

Guidelines for Outbreak Prevention, Control and Management in Acute Care and Facility Living Sites

**Includes Seasonal Influenza, Pandemic (H1N1) 2009,
and Gastrointestinal Illness**

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Introduction

The purpose of this document is to provide current best-practice/evidence-based guidelines for outbreak control and management of respiratory and gastrointestinal (GI) illness in Acute Care and Facility Living sites.

Infectious disease outbreaks occur year round and in different settings including acute care sites and facility living. Effective outbreak management requires a multidisciplinary approach and involves individuals with different responsibilities. In compliance with Alberta's Hospital Act (AR 247/90 s16(i)) and the Continuing Care Health Services Standards (Standard 1.7), Alberta Health Services (AHS) facilities and contracted service providers will develop and implement written procedures for identifying, reporting, investigating notifiable diseases and controlling any suspect outbreaks within hospitals and facility living sites.

The notification of outbreaks and other infectious disease threats in Alberta is mandated under Section 26 of the provincial Public Health Act, and each Medical Officer of Health (MOH) is accountable for outbreak investigation and management (Section 29).

Early recognition of unusual clusters of illness and swift actions in response to these episodes are essential for effective management of outbreaks. Public Health staff, Infection Control Professionals (ICP) in Acute Care/Infection Control Designate (ICD) in Facility Living sites work collaboratively with Facility Administrators and staff to facilitate prompt response to help minimize the impact of the outbreak.

Information in this document is divided into 5 sections:

- Section I: General Guidelines for Outbreak Management.
- Section II: Confirmed Seasonal Influenza Outbreak Management
- Section III: Pandemic (H1N1) 2009 Outbreak Management
- Section IV: Antiviral Chemoprophylaxis and Treatment Guidelines during Seasonal Influenza and Pandemic (H1N1) 2009 Outbreaks
- Section V: Gastrointestinal (GI) Illness Outbreak Management

Note: This is not a comprehensive infection prevention and control (IPC) document. Only the minimum IPC strategies necessary for managing outbreaks of respiratory or GI illnesses are outlined here. These basic recommendations may be enhanced or modified depending on identification of the causative agent. For detailed information about IPC, please consult your ICP/ICD for your facility or Public Health.

In the event of an outbreak or threat of an outbreak of an unusual infectious disease, such as a new influenza pandemic or any other infrequent infectious disease, direction on best practices for outbreak management will be provided by the MOH and may extend beyond this document.

While it is recognized that *Clostridium difficile* and multi-drug resistant organisms (e.g. MRSA, VRE) can be responsible for clusters or outbreaks, and that some of the measures outlined in this protocol may be applicable in preventing or controlling them, it is beyond the scope of this document to include these organisms, due to their unique epidemiological properties.

Definition of Terms and Glossary

Acute Care - includes all urban and rural hospitals, psychiatric facilities and urgent care facilities. Care is provided for patients with acute illnesses or injuries, or who are recovering from surgery.

Admission and transfer status - determined in consultation with the Outbreak Management Team (OMT) and categorized as follows:

- **“Open”**: The facility/unit remains open to all patient admissions, transfers and discharges.
- **“Restricted”**: Depending upon the circumstances and the infectious agent involved, admission and transfer status may range from NO admission to selected patient admissions, transfers and discharges as permitted under the direction of the zone Medical Officer of Health and in consultation with the OMT. This approach is intended to be flexible allowing for individual assessments to be made based on established criteria without undue risk to patients/program/system.

AHS - Alberta Health Services

CHOICE - Comprehensive Home Option for Integrated Care of the Elderly is a unique coordinated care program which works to keep older people healthy and living at home. CHOICE provides a full range of medical, social and supportive services including: a day centre, medical monitoring and treatment, medication dispensing, rehabilitation, transportation, 24-hour phone numbers, and in-home personal care assistance. The program’s mandate is to serve seniors with multiple health problems and/or those requiring coordination of their care to remain living at home.

Closed facility - a facility is deemed a closed facility when it has a fixed residential population with limited turnover or has units or wards that can be closed.

Cluster - aggregation of relatively uncommon events or diseases in space and/or time in amounts that are believed or perceived to be greater than could be expected by chance.

Cohort - persons grouped together.

Contact - any person suspected to have been exposed to an infected person or a contaminated environment to a sufficient degree to have had the opportunity to become infected or colonized with an organism.

Contact Precautions - see Table 6 in Section I.

