critically ill (i.e. intensive care unit), terminally ill or imminently dying?	Immediate family and designated individuals*	As defined by the facility policy	If the risk of contagion from the patient is low, visitation may be extended to other family members and friends on a limited basis**
Is the patient a pediatric patient?	Parents	As defined by the facility policy	If the risk of contagion from the patient is low and the length of stay is greater than 2 weeks, visitation may be extended to other family members and friends on a limited basis**
Is the patient in labour or postpartum?	Partner or designated individual*	As defined by the facility policy	None
Is the patient undergoing a serious or significant procedure/treatment (e.g. open heart surgery, chemotherapy, cardiac catheterization)	Partner or designated individual*	As defined by the facility policy	If the risk of contagion from the patient is low and the length of stay is greater than 2 weeks, visitation may be extended to other family members and friends on a limited basis**
Is the patient a long-term care resident? OR Is the patient's ability to understand what is happening limited due to language, other communication barriers or decreased capacity?	Partner or designated individual*	As defined by the facility policy	None
All other patients	Immediate family or designated individual*		If the risk of contagion is low and the length of stay is greater than 2 weeks, visitation may be extended to partner or designated individual* on a limited basis**

* As defined by the patient or substitute decision maker if appropriate. In cases where the patient or substitute decision maker is uncomfortable informing friends and family members that they are restricted from visiting, this should be assumed by a designated/appropriate healthcare provider in the institution

** Limited basis: as approved by the OMT

Control Measures for Community

Notification of Public Health

- For all notifications, the RMOH or designate is to be notified within a specified period of time as indicated by the Newfoundland and Labrador Notifiable Disease List available at: <http://www.health.gov.nl.ca/health/publichealth/cdc/listabc20.pdf>
- Establish a method for rapid recognition of cases in schools, daycare centers and personal care homes
- Notify the local public health office when an outbreak is suspected
- The PHN and/or EHO will:
 - contact the community site to collect information on the cases
 - advise on medical follow-up and the collection of appropriate laboratory specimens
 - compile a list of all cases with evidence of infection
 - provide education at the community site regarding prevention and control
 - notify the CDCN of a potential outbreak
 - the CDCN will provide information as required such as:
 - fact sheets
 - sample letter for schools
 - sample signage

Hand Hygiene

- Hand hygiene is the single most important way to prevent the spread of infection
- Hand hygiene facilities must be available
 - Hands must be washed with soap and water if visibly soiled
 - Hands must be washed with soap and water or with ABHR
- Hand hygiene must be performed after using the bathroom, before eating, after coughing or sneezing, and after playing with pets

Symptomatic Individuals

- Symptomatic individuals must go home as soon as possible and should remain home until symptoms have cleared (this may be for a specified period after symptoms have cleared, depending on the infectious agent)
- Friends and family should be discouraged from visiting symptomatic individuals while on home isolation
- Information must be given regarding the infection and education on the importance of hand hygiene and proper environmental cleaning

Environmental Cleaning

- Enhance environmental cleaning is recommended
- A “wipe twice” process (i.e. wipe surfaces thoroughly to clean visibly soiled material then wipe again with a clean cloth saturated with disinfectant to disinfect)

- Clean high touch surfaces such as door knobs, bathroom surfaces, and dining areas frequently
- Use paper towels to clean up any accident areas (vomit/feces) and discard them immediately
- Remove contaminated garbage and launder soiled items immediately
- Discard items that cannot be appropriately cleaned/disinfected, when possible/appropriate

Education

Staff

All staff should be educated and trained in infection prevention and control measures upon initiation of their employment and at regular intervals as ongoing continuing education. This is particularly important for staff members who provide direct care to patients/residents/clients. Attendance at education and training sessions should be recorded and included as part of the employee's performance review.

IPAC education programs should include information about:

- Disease transmission and the basic epidemiology of the infectious disease causing the outbreak
- Early symptom recognition
- Hand hygiene
- Routine Practices and Additional Precautions
- Point of care risk assessments
- Safe food handling practices
- The appropriate use and indications for PPE, including safe application, removal and disposal
- Appropriate cleaning and/or disinfection of surfaces in the patient/resident/client environment

General public

The general public should be advised of any outbreaks in specific facilities or within the community. Education should be provided to the public on the following topics:

- The importance of strict hand hygiene
- The signs and symptoms of the illness
- How the illness is transmitted
- How to protect oneself from infection
- Where to go/who to contact if symptoms present
- How to appropriately clean and/or disinfect surfaces

Communication and Public Disclosure

Limiting the spread of an outbreak is highly dependent on timely and accurate communication between the OMT, front-line staff, patients/residents, visitors, and the general public. In order to limit the spread of an outbreak the following communication strategies are recommended:

- Ensure front-line staff members are trained in the appropriate infection control procedures. This may require holding additional education sessions for staff from the outbreak unit/facility/community
- In healthcare facilities and residential facilities:

- inform visitors about the outbreak as soon as it has been confirmed, including information about the type of outbreak, restrictions for visiting and the importance of performing hand hygiene before and after the visit
- post outbreak notification signs at all entrances to the facility when the outbreak is contained within a healthcare/residential facility
- notify other units/facilities/areas, including ambulatory services, of the outbreak once it has been confirmed and inform them of precautions to take if entering the unit/facility

Communication – Media

Media attention through a press release and other coverage may be required in any size of outbreak situation if, for example:

- An individual or group presents an ongoing threat to public health;
- There is a need to bring the outbreak to the attention of individuals who may have inadvertently been exposed; or
- There is evidence of or potential for public alarm or concern.

Other steps to consider:

- Designate one member from the OMT to speak with the media to ensure a clear and consistent message is given, in the event that media statements are required
- Update any relevant media with current information about the outbreak, the disease-causing agent and preventative measures (Facility/Regional Health Authority/Provincial websites, Facebook, Twitter, radio, news, etc.)
- In community-wide outbreaks, consider holding public meetings to educate the public about the outbreak, what they should do if symptoms present and how to protect themselves and their dependents
- It may be necessary to advise affected individuals of communication efforts which may lead to their identification, especially in single case or small outbreak situations.

Any decision to proceed with media contacts should go through the RMOH/CMOH, and regional and/or provincial communications teams.

Declaring the Outbreak Over

The OMT in consultation with the RMOH will determine when it is appropriate to dissolve the outbreak investigation. The outbreak is typically considered over when no further transmission is noted within the affected area. The timeline for declaring the outbreak over will depend on the etiology of the disease-causing agent including the mode of transmission, incubation period and period of communicability of the specific agent. After the outbreak has been declared over, the OMT should still observe for new cases, especially if the causative agent has not yet been identified. In addition, all persons notified of the outbreak at the beginning should be notified that it is over. This includes the RMOH, CMOH, RHA, staff, residents and visitors.

When the outbreak is declared over, the outbreak summaries tool in CNPHI must be updated and finalized. Concluding actions are outlined in Figure 3, Appendix A.3.

Evaluate Overall Investigation and Response

Evaluate the overall investigation and response. A sample Outbreak Management Feedback form is available in Appendix A.7. This may be distributed to OMT members and other involved parties.

Write Report and Make Recommendations

Upon completion of the investigation of the outbreak all relevant outbreak information should be published on CNPHI Outbreak Summaries module using the FINAL Outbreak Summaries option.

This report will summarize the investigation, the findings, recommendations and prevention measures; it is a form of communication with DHCS and other RHAs, but may also serve as evidence to justify program area needs.

In some outbreak situations, a more detailed report will be required. The OMT will decide when more detailed reports are required. Please see Appendix A.8 for an outbreak report template.

Debrief Team

Disseminate aggregate feedback to OMT members. If necessary, disseminate the abbreviated report to the public and applicable outside agencies (e.g. PHAC), as recommended by the RMOH/CMOH.

A debrief meeting may serve as a basis for the development of preventive measures or may include staff training, if required.

Implement or Enhance Long-Term Prevention and Control Measures

Identify the lead person responsible for implementing the recommendations, including a timeline for implementation and a plan for evaluation.

Other recommended strategies include:

- Develop policies and procedures on Outbreak Prevention and Control
- Acquire or develop educational material for staff/volunteers
- Acquire or develop educational material for patients, residents, clients and families
- Develop a contact name list for use during the outbreak
- Develop and maintain an equipment inventory for use during an outbreak