Day Program - adult Day Program provides: health services for elderly individuals who may be physically frail, cognitively impaired or living with chronic illness; support and respite for caregivers; personal care (bathing), health education, exercise, podiatry, noon meal, wound care, medication monitoring and social activities.

Exclusion - a measure that prevents symptomatic/infected/susceptible employee from working, until such time that the risk for patients or employee is low or minimal, as recommended by Public Health or Workplace Health Safety and Employee Wellness or designate.

Exposure Investigation Number (EI#) - a number assigned by the Provincial Laboratory to Public Health for the purpose of tracking laboratory specimens associated to a specific event (e.g. a potential outbreak) at a specific location and time.

Facility Living - includes long-term care facilities such as nursing homes and auxiliary hospitals. Care is provided for people with complex health needs who are unable to remain at home or in supportive living.

Gastrointestinal (GI) Illness - For GI case and outbreak definitions, refer to Table 3 in Section I.

Healthcare-associated - infections that patients may have acquired during the course of receiving treatment for other conditions within a health care setting (formerly referred to nosocomial infections).

HCW(s) - Healthcare worker(s)

Infection Control Designate (ICD) - someone assigned to be accountable for IPC issues in a facility.

Infection Control Professional (ICP) - is a health professional with specialized knowledge responsible for infection prevention and control within the facility or area of practice. ICPs come from several disciplines, including nursing, medicine, microbiology, medical technology and/or epidemiology and may be certified or working toward certification in infection control (CIC®).

IPC - Infection Prevention and Control

ILI - influenza-like-illness. For ILI case and outbreak definitions, refer to Table 1 in Section I.

MOC - Microbiologist on-call, Provincial Laboratory for Public Health.

MOH - Medical Officer of Health

MOH designate – someone in Public Health designated by the Zone MOH to assist with decision making when there are requests by facilities/sites to deviate from admission/transfer guidelines from those described in this document. The MOH may designate this role to the Zone Outbreak Response Lead or other Public Health personnel.

Outbreak - the perceived or true occurrence of more cases of a communicable disease than expected in a given area or among a specific group of people over a defined period of time.

Outbreak Management Team (OMT) - a group of key individuals, including but not limited to, representatives from Public Health (usually chairs the meeting), IPC in Acute Care or ICD in Facility Living, Facility Administration or Site Management who work cooperatively to ensure a timely and coordinated response to a suspect or confirmed outbreak. Composition of the OMT will depend on disease and facility type.

Outbreak Response Lead - a Public Health Nurse specialized in Communicable Diseases or an Environmental Health Officer assigned to be the lead for a specific outbreak investigation at the Zone level working closely with the Zone MOH.

Patient - for the purpose of this document, patient refers to individuals who receive care in Acute and Urgent Care and residents who reside in Facility Living.

PHAC - Public Health Agency of Canada

PPE - Personal Protective Equipment

ProvLab - Provincial Laboratory for Public Health

Public Health - for the purpose of this document, Public Health encompasses the Medical Officer of Health, Outbreak Response Lead or a Public Health designate who provides consultation and leadership in outbreak investigations occurring in the community and in public or healthcare facilities.

Transition Services - within urban AHS (Edmonton and Calgary), Transition Services coordinate client movement between different levels of care including but not limited to Home care services, and placements in supported living facilities. In other jurisdictions in AHS, this work may be carried out by Home Care coordinators or Placement coordinators.

VOC - Virologist On-Call, Provincial Laboratory for Public Health

WHSEW - Workplace Health Safety and Employee Wellness staff or designated personnel responsible for employee health and workplace safety in the facility. It was previously known as Occupational Health & Safety. In facilities where there are no WHSEW staff, the Site Management or the Site Medical Leader may fill this role.

AHS Zone Public Health Contacts (Regular and After Hours)

AHS ZONE	GEOGRAPHIC SERVICE AREAS	REGULAR HOURS			AFTER HOURS
		Report GI Outbreaks to Environmental Public Health Report ILI Outbreaks to Communicable Disease Control			
Zone 1 South	Chinook	Communicable Disease Control Environmental Public Health	MOH - Central Intake	(403) 388-6007 (403) 388-6650	(403) 388-6111 Chinook Regional Hospital Switchboard
	Palliser	Communicable Disease Control Environmental Public Health	MOH Office	(403) 502-8208 (403) 502-8205	(403) 502-8300
Zone 2 Calgary	Calgary	Communicable Disease Control Environmental Public Health	CDC Intake Enterics Consultant	(403) 955-6750 (403) 955-6819	(403) 264-5615 MOH On-Call
Zone 3 Central	David Thompson	Communicable Disease Control Environmental Public Health	CDC Intake 24 Hour Pager	(403) 356-6420 1-866-654-7890	(403) 391-8027 CDC On-Call 1-866-654-7890
	East Central	Communicable Disease Control Environmental Public Health	24 Hour Pager	(780) 608-8594 1-866-654-7890	(403) 356-6430 MOH On-Call 1-866-654-7890
Zone 4 Edmonton	Edmonton	Communicable Disease Control Environmental Public Health	CDC Intake	(780) 445-7226 (780) 445-7226	(780) 433-3940 MOH On-Call
Zone 5 North	Aspen	Communicable Disease Control Environmental Public Health	Contact local Public Health Office Supervisor (780) 623-4485 ext.243		1-800-732-8981 Public Health On-Call
	Peace Country	Communicable Disease Control Environmental Public Health	CDC Intake	(780) 513-7530 (780) 513-7518 OR (780) 513-7517	
	Northern Lights	Communicable Disease Control Environmental Public Health		(780) 791-6182 (780) 791-6078	

SECTION I - GENERAL GUIDELINES FOR OUTBREAK MANAGEMENT

1. Principles of Outbreak Management

1.1 Surveillance

Conduct ongoing surveillance and monitoring for unusual clusters of illness in patients and staff, and identification of possible outbreaks. Surveillance takes place prior to, during and after outbreaks.

1.2 Assessment

Assess individual cases to confirm that the illness meets the ILI or GI case definitions outlined in this document, see Tables 1, 2 & 3.

1.3 Outbreak Identification

Confirm that the outbreak definition criteria outlined in this document are met; see Tables 1, 2 & 3.

1.4 Notification

Follow established protocols to report outbreaks to the office of the Medical Officer of Health, Public Health. See AHS Zone Public Health Contacts at the beginning of this document.

1.5 Communication

Communicate with staff and administration regarding the outbreak and initiation of the investigation by Public Health.

1.6 Infection Prevention and Control Measures

Implement **initial** IPC measures including hand hygiene, respiratory hygiene, PPE, and isolation of ill patients.

1.7 Specimen Collection

Collect specimens as appropriate and as recommended by Public Health.

1.8 Outbreak Control Strategies

Implement outbreak control strategies for confirmed organisms and as outlined in this document:

- a. authorize and deploy additional resources to manage the outbreak
- b. restrict symptomatic patients to their room (with dedicated bathroom where possible, meal tray service in room, etc)
- c. continue implementing appropriate infection control measures
- d. apply site-level restrictions as recommended by Public Health (restrict admissions, cancel group activities, post outbreak signage, inform visitors, etc.)
- e. enhance environmental cleaning and disinfection
- f. manage staff as outlined in this document
- g. initiate antiviral prophylaxis as recommended by Public Health in the event of a confirmed influenza outbreak

1.9 Monitoring Outbreak Status

Communicate and track outbreak status by completing and submitting daily case listings.

1.10 Declaring Outbreak Over and Evaluation

Public Health will declare outbreaks over and lift any site restrictions. Following an outbreak, key program leads need to review and evaluate their role in the outbreak management and revise internal protocols where necessary for improvement. A debriefing may be called by any member of the Outbreak Management Team (OMT) to address outbreak management issues. Depending on type and scale of the outbreak, a summary report including background, details of the investigation, results and recommendations may be written by a member of the OMT and shared with internal/external partners.

2. Roles and Responsibilities

As stated in the Public Health Act sections 26 and 29, the MOH is responsible for outbreaks in their health region boundaries, therefore Public Health needs to be notified and provide directions during outbreaks. There are current working relationships with identified partners in each Zone in the management of outbreaks and these will need to continue or be enhanced as these guidelines are implemented at the Zone level.

All staff in Acute Care and Facility Living Sites including physicians, students and volunteers have a role in outbreak prevention and management. Staff are key collaborators and are expected to review internal operational protocols to ensure they are in accordance with the guidelines in this document. This will support a coordinated and uniform approach to outbreak prevention, control and management.