Appendix A: Outbreak Investigation Toolkit

A.1 Single Case Investigation

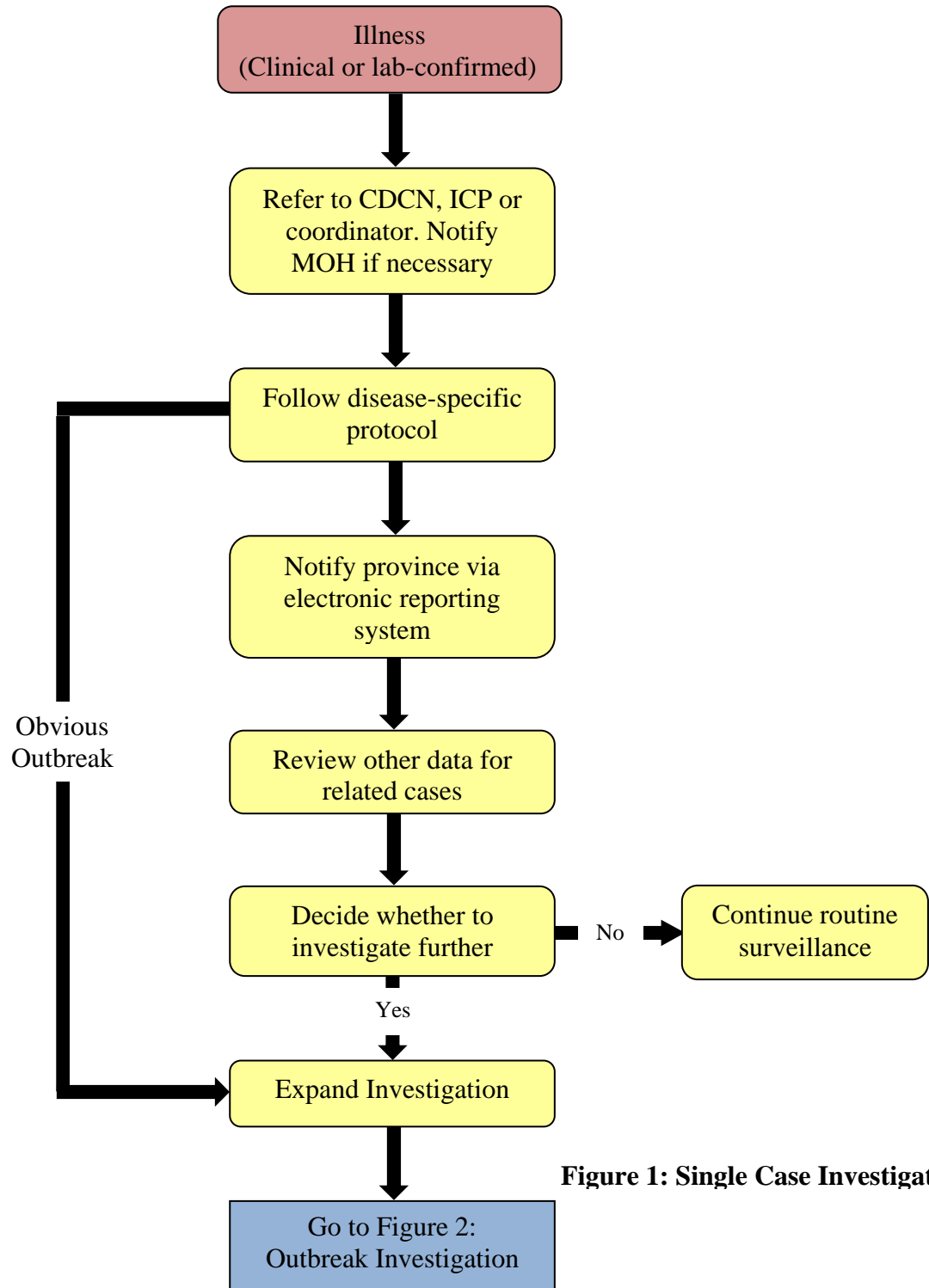


Figure 1: Single Case Investigation

A.2 Outbreak Investigation

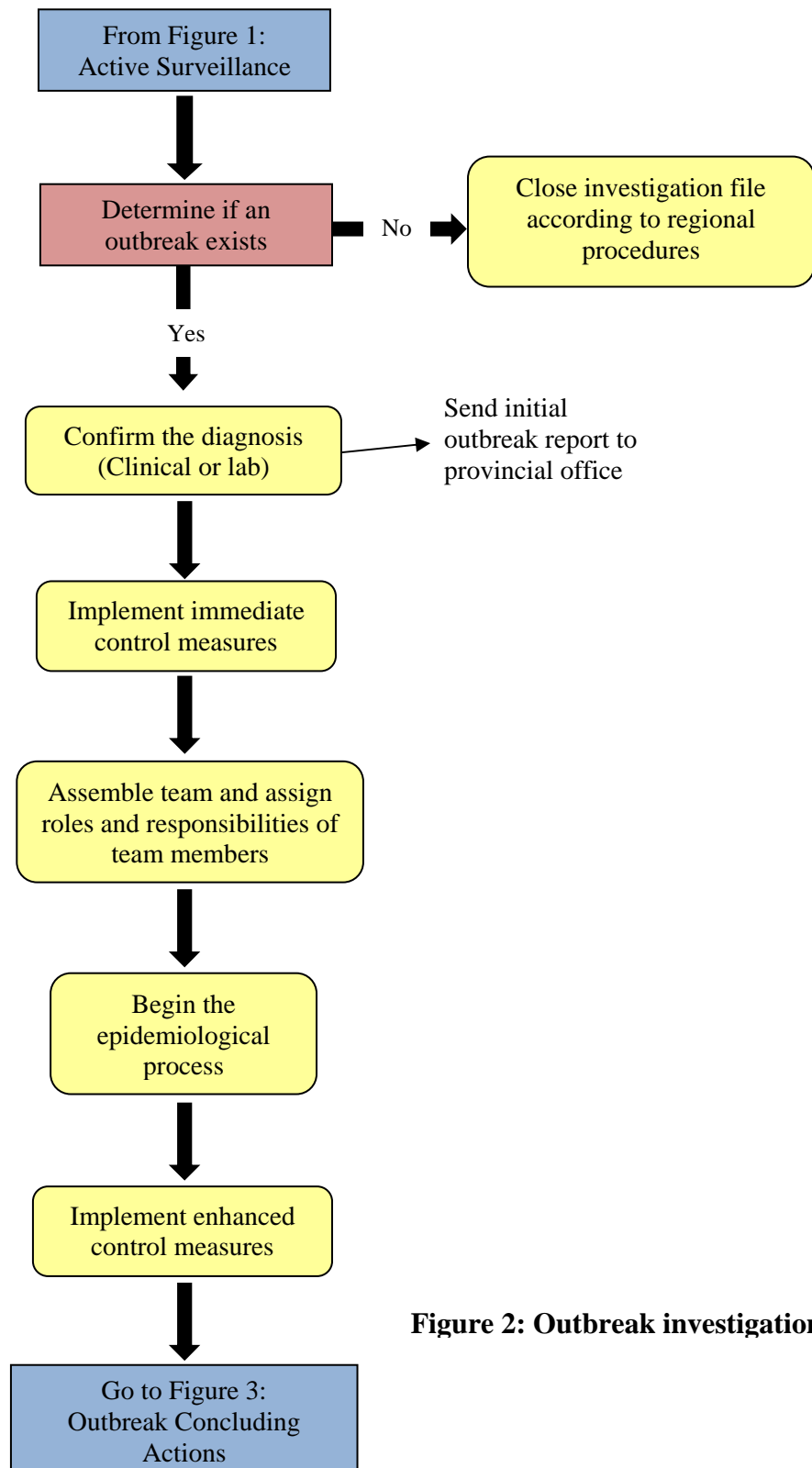


Figure 2: Outbreak investigation

A.3 Outbreak Concluding Actions

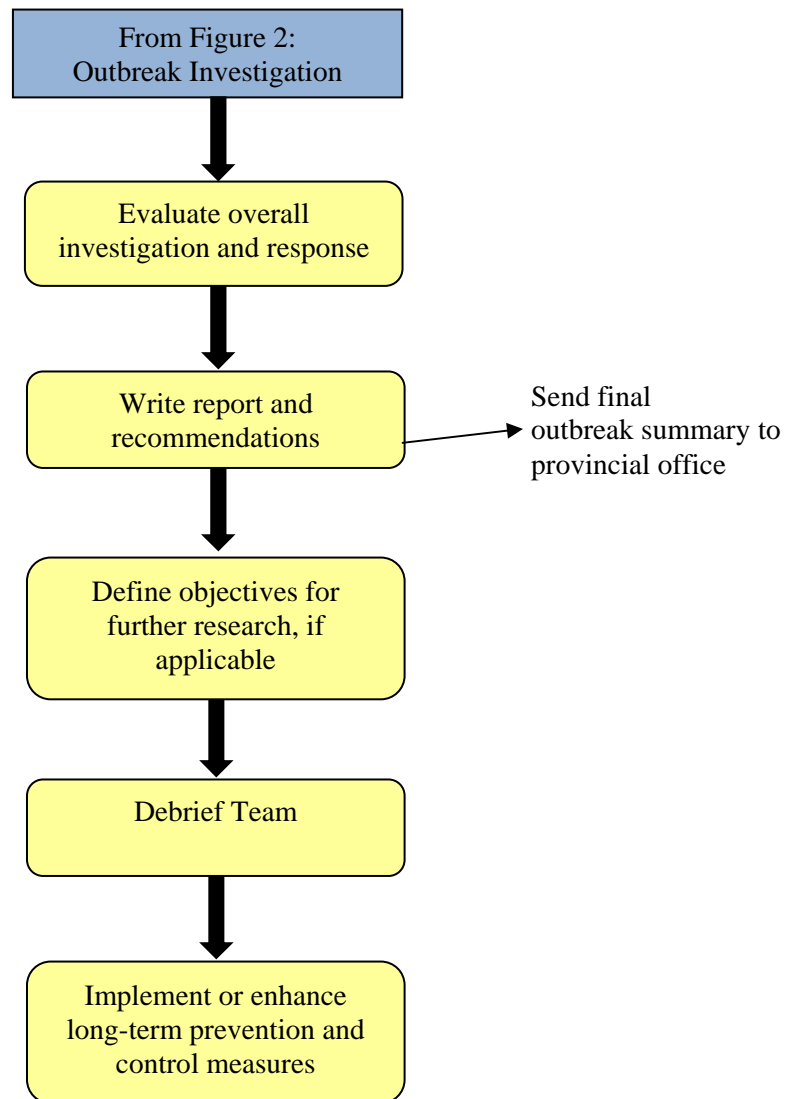


Figure 3: Outbreak concluding actions

A.4 OMT Roles and Responsibilities

The roles and responsibilities listed here are suggestions; each region is responsible for assigning tasks as appropriate within the respective health authority.