Once an outbreak is identified, an OMT may be convened to ensure a timely and coordinated response to control the outbreak. The OMT usually consists of a Public Health Outbreak Response Lead, the site ICP/ICD, Infectious Disease Specialist or Facility Medical Leader, WHSEW or designate, Laboratory Services, Communications and Facility/Site Administration. Composition of the OMT will depend on the disease and facility type.

2.1 Public Health (MOH, Outbreak Response Lead)

- Sets the standard of practice for communicable disease surveillance and notification in relation to outbreak investigation and management.
- Provides consultation on suspected clusters of illness or outbreaks.
- Determines the need to initiate an outbreak investigation.
- Facilitates laboratory testing by recommending type of specimen to be collected and testing required.
- Obtains an Exposure Investigation number (EI#) from the ProvLab for the tracking of all outbreak related specimens and samples and communicate to the site.
- Advises on appropriate outbreak control measures to be implemented including admission/transfer status (open or restricted), vaccination, chemoprophylaxis if appropriate, and management of staff.
- Sends out outbreak notifications and alerts as appropriate; and if relevant posts provincial and national public health alerts on Canadian Network for Public Health Intelligence (CNPHI).
- Reports outbreak to Alberta Health & Wellness (AHW), and to AHS Senior Public Health Executive as established within Zone protocol.
- Reviews daily outbreak line lists received from outbreak site, monitors outbreak progress and provide consultation to the outbreak site when appropriate.
- Responds to media inquiries in consultation with AHS Communications Media Advisor.
- Declares an outbreak over and lifts restrictions when appropriate.

2.2 Infection Prevention and Control (Infection Control Professional or Infection Control Designate)

- Ensures that acute care and facility living staff have access to and are familiar with current AHS outbreak management protocols.
- Reviews and updates internal protocols and procedures for outbreak management as necessary, including review of case and outbreak definitions and reporting protocols. Refer to criteria listed in **Tables 1, 2, 3 and 4**.
- Working with key site personnel, ensures adequate availability of supplies needed for outbreak management including having respiratory and stool kits on site for specimen collection.
- Reviews routine infection control practices and additional (outbreak management) precautions with hospital or Facility Living staff.
- Acts as a resource for frontline staff to facilitate early recognition of possible outbreaks.

- Notifies Public Health as soon as possible in the event of a suspected outbreak.
- Directs the implementation of initial IPC measures immediately; does not wait until the etiology is confirmed.
- Directs the implementation of additional outbreak control strategies as indicated according to the type and scope of the outbreak, including prophylaxis if recommended by the MOH, in consultation with site Medical Lead.
- Notifies appropriate staff within the facility of outbreak as indicated by internal protocols (e.g. administration, medical director, pharmacy, etc.).
- Obtains reports on the clinical status of all affected individuals, and works with staff to identify new cases.
- Provides Public Health with status updates of outbreaks within their facility, including daily submission of accurate and updated illness data related to the outbreak. See **Attachment II.2** in Section II and **Attachment V.2** in Section V for data elements required for reporting to Public Health (and to IPC as per Zone requirement).
- Participates on the OMT with Public Health and Facility/Site Administrator.
- Confirms WHSEW has been notified where appropriate.
- In collaboration with Public Health, coordinates the collection of clinical specimens as appropriate and provides instruction on completion of requisitions, including the EI#. The **EI Number MUST** be put on all outbreak related specimens to facilitate tracking and reporting to Public Health and outbreak facility.
- Notifies appropriate departments within the site once the outbreak has been declared over.

2.3 Facility Administration (Hospital/Facility Administrator, Senior Administrator or Director of Care)

- Supports the annual influenza immunization of patients, staff and volunteers.
- Liaises with ICP/ICD to ensure facility/units have protocols and procedures for reporting cases of notifiable diseases and suspected outbreaks as per Section 26 of the Public Health Act.
- Liaises with ICP/ICD to ensure facility/units have access to a current copy of the AHS outbreak management protocol, and that key staff (ICP/ICD, front line managers, supervisors, administration on-call, charge nurse, etc) in the facility have contact information for reporting outbreaks to the Zone Public Health.
- Responsible for maintaining operations to provide optimal care and services for patients during an outbreak.
- Collaborates with IPC/ICD and Public Health on outbreak management control strategies.
- Participates on OMT as appropriate.
- Consults with Public Health on issues pertaining to admission, discharge and transfers during an outbreak.
- Notifies senior management within the site as indicated by internal protocols. Communicates with staff, patients, families, volunteers, students and visitors within the facility as appropriate.
- Communicates to appropriate stakeholders outside of the facility.
- Complies with unit/bed restrictions as recommended by Public Health.
- Ensures adequate resources are provided to manage the outbreak.
- Ensures outbreak control strategies are maintained until the outbreak is declared over.