OMT Lead (RMOH, CDCN, ICP, site manager or designate):

- Determine the presence of outbreak; if one exists, assemble the OMT
- Coordinate OMT meeting (time, agenda, minutes)
- Act as team leader; ensure proper investigation and management of outbreak
- Ensure case/cases are investigated
- Ensure that appropriate public health measures are activated
- Ensure that outbreak reports (initial and final) are submitted to Outbreak Summaries
- Ensure that debriefing sessions occur
- Ensure communications to senior executive

Investigator (ICP, CDCN or EHO):

- Start the investigation upon receipt of report of illness
- Complete information on case details
- Conduct outbreak investigations in accordance with the disease-specific procedures
- Implement IPAC and/or public health measures
- Report investigation to the OMT lead
- Provide education for the staff and/or general public, as required

Epidemiologist / Regional Surveillance Analyst:

- Monitor trends using routine surveillance sources
- Identify potential increases of disease incidence
- Create outbreak interview tools, as required
- Analyze, interpret and disseminate information, as needed

Laboratory:

- Provide advice on sample collection and testing
- Timely processing of samples
- Report positive tests via traditional methods (hard copy of laboratory report)
- When necessary, report via phone or secure email
- Collaborate with lead investigators regarding specimens linked to outbreak

Administration:

- Ensure adequate human resources and supplies are available to manage outbreak
- Coordinate communication regarding the outbreak to senior executive

Clerical support:

- Schedule meetings
- Record meeting minutes
- Securely store outbreak details

- Disseminate information to OMT members, and others as necessary

A.5 Sample OMT Meeting Agenda

Outbreak Management Team Meeting

Agenda

Date:

Time:

1. Welcome (attendees/regrets)
2. Minutes of previous meeting
 - Report on action items
 - Additions to agenda
3. Current situation update / further investigations
4. Communications
 - Risk communication
 - Communication updates
5. IPAC
6. Occupational Health
7. Environmental Services
8. Action Items
9. Any other business
10. Date of next meeting

A.6 Sample Notification Signage, there may also be a “Precaution Notice”

VISITATION RESTRICTED DUE TO OUTBREAK

This unit/facility is currently experiencing
an outbreak of

By visiting this facility you may catch the illness
and give it to others!

Please help efforts to protect our residents.
Please delay your visit until the outbreak has
cleared.

A.7 Outbreak Management Feedback Form

Name: _____

Department: _____

Role during the outbreak: _____

Please provide details and recommendations for improvement in the space provided below each question.

1. Please provide a brief description of the Outbreak (type, time, place, number of cases, etc.)

2. Was the outbreak recognized and reported in a timely manner? YES NO

3. Were control measures implemented in a timely manner? YES NO

4. What factors contributed to the control of the outbreak?

5. What factors contributed to the spread of the outbreak?

6. How was the communication process? EXCELLENT GOOD POOR

7. What could be improved to reduce the duration and spread of future outbreaks?

A.8 Outbreak Report Template

The level of detail to be provided in the outbreak report will depend on the audience. All records pertaining to the investigation must be kept, as per provincial guidelines.

1. Summary

- Key features of the outbreak
- Who, what, where and when of the outbreak
- Identify and describe the hypothesis based on the evidence
- Identify lessons learned and recommendations
- Identify and describe investigation action and/or areas that need further attention

2. Introduction

- Include specific events that led to the investigation
- How the outbreak was first reported
- Steps taken to confirm the existence of the outbreak, including surveillance trends
- Identify members of the OMT and others who assisted
- State investigation objectives

3. Background

- Identify population demographics
- Review similar outbreaks
- Describe the area, site or facility involved in the investigation

4. Methods

a. Epidemiological

- Explain how cases are defined and confirmed
- Describe the study methodology (descriptive and analytical)
- Include descriptions of interview techniques and copies of questionnaires or surveys, if used

b. Laboratory

- Described the laboratory analysis used
- Include the number and type of specimens that were submitted for analysis

c. Environmental

- Outline the number and kind of environmental investigation that occurred and who conducted them

5. Results

a. Epidemiological

- Number of cases, personal details and clinical features
- Geographic distribution
- Epidemic curve
- Risk factor analysis
- Attack rates

b. Laboratory

- Summarize results on human and food testing

c. Environmental

- Describe results of inspection reports, risk assessments and trace back

6. Discussion

- Bring all aspects of the investigation together
- Discuss the main hypotheses
- Justify the conclusions and actions taken based on the evidence
- Describe the actions taken to protect public health
- Identify any problems that were encountered during the investigation
- Review the lessons learned by participating agencies

7. Recommendations

- Outbreak control measures
- Preventative measures to take to avoid future outbreaks
- Advice to improve future outbreak management

8. Acknowledgements

- An opportunity to thank those who assisted in the investigation

9. Appendices

- Chronology of events
- OMT members and roles during the outbreak
- Terms of reference for the OMT
- Additional details about the results
- Maps and references
- Questionnaires
- Letters to health care professionals
- Media releases
- Fact sheets

Appendix B: Influenza-Like Illness (ILI) Outbreak Management Toolkit

Case Definition for ILI:

Acute onset of respiratory illness with fever and cough, AND with one (1) or more of the following:

- sore throat
- joint pain
- muscle aches
- severe exhaustion

In children under age 5, gastrointestinal symptoms may also be present. In patients under age 5 or 65 and older, fever may not be prominent.

Outbreak Definition for ILI:

Two (2) or more cases of ILI within a two (2) day period, with a common epidemiological link (e.g. the same unit, floor, site or the same caregiver; and evidence of transmission within a facility). Implement the initial control measures as per the outbreak checklist as soon as an outbreak is suspected to help reduce the spread of infection. Do not wait until the causative agent is identified.

*** To be considered Health Care Associated, the patient/resident/client must be admitted for greater than 48 hours to the facility with no signs or symptoms of ILI on admission or in the first 48 hours.***

Note: If cases occur in staff, confirm they have worked in the defined area within the incubation period.

B.1 Outbreaks of ILI in Healthcare Settings

Checklist for Outbreaks of ILI in Healthcare Settings

- Notify appropriate manager/IPAC/CDCN of suspected/declared outbreak
- Stress hand hygiene after using the bathroom, before eating, after coughing or sneezing, and before and after patient contact
- Initiate contact/droplet/airborne precautions as required
- Post appropriate signage outside unit or specific rooms
- Restrict cases or contacts to rooms/units until further notice if necessary
- Ensure adequate and appropriate supplies are available (i.e. specimen containers, masks, gowns, gloves, laundry bags, ABHR, and garbage bags)
- Obtain specimens with each new suspected case unless otherwise directed
- Initiate formation of an OMT
- Encourage unvaccinated staff and residents to get immunized against influenza
- Enhance environmental cleaning, especially of common surfaces and areas
- Complete appropriate line listing forms and send to ICP, CDCN or Occupational Health Nurses, as directed
- Restrict visitors and outside groups and post visitor restriction signage
- Ensure next of kin are notified of the outbreak and that visitor restrictions apply
- Postpone routine medical appointments
- Stop communal meetings and communal dining
- Prohibit volunteer activity without consultation with IPAC
- Limit movement of staff between units/facilities
- No new admissions, readmissions or transfers should occur without consulting IPAC
- Prohibit transfers to other facilities unless medical condition warrants immediate attention; notify receiving facility of outbreak
- Closely monitor residents and clients

Common ILI Microbe/Precautions

Microorganism	Additional Precautions			Duration of Additional Precautions
	Contact	Droplet	Airborne	
Influenza type A or B	√	√		Minimum of 5 days after onset of symptoms. In immunocompromised patients/residents consult IPAC if symptoms persist greater than 5 days.
Respiratory syncytial virus (RSV)	√	√		
Parainfluenza type 1, 2, 3	√	√		
Human metapneumovirus	√	√		
Coronavirus (other than SARS)	√	√		
Rhinovirus	√	√		
Enterovirus	√	√		
Streptococcus, Group A	√	√		Until 24 hours after appropriate antimicrobial therapy received
<i>Staphylococcus aureus</i> - pneumonia	√	√		
<i>Mycobacterium tuberculosis</i> (TB) *see Appendix D			√	Until deemed no longer infectious

Additional Precautions Checklist: Application of Contact and Droplet Precautions for Admitted Patients in Healthcare

Patient Accommodation and Placement	<input type="checkbox"/> Place patient in a single-patient room if possible with in-room designated toilet (or commode chair) and sink and if possible, a designated staff hand washing sink. The room door may remain open.
	<input type="checkbox"/> Consider cohorting patients with confirmed diagnosis of same microorganism and who are suitable roommates in consultation with IPAC professional or designate.
	<input type="checkbox"/> If a single-patient room is not available and cohorting is not possible, ensure that patients are physically separated (at least 2 meters apart) from each other and draw the privacy curtain between beds to minimize opportunities for droplet spread and direct contact with roommate(s). In a shared room, a patient with diarrhea should not share a toilet with another patient.
Personal Protective Equipment (PPE)	<input type="checkbox"/> In acute care , wear gloves when entering the room or designated bedspace in shared room. In long-term care , wear gloves if direct personal care contact with the patient is required or if direct contact with frequently touched environmental surfaces is anticipated.
	<input type="checkbox"/> Wear facial protection* within 2 meters of patient.
	<input type="checkbox"/> Wear a long-sleeved gown if skin or clothing will have direct contact with patient and/or environment.
Signs, Supplies and Equipment	<input type="checkbox"/> Post a contact and droplet precautions sign(s) in a manner so that it is/they are clearly visible to all prior to entering the room or designated bedspace.
	<input type="checkbox"/> Dedicate non-critical patient-care equipment (e.g. patient's blood pressure cuff, thermometer) to the use of patient. Toys, electronic games and personal effects should not be shared among patients.
Handling of Waste and Linen	<input type="checkbox"/> Ensure that a no-touch waste receptacle and linen basket are available where needed and are ready for use
Patient Leaving Room	<input type="checkbox"/> Allow patient out of his/her room as required for their care plan. Provide supervision of patient if compliance with precautions is inadequate as listed in next bullet.
	<input type="checkbox"/> Ensure that the patient is wearing a mask** (if tolerated) and explain that he/she needs to follow respiratory hygiene when outside room or designated bedspace.
	<input type="checkbox"/> Ensure that patient performs hand hygiene before leaving room or designated bedspace.
	<input type="checkbox"/> Inform transport and other personnel in receiving area/unit/facility that the patient is on contact/droplet precautions.
Patient and Visitor Teaching	<input type="checkbox"/> Explain to patient and visitors that the patient is on contact and droplet precautions and what these precautions entail.
	<input type="checkbox"/> Teach patient respiratory hygiene and ensure tissues are available near patient.
	<input type="checkbox"/> Instruct patient on how to put on and take off mask** when required, and how/when to perform hand hygiene. As needed, visitors should be instructed on when and how to perform hand hygiene and put on and take off the necessary PPE.
	<input type="checkbox"/> For patients with an acute viral respiratory infection***, household members may not need to wear a facial protection* (as they may have already been exposed). On a case-by-case basis, other visitors should be instructed in the appropriate use of facial protection* and other precautions.
	<input type="checkbox"/> Keep the number of visitors to a minimum

Source: PHAC Routine Practices and Additional Precautions Assessment and Educational Tools

Notes: Routine practices including hand hygiene recommendations still apply

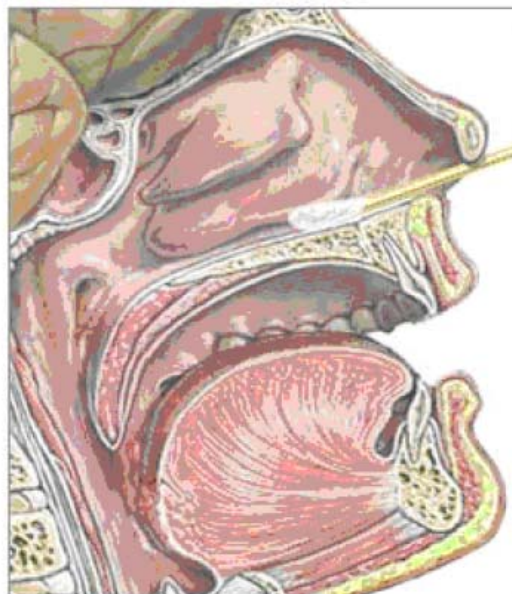
* Facial protection = Masks and eye protection, face shields, or masks with visor attachment

** The term 'mask' refers to surgical or procedure mask

Specimen Collection

Instructions for Collection of a Nasopharyngeal (NP) Swab

1. Use the swab supplied with the viral transport media.
2. Explain the procedure to patient.
3. When collecting the specimens, wear eye protection, gloves, and a mask. Change gloves and wash your hands between each patient.
4. If the patient has a lot of mucus in the nose, this can interfere with the collection of cells. Either ask the patient to use a tissue to gently clean out visible nasal mucus or clean the nostril yourself with a cotton swab (e.g. Q-tip).
5. How to estimate the distance to the nasopharynx: Prior to insertion, measure the distance from the corner of the nose to the front of the ear and insert the shaft approximately 2/3 of this length.
6. Seat the patient comfortably. Tilt the patient's head back slightly to straighten the passage from the front of the nose to the nasopharynx to make insertion of the swab easier.
7. Insert the swab along the medial part of the septum, along the floor of the nose, until it reaches the posterior nares: gentle rotation of the swab may be helpful. (If resistance is encountered, try the other nostril: the patient may have a deviated septum).
8. Allow the swab to sit in place for 5-10 seconds.
9. Rotate the swab several times to dislodge the columnar epithelial cells. *Note: Insertion of the swab usually induces a cough.*
10. Withdraw the swab and place it in the collection tube. Replace cap securely.
11. Refrigerate immediately.
12. Remove gloves.
13. Wash hands.
14. Attach completed requisition.
15. Transport to the laboratory.



A sterile swab is passed gently through the nostril and into the nasopharynx

Outbreak Management Protocol | 2016

Health Care Facility / Long-Term Care Facility
 Influenza-Like Illness Outbreak Surveillance Form – STAFF
 Date of 1st Case _____ (Y/M/D)

Facility:					Contact Person:					Case Definition:						
Address:										Phone Number:						
ILL STAFF					SYMPTOMS			PREVENTATIVE MEASURES					SPECIMEN (for office use only)			
Name	Sex	DOB Y/M/D	Occupation	Unit	Onset Date Y/M/D	Symptoms ¹ (see below)	# of days ill	Immunized with Influenza Vaccine? (Y or N)	Date(s) Immunized	Antivirals Given (Y or N)	Date(s) Antivirals Given	Outcome ² (see below)	Sample Taken (Y or N)	Collection Date (Y/M/D)	Result (Organism)	Date Reported (Y/M/D)

¹Symptoms: C=Cough M=Myalgia (muscle pain)
 Ch=Chills A=Arthralgia (joint pain)
 S=Sore Throat V=Vomiting
 H=Headache D=Diarrhea
 N=Nausea O=Other
 F=Fever P=Prostration (extreme exhaustion)

²Outcome: R=Recovered
 O=Ongoing
 D=Deceased
 W=Back to Work

Completed by:
 Name: _____
 Signature: _____
 Date: _____

Outbreak Management Protocol | 2016

Health Care Facility / Long-Term Care Facility
Influenza-Like Illness Outbreak Surveillance Form – PATIENTS/RESIDENTS
 Date of 1st Case _____ (Y/M/D)

Facility:				Contact Person:				Case Definition:								
Address:								Phone Number:								
ILL PATIENT/RESIDENT					SYMPTOMS			PREVENTATIVE MEASURES					SPECIMEN (for office use only)			
Name	Sex	DOB Y/M/D	Room #	Room Type ¹ (see below)	Onset Date Y/M/D	Symptoms ² (see below)	# of days ill	Immunized with Influenza Vaccine? (Y or N)	Date(s) Immunized	Antivirals Given (Y or N)	Date(s) Antivirals Given	Outcome ³ (see below)	Sample Taken (Y or N)	Collection Date (Y/M/D)	Result (Organism)	Date Reported (Y/M/D)

¹Room Type: P=Private
 S=Semi-Private
 M=Multi-Bed

²Symptoms: C=Cough M=Myalgia (muscle pain)
 Ch=Chills A=Arthralgia (joint pain)
 S=Sore Throat V=Vomiting
 H=Headache D=Diarrhea
 N=Nausea O=Other
 F=Fever P=Prostration (extreme exhaustion)

³Outcome: R=Recovered
 O=Ongoing
 D=Deceased
 W=Back to Work

Completed by:
 Name: _____
 Signature: _____
 Date: _____

B.2 Outbreaks of ILI in Personal Care Home and Residential Care Settings

Checklist for Outbreaks of ILI in Personal Care Home and Residential Care Settings

- Notify your Regional Health Authority that you suspect an outbreak
- Stress hand hygiene after using the bathroom, before eating, and after coughing or sneezing
- Inform staff of illness
- Restrict cases or contacts to their rooms/units until further notice if necessary
- Initiate formation of an OMT
- Educate residents/clients and staff about cough etiquette
- Ensure adequate and appropriate supplies are available (i.e. gowns, gloves, laundry bags, ABHR, and garbage bags)
- Ensure specimens are collected by a trained physician/nurse with each new suspected case unless otherwise directed
- Enhance environmental cleaning, especially in common areas such as washrooms, kitchen and dining areas and common surfaces such as door knobs, hand rails and elevator buttons
- Encourage unvaccinated staff and residents to get immunized against influenza
- Delay communal meetings and avoid communal dining
- Postpone routine medical appointments
- Limit movement of staff and residents between units/facilities
- Restrict visitors and outside groups and post visitor restriction signage, if applicable
- No new admissions, readmissions or transfers should occur without consulting the OMT
- Complete appropriate reporting forms and send to your Regional Health Authority as directed
- Closely monitor residents and clients

Reporting

The Regional Health Authority (RHA) analyzes the information reported regarding outbreaks in personal care homes and other residential facilities. This information is shared with public health partners and is reviewed by the Medical Officer of Health (MOH). Below is an example of the reporting form. The intent is that a full week can be recorded on each page and it can be faxed or emailed to your RHA contact each day of the outbreak with the new daily information included.

Outbreak Management Protocol | 2016

Influenza-Like Illness Outbreak Reporting Form

Date of first illness _____

Facility name:							
Contact person/phone number:							
Today's report date:							
Onset date of most recent illness:							
Total number of residents in facility:							
Number of new residents ill today:							
Total number of staff in the facility:							
Number of new staff ill today:							
Time that the last illness of the day occurred:							
Number of residents hospitalized today in association with outbreak:							
Number of staff hospitalized today in association with outbreak:							
Total deaths:							
Number of samples collected for influenza testing:							
Total number of residents immunized with influenza vaccine:				Total number of staff immunized with influenza vaccine:			

Comments: _____

- | | | |
|--|--|--|
| <ul style="list-style-type: none"> ✓ Inform your Regional Health Authority of illness ✓ Inform staff of illness ✓ Enforce good hand hygiene | <ul style="list-style-type: none"> ✓ Monitor residents for illness ✓ Post signage at entrances ✓ Discourage visitors ✓ Delay social events | <ul style="list-style-type: none"> ✓ Reasonably isolate ill residents/clients ✓ Enhance cleaning of common surfaces and common areas |
|--|--|--|

Please fax this form to your Regional Health Authority contact each day during the outbreak

Contact Name: _____ Contact Phone: _____ Contact Fax: _____

INFLUENZA-LIKE ILLNESS (ILI) – FREQUENTLY ASKED QUESTIONS

What are the symptoms of an ILI?