2.4 Front Line Site or Unit Manager/Designate

- Promotes staff awareness of ILI and GI case and outbreak definitions and reporting protocols. Notifies IPC/ICD when an unusual cluster of illness is suspected. In facilities where there is no one assigned the role of IPC, contact zone Public Health.
- Implements appropriate IPC measures immediately.
- Collaborates with WHSEW to identify unit staff who may have been exposed and require prophylaxis or vaccination.
- Identifies other groups of individuals accessing the unit who may have been exposed (i.e. technicians, residents, physicians, students, volunteers, support staff, families, visitors).

- Works collaboratively with IPC/ICD or Public Health to disseminate information to staff, patients, students, other departments and families.
- Anticipates and provides adequate unit resources for outbreak management.

2.5 Workplace Health Safety & Employee Wellness or Designate

- Promotes and provides annual influenza immunization for HCWs.
- Reviews and updates internal protocols for management of staff during an outbreak as necessary.
- Maintains close communication with Frontline Unit/Site Manager and IPC/ICD and follow recommendations from OMT, as directed by Zone MOH and/or OHS physician.
- Supports illness assessment and surveillance of staff from outbreak unit.
- Maintains documentation on HCWs' health and vaccine status and provides information on individual indicators as appropriate.
- In a declared outbreak, identifies HCWs who may be at risk of exposure and infection (e.g. unvaccinated).
- Provides vaccination and/or prophylaxis to staff based on recommendations from Public Health and WHSEW physician.
- Attends OMT meetings when indicated.
- Assesses HCWs' suitability for return to work.

2.6 Provincial Laboratory (ProvLab) for Public Health

- Designates laboratory contact (i.e. microbiologist or virologist) for each outbreak.
- Assigns EI# to facilitate specimen tracking.
- Provides consultation to Public Health on specimen type and testing appropriate for the outbreak, including genotyping.
- Provides specimen collection supplies, as required.
- Ensures Public Health and IPC/ICD (if noted on the requisition) receive results of outbreak specimens.
- Tracks all outbreak samples and closes EI# when outbreak is declared over by the external investigator (usually the Outbreak Response Lead).

3. Case and Outbreak Definitions

Early recognition of suspected outbreaks is important. Ongoing surveillance of patients and staff should be conducted using the following definitions for early detection of unusual clusters of influenza-like (ILI) or gastrointestinal (GI) illness and/or outbreaks.

The following are National and Provincial case and outbreak definitions. In practice, each Zone should follow the recommendations of their Zone MOH to facilitate early recognition and reporting of unusual ILI activity and implementing appropriate infection control measures. Some Zones may choose to use the more sensitive case definition.

Table 1: Influenza-like-illness (PHAC FluWatch definition, 2009-2010 Season)

ILI Case Definition	ILI Outbreak Definition
<p>Acute onset of respiratory illness with fever and cough, AND with one or more of the following:</p> <ul style="list-style-type: none"> • sore throat • joint pain • muscle aches • severe exhaustion <p>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.</p>	<p>2 or more cases of ILI within a 7 day period, with a common epidemiological link (e.g. same location or same care giver, and evidence of healthcare-associated transmission within the unit or facility), of which at least one is a laboratory confirmed case.</p>

Table 2: Pandemic (H1N1) 2009

Pandemic (H1N1) 2009 Case Definition	Triggers for Pandemic (H1N1) 2009 Outbreak Investigation in Closed Facilities (including LTC)*
<p>During Pandemic (H1N1) 2009, a higher sensitivity for recognizing ILI symptoms is recommended when conducting a Point of Care Risk Assessment.</p> <p>Adult: sudden onset of NEW cough or change in existing cough PLUS one or more of the following:</p> <ul style="list-style-type: none"> • fever ($\geq 38^{\circ}\text{C}$ on arrival or by history) • sore throat • joint pain • muscle aches • severe exhaustion <p>Pediatric: sudden onset of any of the following symptoms:</p> <ul style="list-style-type: none"> • runny nose • cough • sneezing • +/- fever 	<ul style="list-style-type: none"> • 1 confirmed case of Pandemic (H1N1) 2009 within the facility (Unit or floor) within 7 days <p>OR</p> <ul style="list-style-type: none"> • 2 or more cases of ILI, one of which can be a staff member with known contact with resident/patient care, in one geographic area within a 7 day period <p>OR</p> <ul style="list-style-type: none"> • More than one geographic area of the facility reporting a case of ILI <p>Note: this definition is not applicable to most acute care units as patient turnover is high and units/wards usually cannot be closed. The ILI Outbreak Definition is used in acute care.</p>