The symptoms of an acute ILI include:

- runny nose or sneezing
- stuffy nose (congestion)
- sore throat or hoarseness or difficulty swallowing
- cough
- abnormal temperature ($> 37.5\text{ }^{\circ}\text{C}$ or $< 35.5\text{ }^{\circ}\text{C}$)
- generalized aches and pains
- swollen or tender glands in the neck

How do I know there is an ILI outbreak?

An outbreak of ILI is defined as two or more cases of an acute respiratory tract illness within two days; however one case of a respiratory tract illness could lead to more cases very quickly therefore early detection is very important.

How do I know when the outbreak is over?

The outbreak will usually be declared over when the equivalent of double the incubation period has passed since the last person became ill. This will vary depending on the organism.

How can I prevent infection?

Proper, regular hand hygiene is the best way to prevent the spread of ILI. Hand hygiene refers to hand washing and the use of alcohol-based hand rub (ABHR). If the hands are not visibly soiled ABHR can be used. Hand washing stations should be equipped with liquid soap and disposable paper towels. ABHR should be available near the entrances, elevators, and other common areas in the facility.

Other ways to prevent infection are to stay home until symptoms have cleared and use proper cough etiquette.

Proper hand hygiene:

Hand washing:

1. Completely wet your hands.
2. Apply soap.
3. Rub all surfaces, between fingers, over the back of your hands and up over your wrist. Wash for at least 15 seconds.
4. Rinse completely.
5. Use paper towel to dry your hands and then use it to turn off the faucet.
6. Use the same paper towel to open the washroom door before discarding it into the trash.

Using ABHR:

1. Apply ABHR to hands.
2. Rub over all surfaces of hands and fingers until dry.

Should I wear gloves?

Gloves do not replace hand washing. Gloves and gowns should be used when you are in direct contact with a resident with respiratory symptoms or if you are in contact with the equipment and surfaces in the resident's environment.

Should I wear a mask?

Face protection should be worn when within 2 meters of a resident with respiratory symptoms.

Can residents/clients leave during an outbreak to go home with family?

Residents can leave to stay with family but the family should be informed of the outbreak and the fact that they may become ill. Once the facility has cleared the outbreak, ensure that residents who are returning are not coming from an ill household or the outbreak is likely to start again.

When should a resident/client see a doctor?

If the resident continues to deteriorate and show no sign of improvement, medical assessment is indicated.

B.3 Outbreaks of ILI in Community Settings (schools, workplaces, etc.)

Checklist for Outbreaks of ILI in Community Settings

- Notify your Regional Health Authority that you suspect an outbreak
- Stress hand hygiene after using the bathroom, before eating, and after coughing or sneezing
- Inform staff of illness
- Encourage unvaccinated staff and clients to get immunized against influenza
- Symptomatic individuals should be advised to stay home until well
- Educate clients and staff about cough etiquette
- Ensure adequate and appropriate supplies are available (i.e. soap, ABHR, and garbage bags)
- Enhance environmental cleaning, especially in common areas such as washrooms, kitchen and dining areas

INFLUENZA-LIKE ILLNESS (ILI) – FREQUENTLY ASKED QUESTIONS

What are the symptoms of an acute ILI?

The symptoms of an acute ILI include:

- runny nose or sneezing
- stuffy nose (congestion)
- sore throat or hoarseness or difficulty swallowing
- cough
- abnormal temperature (> 37.5 °C or < 35.5 °C)
- generalized aches and pains
- swollen or tender glands in the neck

How do I know there is an ILI outbreak?

An ILI outbreak is defined as two or more cases of an acute respiratory tract illness within two days; however one case of a respiratory tract illness could lead to more cases very quickly therefore early detection is very important.

How can I prevent infection?

Proper, regular hand hygiene is the best way to prevent the spread of ILI. Hand hygiene refers to hand washing and the use of alcohol-based hand rub (ABHR). If the hands are not visibly soiled ABHR can be used. Hand washing stations should be equipped with liquid soap and disposable paper towels. ABHR should be available near the entrances, elevators, and other common areas in the facility.

Other ways to prevent infection are to stay home until symptoms have cleared and use proper cough etiquette.

Proper hand hygiene:

Hand washing:

1. Completely wet your hands.
2. Apply soap.
3. Rub all surfaces, between fingers, over the back of your hands and up over your wrist. Wash for at least 15 seconds.

4. Rinse completely.
5. Use paper towel to dry your hands and then use it to turn off the faucet.
6. Use the same paper towel to open the washroom door before discarding it into the trash.

Using ABHR:

7. Apply ABHR to hands.
8. Rub over all surfaces of hands and fingers until dry.

Appendix C: Gastrointestinal Illness (GI) Outbreak Management Toolkit

Case Definition for GI Illness

At least one (1) of the following criteria must be met and not be attributed to another cause (e.g. *Clostridium difficile* diarrhea, medication, laxatives, diet or prior medical condition, etc.):

- 3 or more episodes of diarrhea (i.e. loose or watery stools) in a 24 hour period, above what is normally expected for that individual; **OR**
- 2 or more episodes of vomiting in a 24 hour period; **OR**
- 1 or more episodes of vomiting AND diarrhea in a 24 hour period; **OR**
- Positive stool culture of a known enteric pathogen AND at least one symptom compatible with a GI infection (i.e. nausea, vomiting, diarrhea, abdominal pain or tenderness)

Note: Laboratory confirmation is not required

Outbreak Definition for GI Illness

Two (2) or more cases of GI illness with a common epidemiological link (e.g. same location or same care giver, and evidence of healthcare-associated transmission within the facility), and initial onset within one 48 hour period.

*** To be considered Health Care Associated, the patient/resident/client must be admitted for greater than 48 hours to the facility with no signs or symptoms of ILI on admission or in the first 48 hours.***

C.1 Outbreaks of GI Illness in Healthcare Settings

Checklist for Outbreaks of GI Illness in Healthcare Settings

- Notify appropriate manager/IPAC/CDCN of suspected/declared outbreak
- Stress hand hygiene after using the bathroom, before eating, and before/after leaving common areas
- Initiate contact/droplet precautions as required
- Post appropriate signage outside unit or specific rooms
- Restrict cases or contacts to rooms/units until further notice if necessary
- Ensure adequate and appropriate supplies are available (i.e. specimen containers, masks, gowns, gloves, laundry bags, ABHR, and garbage bags)
- Obtain specimens with each new suspected case unless otherwise directed
- Initiate formation of an OMT
- Enhance environmental cleaning including cleaning of common surfaces/areas and more frequent garbage and linen collection
- Complete appropriate line listing forms and send to ICP, CDCN or Occupational Health Nurses, as directed
- Limit movement of staff between units/facilities
- Restrict visitors and outside groups and post visitor restriction signage
- Ensure next of kin are notified of the outbreak and that visitor restrictions apply
- Postpone routine medical appointments
- Delay communal meetings and communal dining
- No volunteer activity without consultation with IPAC
- Prohibit food from outside sources
- No new admissions, readmissions or transfers should occur without consulting IPAC
- Prohibit transfers to other facilities unless medical condition warrants immediate attention; notify receiving facility of outbreak
- Closely monitor residents and clients

Common GI Microbe/Precautions

Microorganism	Additional Precautions			Duration of Additional Precautions
	Contact	Droplet	Airborne	
Bacterial gastroenteritis	√			48 hours after last symptoms
Giardia	√			
Viral gastroenteritis (noroviruses, rotavirus)	√			
<i>Escherichia coli</i> (enteropathogenic and enterohemorrhagic strains)	√			If hemolytic uremic syndrome present, until two stools negative for <i>E. coli</i> 0157:H7 or 10 days from onset of diarrhea
Hepatitis A, E	√			One week after onset of jaundice; duration of hospitalization if newborn

Additional Precautions Checklist: Application of Contact Precautions for Admitted Patients in Healthcare

Patient Accommodation and Placement	<input type="checkbox"/> Place patient in a single-patient room if possible with a private toilet (or designated commode chair), designated patient sink and a designated staff hand washing sink. The room door may remain open.
	<input type="checkbox"/> Consider cohorting patients with confirmed diagnosis of same microorganism and who are suitable roommates in consultation with infection prevention and control professional or designate.
	<input type="checkbox"/> If a single-patient room is not available and cohorting is not feasible, draw the privacy curtain between beds to minimize opportunities for direct contact with roommate(s). In a shared room, a patient with diarrhea should not share a toilet with another patient.
Personal Protective Equipment (PPE)	<input type="checkbox"/> In acute care , wear gloves when entering the room or designated bedspace. In long-term care , wear gloves if direct personal care contact with the patient is required or if direct contact with frequently touched environmental surfaces is anticipated.
	<input type="checkbox"/> Wear a long-sleeved gown if anticipated that forearms or clothing will be in direct contact with patient or with environmental surfaces or objects in the patient care environment.
Signs, Supplies and Equipment	<input type="checkbox"/> Post a contact precautions sign in a manner so that it is clearly visible to all prior to entering the room or bedspace.
	<input type="checkbox"/> Dedicate non-critical patient-care equipment (e.g. patient's blood pressure cuff, thermometer) to the use of patient. Toys, electronic games and personal effects should not be shared among patients.
	<input type="checkbox"/> Ensure PPE supplies are available and in sufficient quantities outside the patient's room or designated bedspace.
Handling of Waste and Linen	<input type="checkbox"/> Ensure that a no-touch waste receptacle and linen basket are available where needed and are ready for use.
Patient Leaving Room	<input type="checkbox"/> Allow patient out of his/her room as required for their care plan. Provide supervision of patient if compliance with precautions is inadequate. In long-term care , participation in group activities should not be restricted if diarrhea is contained.
	<input type="checkbox"/> Ensure that patient performs hand hygiene before leaving room or designated bedspace.
	<input type="checkbox"/> Provide patient with clean bedclothes and bedding, contain draining wounds with clean dressings, ensure infected areas of the patient's body are covered and body substances contained when transfer or movement within facility is necessary.
	<input type="checkbox"/> Inform transport and other personnel in receiving area/unit/facility that the patient is on contact precautions.
Patient and Visitor Teaching	<input type="checkbox"/> Explain to patient and visitors that the patient is on contact precautions and what these precautions entail.
	<input type="checkbox"/> Instruct patient on how and when to perform hand hygiene.
	<input type="checkbox"/> Instruct visitors on how and when to perform hand hygiene and put on and take off PPE.
	<input type="checkbox"/> Keep the number of visitors to a minimum.

Source: PHAC Routine Practices and Additional Precautions Assessment and Educational Tools

Notes:

Routine practices including hand hygiene recommendations still apply.

Collecting Stool Specimens

A best practice during a gastrointestinal outbreak is to identify the cause of the illness. This is done by testing stool specimens. It is recommended that four stool specimens be collected from the most recently ill residents (one sample per resident). Therefore, if an individual is complaining about nausea but has not yet been sick, they would be a good person to get a specimen from when they first experience symptoms. This is not always possible due to time, reduced staff or transportation requirements.

Instructions for Collection of Stool Specimens

1. Fill in all of the information required on the stool specimen bottle before attempting to fill it with stool.
2. Perform hand hygiene.
3. Loosely cover a toilet bowl with plastic wrap to create a shallow bowl or use a bed pan.
4. When filling the specimen bottle:
 - Do not allow the stool to come into contact with toilet water.
 - Make sure you fill the specimen bottle but do not over fill the bottle.
 - Include watery or mucus portions of the sample.
 - Tightly close the bottle.
 - Place the bottle in a two compartment sample transport bag and seal the opening.
 - Place the transport bag in another plastic bag and tie off the top.
 - Refrigerate the specimen if it is necessary to store it for a short period. The lab will not test samples older than 72 hours.
 - Do not expose food to stool samples.
5. Dump remaining stool in the toilet. DO NOT flush the plastic wrap. Instead, place it in a plastic bag, tie it off and dispose of it in the garbage.
6. Perform hand hygiene.
7. Transport the sample to the nearest lab.

Outbreak Management Protocol | 2016

Health Care Facility / Extended Care Facility
 Gastroenteritis Outbreak Surveillance Form – Patients/Residents/Clients
 Date of 1st Case _____ (Y/M/D)

Facility:					Contact Person:				Telephone:			
Address:					Case Definition: (To be determined by nurse or Medical Officer of Health)							
SYMPTOMATIC RESIDENTS					SYMPTOMS				SPECIMEN (for office use only)			
Name	Sex	DOB (Y/M/D)	Room #	Room Type ¹	Onset Date (Y/M/D)	Symptoms ²	# of days/hours ill	Sample ³ Taken	Collection Date (Y/M/D)	Result (Organism)	Date Reported (Y/M/D)	Outcome ⁴

¹Room Type:
 P=Private
 R=Recovered
 S=Semi-Private
 M=Multi-Bed

²Symptoms:
 V=Vomiting
 D=Diarrhea
 N=Nausea
 F=Fever
 O=Other

C=Cough
 H=Headache
 A=Abdominal Pain
 M=Myalgia (muscle pain)

³Sample
 S=Stool
 V=Vomit
 N=Nasopharyngeal Swab

⁴Outcome:
 O=Ongoing
 D=Deceased
 W=Back to Work

Completed by:
 Name: _____
 Signature: _____
 Date: _____

Outbreak Management Protocol | 2016

Health Care Facility / Extended Care Facility
 Gastroenteritis Outbreak Surveillance Form – Staff
 Date of 1st Case _____ (Y/M/D)

Facility:					Contact Person:				Telephone:			
Address:					Case Definition: (To be determined by nurse or Medical Officer of Health)							
SYMPTOMATIC RESIDENTS					SYMPTOMS				SPECIMEN (for office use only)			
Name	Sex	DOB (Y/M/D)	Occupation	Unit/Floor/ Building	Onset Date (Y/M/D)	Symptoms ¹	# of days/hours ill	Sample ² Taken	Collection Date (Y/M/D)	Result (Organism)	Date Reported (Y/M/D)	Outcome ³

¹Symptoms:
 V=Vomiting
 N=Nausea
 D=Diarrhea
 O=Other
 H=Headache

F=Fever
 A=Abdominal Pain
 M=Myalgia (muscle pain)
 C=Cough

²Sample:
 V=Vomitus
 S=Stool
 N=Nasopharyngeal Swab

³Outcome:
 R=Recovered
 D=Deceased
 O=Ongoing
 W=Back to Work

Completed by:
 Name: _____
 Signature: _____
 Date: _____

C.2 Outbreaks of GI Illness in Personal Care Home and Residential Care Settings

Checklist for Outbreaks of GI Illness in Personal Care Home and Residential Care Settings

- Notify your Regional Health Authority that you suspect an outbreak
- Inform staff of illness
- Stress hand hygiene after using the bathroom, before eating, and before/after leaving common areas
- Restrict cases or contacts to rooms/units until further notice if necessary
- Ensure adequate and appropriate supplies are available (i.e. specimen containers, masks, gowns, gloves, laundry bags, ABHR, and garbage bags)
- Obtain specimens with each new suspected case unless otherwise directed
- Initiate formation of an OMT
- Enhance environmental cleaning including cleaning of common surfaces/areas and more frequent garbage and linen collection
- Complete appropriate reporting forms and send to your Regional Health Authority as directed
- Limit movement of staff between units/facilities
- Restrict visitors and outside groups and post visitor restriction signage
- Postpone routine medical appointments
- Delay communal meetings and communal dining
- Restrict resident access to kitchen
- Prohibit food from outside sources
- No new admissions, readmissions or transfers should occur without consulting IPAC
- Closely monitor residents and clients

Reporting

The Regional Health Authority (RHA) analyzes the information reported regarding outbreaks in personal care homes and other residential facilities. This information is shared with public health partners and is reviewed by the Medical Officer of Health. An example of the reporting form is below. The intent is that a full week can be recorded on each page and it can be faxed or emailed to your RHA contact each day of the outbreak with the new daily information included.

Outbreak Management Protocol | 2016

Gastrointestinal Outbreak Reporting Form – Nausea, Vomiting & Diarrhea

Date of first illness _____

Facility name:							
Contact person/phone number:							
Today's report date:							
Onset date of most recent illness:							
Total number of residents in facility:							
Number of new residents ill today:							
Total number of staff in the facility:							
Number of new staff ill today:							
Time that the last illness of the day occurred:							
Number of residents hospitalized today in association with outbreak:							
Number of staff hospitalized today in association with outbreak:							
Total deaths:							
Number of samples collected:							

Comments: _____

- | | | |
|--|---|---|
| <ul style="list-style-type: none"> ✓ Inform staff of illness ✓ Enforce good hand hygiene ✓ Restrict resident access to kitchen ✓ Monitor kitchen staff for illness | <ul style="list-style-type: none"> ✓ Post signage at entrances ✓ Discourage visitors ✓ Reasonably isolate ill residents ✓ Delay social events | <ul style="list-style-type: none"> ✓ Increase common surface disinfection ✓ Increase washroom disinfection ✓ Laundry precautions for ill residents |
|--|---|---|

Please fax this form to your Regional Health Authority contact each day during the outbreak

Contact Name: _____ Contact phone: _____ Contact fax: _____

Gastrointestinal Illness – Frequently Asked Questions

What are the symptoms of gastrointestinal illnesses?

The most common symptoms are nausea with vomiting, diarrhea and cramps. Many people (25 – 50 %) also experience headache, fever, chills, and muscle aches.

How do I know that it's diarrhea?

Three or more loose or liquid bowel movements per day can be considered diarrhea. Some people define loose stool as stool that conforms to the shape of the container it's stored in. Be aware that some medications can cause similar effects.

How do I know there is an outbreak of gastrointestinal illness?

Two or more cases of vomiting and/or diarrhea within 48 hours indicate an outbreak of gastrointestinal illness.

How do I know when the outbreak is over?

The outbreak will be declared over by the OMT. Usually this is 48 hours after the last of the symptoms in the facility have cleared.

How can I prevent infection?

Hand hygiene is the best way to prevent the spread of gastrointestinal illness. Hand hygiene refers to hand washing and the use of alcohol-based hand rubs (ABHR). Proper, regular hand washing is the best defense against the agents that cause gastrointestinal infections as ABHR does not kill some organisms (e.g., *Clostridium difficile*). If the hands are not visibly soiled or there is no access to soap and water, ABHR can be used. Hand washing stations should be equipped with liquid soap and disposable paper towels. ABHR should be available near the entrances, elevators, and other common areas in the facility.

Other ways to prevent infection are to stay home when ill, don't handle food for others when ill, avoid drinking untreated water, and cook shellfish and meats thoroughly before eating.

Proper hand hygiene:

Hand washing:

7. Completely wet your hands.
8. Apply soap.
9. Rub all surfaces, between fingers, over the back of your hands and up over your wrist. Wash for at least 15 seconds.
10. Rinse completely.
11. Use paper towel to dry your hands and then use it to turn off the faucet.
12. Use the same paper towel to open the washroom door before discarding it into the trash.

Using ABHR:

9. Apply ABHR to hands.
10. Rub over all surfaces of hands and fingers until dry.

Should I wear gloves?

Gloves do not replace hand washing. Gloves can transfer viruses from the environment to you as easily as skin and physically offer no increased protection against becoming ill with Norovirus. However, you are less likely to touch your face when wearing gloves and gloves can be comforting in many situations.

Should I wear a mask?

A mask can be worn to protect the face from projectile vomit.

Can residents leave during an outbreak to go home with family?

Residents can leave to stay with family but the family should be informed of the illness and the fact that they may become ill. Once the facility has cleared the outbreak, ensure that residents who are returning are not coming from an ill household or the outbreak is likely to start again.

When should a resident see a doctor?

If symptoms do not improve within a three day period or if severe dehydration is suspected. Severe dehydration is a medical emergency. Dehydration occurs when a person cannot keep down enough liquids.

Signs of dehydration in an adult include:

- dry eyes and mouth
- dry or cool skin
- dizziness
- no urination for 12 hours or more
- tiredness
- confusion
- irritability

Will this ever end?

Norovirus is one of the most infectious illnesses you will encounter. It takes a lot of work and cooperation to contain Norovirus in any setting. Have patience and your work will pay off.

C.3 Outbreaks of Gastrointestinal Illness in Community Settings (schools, workplaces, etc.)

Checklist for Outbreaks of Gastrointestinal Illness in Community Settings

- Notify your Regional Health Authority that you suspect an outbreak
- Inform staff of illness
- Stress hand hygiene after using the bathroom, before eating, and after coughing or sneezing
- Ensure adequate and appropriate supplies are available (i.e. soap, ABHR, and garbage bags)
- Enhance environmental cleaning including cleaning of common surfaces and common areas and more frequent garbage and linen collection
- Symptomatic individuals should be advised to stay home until well
- Avoid communal dining
- Restrict access to kitchen

Gastrointestinal Illness – Frequently Asked Questions

What are the symptoms of gastrointestinal illnesses?

The most common symptoms are nausea with vomiting, diarrhea and cramps. Many people (25 – 50 %) also experience headache, fever, chills, and muscle aches.

How do I know that it's diarrhea?

Three or more loose or liquid bowel movements per day can be considered diarrhea. Some people define loose stool as stool that conforms to the shape of the container it's stored in. Be aware that some medications can cause similar effects.

How do I know there is an outbreak of gastrointestinal illness?

Two or more cases of vomiting and/or diarrhea within 48 hours indicate an outbreak of gastrointestinal illness.

How do I know when the outbreak is over?

The outbreak will be declared over by the OMT. Usually this is 48 hours after the last of the symptoms in the facility have cleared.

How can I prevent infection?

Hand hygiene is the best way to prevent the spread of gastrointestinal illness. Hand hygiene refers to hand washing and the use of alcohol-based hand rubs (ABHR). Proper, regular hand washing is the best defense against the agents that cause gastrointestinal infections as ABHR does not kill some organisms (e.g., *Clostridium difficile*). If the hands are not visibly soiled or there is no access to soap and water, ABHR can be used. Hand washing stations should be equipped with liquid soap and disposable paper towels. ABHR should be available near the entrances, elevators, and other common areas in the facility.

Other ways to prevent infection are to stay home when ill, don't handle food for others when ill, avoid drinking untreated water, and cook shellfish and meats thoroughly before eating.

Proper hand hygiene:**Hand washing:**

1. Completely wet your hands.
2. Apply soap.
3. Rub all surfaces, between fingers, over the back of your hands and up over your wrist. Wash for at least 15 seconds.
4. Rinse completely.
5. Use paper towel to dry your hands and then use it to turn off the faucet.
6. Use the same paper towel to open the washroom door before discarding it into the trash.

Using ABHR:

11. Apply ABHR to hands.
12. Rub over all surfaces of hands and fingers until dry.

Appendix D: Tuberculosis (TB) Outbreak Management Toolkit

Case Definition for TB:

Laboratory-confirmed case

Cases with *Mycobacterium tuberculosis* complex demonstrated on culture, specifically *M. tuberculosis*, *M. africanum*, *M. canetti*, *M. caprae*, *M. microti*, *M. pinnipedii* or *M. bovis* (excluding *M. bovis* Bacillus Calmette Guérin [BCG] strain).

Clinically confirmed case

In the absence of culture proof, cases clinically compatible with active tuberculosis that have, for example:

- i. chest x-ray changes compatible with active tuberculosis;
- ii. active nonrespiratory tuberculosis (meningeal, bone, kidney, peripheral lymph nodes, etc.);
- iii. pathologic or post-mortem evidence of active tuberculosis;
- iv. favourable response to therapeutic trial of antituberculosis drugs.

Outbreak Definition for TB:

TB outbreaks may be identified only retrospectively, after cases have been found to be linked epidemiologically or by genetic analysis. Any such clustering within the last 2 years should suggest a possible outbreak and prompt further investigation.

The following working definition of outbreak for planning investigations is based on that proposed by the U.S. Centers for Disease Control and Prevention:

- During and because of a contact investigation, two or more of the identified contacts are diagnosed as secondary cases of active TB; or
- Any two or more cases occurring within 1 year of each other are discovered to be linked, but the linkage is recognized outside of a contact investigation. For example, two patients who received a diagnosis of TB independently, outside of a contact investigation, are found to work in the same office, yet they were not previously identified as contacts of each other. A more extreme example is when a second generation of transmission has already occurred at the time an index case is diagnosed - i.e. secondary cases have already generated their own secondary cases. The linkage between cases should be confirmed by genotyping results if cultures are available.

Goals of TB Outbreak Investigation and Management:

- To promptly identify the source case or cases, so that the risk of ongoing transmission of infection is rapidly reduced by isolation and initiation of appropriate treatment
- To rapidly identify new cases of active TB within the at-risk population, and initiate Airborne Precautions
- To identify people with recently acquired LTBI, so that preventive therapy can be given before active disease develops.

Note: Additional information on TB management is available at website:

http://www.health.gov.ni.ca/health/publichealth/cdc/tuberculosis_management.pdf

Checklist for Outbreaks of TB

- If a TB outbreak is suspected immediately notify the appropriate manager, Infection Prevention and Control (IPAC) and the Communicable Disease Control Nurse (CDCN) at the regional public health office

- The CDCN will notify the RMOH/CMOH/ and the provincial Director of Communicable Disease Control

- The RMOH/CMOH will determine if an outbreak exists and initiate an outbreak management team (OMT)

- The RMOH/CMOH will appoint a team lead for the OMT

- The OMT lead will be responsible for the following:
 - Be in charge and lead the overall TB response effort
 - Inform regional executive and other stakeholders by considering the impact of the outbreak on other programs, organizations and communities
 - Work with the RMOH/CMOH to develop the outbreak management plan
 - Establish membership for the OMT; suggestions include
 - RMOH/CMOH
 - Provincial Director of Communicable Disease Control
 - Representatives from
 - Senior management
 - CDCN
 - IPAC
 - Occupational Health
 - Public Health Laboratory
 - Nursing Unit/Emergency
 - Communications
 - Public health nurse
 - Epidemiologist/Surveillance Analyst
 - Physician
 - Partner agencies
- Chair the OMT meetings\
- Commence an OMT meeting
- Provide an electronic copy of the outbreak management protocol to members
- Direct all operations and investigations
- Assess the need for additional resources
- Establish and maintain an effective liaison with outside agencies and organizations
- Review reports related to the outbreak response prior to distribution
- Work in collaboration with Communications to identify communication strategies
- Establish an outbreak cost center
- Maintain an electronic file of all correspondence related to the outbreak
- Plans the debriefing session
- Ensures the final outbreak report is complete and distributed to appropriate stakeholders

Roles and Responsibilities:

□ CDCN

- Coordinate contact tracing as per Section 5: Contact Follow-up of the provincial TB Guideline available at http://www.health.gov.nl.ca/health/publichealth/cdc/tuberculosis_management.pdf
- Ensure up-to-date summaries of all cases and contacts are available
- Liaise with the TB Clinic to arrange referrals and management of cases and contacts
- Organize the treatments for TB disease cases and LTBI infection cases
- Provide support to the public health nurses as needed
- Manage the data in collaboration with the epidemiologist
- Ensure staff are provided with education on TB/TB follow-up, as required
- Work with the PHL to ensure specimens are received and reported promptly
- Discuss outcomes from contact tracing initiatives with the MOH/CMOH
- Prepare and provide reports to the OMT on the cases and contacts
- Coordinate the reporting of the cases provincially
- Post the outbreak to the Canadian Network for Public Health Intelligence (CNPHI) website

□ Epidemiologist/Surveillance Analyst

- Provide information on the epidemiological process as per section 7.4 of the Outbreak Management Protocol
- Assist with data collection and provide support for data management, analysis and interpretation
- Ensure the quality of the data

- Contribute to the development of outbreak reports

□ Public Health Nurse

- Review and implement any pertinent information from section 8 of the Outbreak Management Protocol
- Initiate and complete the contact investigation, in collaboration with the CDCN and MOH/CMOH
- Provide reports to the CDCN on the cases and contacts
- Provide education to patients/family members on TB
- Direct the treatment for cases and the prophylaxis for LTBI
- Monitor the clients for adverse events associated with treatment

□ IPAC

- Report any confirmed/suspect cases to manager/CDCN
- Ensure Airborne Precautions in place for hospitalized cases
- Review and initiate appropriate measures from section 8.2 of the Outbreak Management Protocol
- Audit compliance with Airborne Precaution recommendations
- Assist with identifying contacts who are staff and/or patients
- Refer exposed staff to Occupational Health for follow-up
- Refer patient/s contacts to Public Health for follow-up

- Assist with the development of education materials on TB
- Provide education on TB as required

- Occupational Health
 - Work with managers of areas involved in an outbreak to create a list of potentially exposed staff
 - Interview staff to determine the level of risk based on their exposure and the infectivity of the patient
 - Review the list with the CDCN/MOH to determine follow-up
 - Provide follow-up for staff identified as contacts
 - Offer education on TB to staff as required

- Public Health Laboratory
 - Provide advice on specimen collection and transport
 - Act as a consultant to recommend and/or suggest further testing

- Communications
 - Provide communication recommendations to the OMT as per section 10 of the outbreak management protocol
 - Provide communication support for outbreak initiatives including media and news releases, issue management, and print materials as required

TUBERCULOSIS – FREQUENTLY ASKED QUESTIONS

WHAT IS TB?

TB is caused by a bacterium called *Mycobacterium tuberculosis*. When a person with infectious TB sings, talks, sneezes or coughs, TB bacteria are released into the air. These very tiny particles can travel on air currents and can be inhaled by other people in the area.

WHAT IS LATENT TB INFECTION (LTBI)?

LTBI occurs when a person has been exposed to TB bacteria, but do not have symptoms of the disease. They do not feel sick and they are not able to spread TB to others. The only sign of TB is a positive skin test and/or blood test. People with latent TB infection can go on to develop TB disease, so it is important they are seen by a healthcare provider.

HOW DO YOU TEST FOR LTBI?

The Tuberculin Skin Test (TST) is the most common test for TB exposure. This is a skin test given and read by a qualified healthcare provider. This test is done following contact with a TB case, before beginning a job in a health-related field and before some medical treatments. There are times when a TST may react even though the person has not been exposed to TB. In that case, a blood test, called an Interferon Gamma Release Assay (IGRA), may also be requested. Follow-up on the TST will be done by your healthcare provider.

HOW IS LTBI TREATED?

If it is determined that you have LTBI, you may require treatment with an antibiotic. It is usually one antibiotic taken for nine months.

WHAT IS ACTIVE TB DISEASE?

Active TB disease develops when the body cannot contain the TB germs and symptoms of the disease develop. These symptoms include a productive cough, chest pain, night sweats, unexplained weight loss, loss of appetite, fatigue, fever and/or coughing up blood. Symptoms of TB in other areas of the body depend on the areas affected (e.g. swollen lymph nodes or joint pain). People with TB disease are infectious and can spread TB to others. They need to be treated. Untreated TB disease can cause death.

HOW DO YOU TEST FOR ACTIVE TB?

A physician/nurse practitioner will do further tests for TB, such as an examination of the sputum and a chest x-ray.

HOW IS ACTIVE TB TREATED?

Active disease is treated with a combination of drugs for the first two months usually followed by two drugs as determined by your physician.

CAN TB BE CURED?

Yes. TB can be cured but the treatment is for at least six months. It is extremely important that you follow the prescribed treatment plan and finish the medication exactly as instructed or you may get even sicker.

DO I HAVE TO PAY FOR THE MEDICATION?

No. The medications are provided, free of charge, by the Department of Health & Community Services.

WHERE CAN I GET MORE INFORMATION?

For more information on TB go to website <http://www.phac-aspc.gc.ca/tbpc-latb/faq-eng.php> and for the Newfoundland and Labrador TB guideline go to http://www.health.gov.nl.ca/health/publichealth/cdc/tuberculosis_management.pdf

Acronyms

ABHR	Alcohol-based hand rub
AIIR	Airborne infection isolation room
CDC	Communicable Disease Control
CDCN	Communicable Disease Control Nurse
CFIA	Canadian Food Inspection Agency
CHN	Community Health Nurse
CMOH	Chief Medical Officer of Health
CNPHI	Canadian Network for Public Health Intelligence
EHO	Environmental Health Officer
GI	Gastrointestinal
GIS	Geographic Information System
HCS	Health and Community Services
ICP	Infection Control Practitioner
ILI	Influenza-like illness
IPAC	Infection Prevention and Control
MOH	Medical Officer of Health
OMT	Outbreak Management Team
PHAC	Public Health Agency of Canada
PHN	Public Health Nurse
PPE	Personal Protective Equipment
RHA	Regional Health Authority
RMOH	Regional Medical Officer of Health
SARS	Severe acute respiratory syndrome
TB	Tuberculosis

Definitions

Active Surveillance : With active surveillance, the collector actively solicits communicable disease case reports. Active surveillance provides a more complete report of the health of a population even when compared to passive surveillance; however, active surveillance is more time and resource intensive. As such, active surveillance is usually limited to diseases with a high incidence rate at a particular point in time, or those that are currently in outbreak. An example of active surveillance is the health department contacting health care providers requesting information about a specific condition or disease of interest to identify possible cases.

Acute Care: A facility where a variety of inpatient services are provided, which may include surgery and intensive care. For the purpose of this document, acute care includes ambulatory care settings such as hospital emergency departments, and free standing or facility associated ambulatory (day) surgery or other invasive day procedures (e.g. endoscopy units, hemodialysis, ambulatory wound clinics).

Additional Precautions: Extra measures, when Routine Practices alone may not interrupt transmission of an infectious agent. They are used in addition to Routine Practices (not in place of), and are initiated both on condition/clinical presentation (syndrome) and on specific etiology (diagnosis).

Case: 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. individual physicians' diagnoses, registries and notifications, abstracts of clinical records, surveys of the general population, population screening, and reporting of defects such as in a dental record. The epidemiologic definition of a case is not necessarily the same as the ordinary clinical definition.

Community Care: Locations in the community where health care is provided (E.G., public health clinics, infirmaries, schools, and residential or correctional institutions).

Healthcare Workers (HCWs): Individuals who provide health care or support services, such as nurses, physicians, dentists, nurse practitioners, paramedics and sometimes emergency first responders, allied health professionals, unregulated healthcare providers, clinical instructors and students, volunteers and housekeeping staff. Healthcare workers have varying degrees of responsibility related to the health care they provide, depending on their level of education and their specific job/responsibilities.

Home Care: Home care is the delivery of a wide range of health care and support services to patients in a variety of settings for health restoration, health promotion, health maintenance, respite, palliation and to prevent/delay admission to long-term residential care. Home care is delivered where patients reside (e.g., homes, retirement homes, group homes and hospices).

Long-Term Care: A facility that includes a variety of activities, types and levels of skilled nursing care for individuals requiring 24-hour surveillance, assistance, rehabilitation, restorative and/or medical care in a group setting that does not fall under the definition of acute care. Terminology varies provincially (i.e. nursing home, chronic care hospital, extended care unit, protective community services).

Outbreak: The occurrence of more cases of a disease or event than expected during a specified period of time in a given area or among a specific group of people.

Passive Surveillance: Passive surveillance occurs when disease reports are forwarded to the collector, usually as a result of legislation and/or policy. These reports may come from primary health care providers, laboratories or other health care professionals who are required to submit such reports. Passive reporting is simple, inexpensive and not a large burden to collect once procedures are established; however, reporting quality and underreporting may be an issue with this means of surveillance. An example of passive surveillance is the weekly reporting of notifiable diseases via the Newfoundland and Labrador Communicable Disease Control (CDC) surveillance system.

Personal Protective Equipment (PPE): Personal protective equipment consists of gowns, gloves, masks, facial protection (i.e., masks and eye protection, face shields or masks with visor attachment) or respirators that can be used by HCWs to provide a barrier that will prevent potential exposure to infectious microorganisms.

Routine Practices: A comprehensive set of infection prevention and control measures that have been developed for use in the routine care of all patients at all times in all healthcare settings. Routine Practices aim to minimize or prevent healthcare-associated infections (HAIs) in all individuals in the healthcare setting, including patients, HCWs, other staff, visitors and contractors.

Sentinel Surveillance : Sentinel surveillance is the collection and interpretation of data by designated institutions (hospitals, physician offices, schools, etc.). These select population samples are chosen because they are representative of the general community; non-representative sites may produce biased information. Sentinel surveillance provides a lower cost alternative to population-based surveillance methods. Schools keeping track of student and staff sick days is an example of sentinel surveillance.

Surveillance: The systematic ongoing collection, collation, and analysis of data and the timely disseminations of information to those who need to know so that action can be taken.

Syndromic Surveillance : Syndromic surveillance observes a collection of symptoms that may be associated with a particular disease in order to detect the potential onset of an outbreak. Although the infectious disease itself may not be identified, detecting an increase in clinical syndromes can encourage a quicker mobilization of resources to potentially contain the spread of an infectious agent. Syndromic surveillance is captured from the provincial HealthLine data.

Vaccine: Immunobiological substance used for active immunization by introducing into the body a live modified, attenuated, or killed inactivated infectious organism or its toxin. The vaccine is capable of stimulating immune response by the host, who is thus rendered resistant to infection.

Visitors: Includes friends, family members, and visits from outside groups or organizations (e.g. entertainers).