* AHW Public Health Notifiable Disease Guidelines Pandemic (H1N1) 2009

Table 3: Gastrointestinal Illness

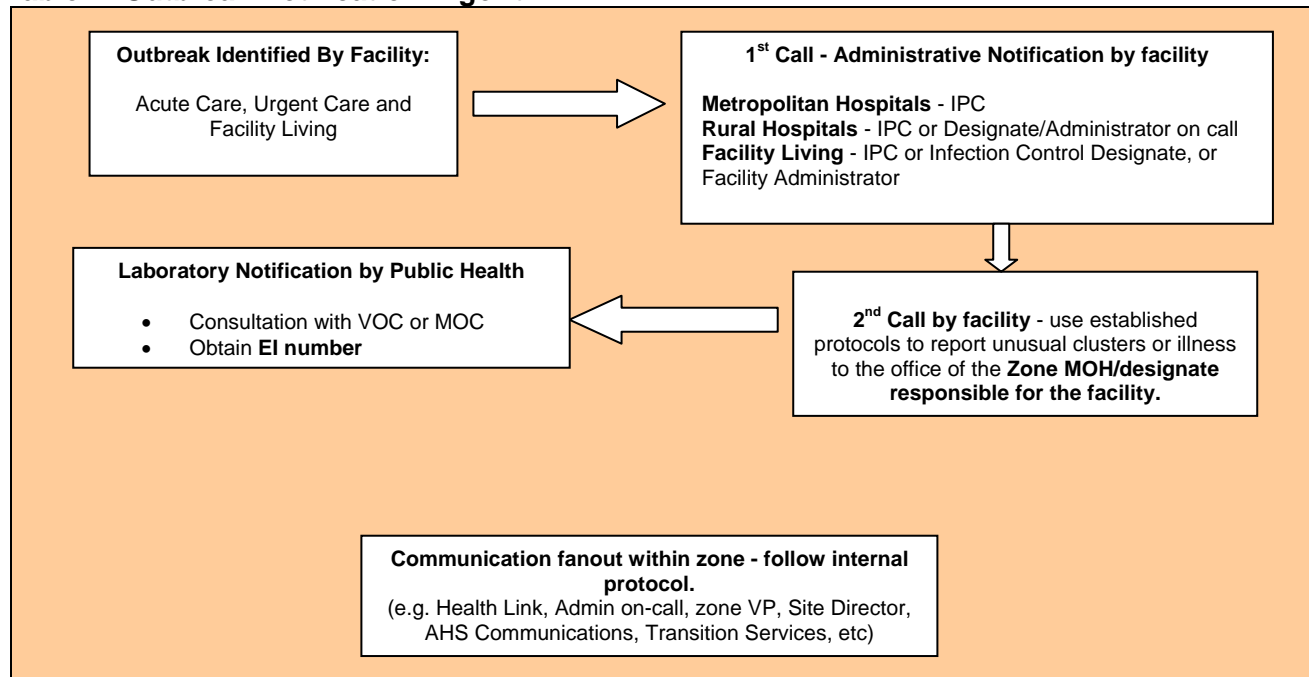
Gastrointestinal (GI) Illness Case Definition	GI Outbreak Definition
<p>At least ONE of the following criteria must be met and not be attributed to another cause (e.g. <i>Clostridium difficile</i> diarrhea, medication, laxatives, diet or prior medical condition etc):</p> <ul style="list-style-type: none"> • 2 or more episodes of diarrhea (i.e. loose or watery stools) in a 24 hour period, above what is normally expected for that individual <p>OR</p> <ul style="list-style-type: none"> • 2 or more episodes of vomiting in a 24 hour period <p>OR</p> <ul style="list-style-type: none"> • 1 or more episodes of vomiting AND diarrhea in a 24 hour period <p>OR</p> <ul style="list-style-type: none"> • Positive stool culture of a known enteric pathogen AND at least one symptom compatible with a GI infection e.g. nausea, vomiting, diarrhea, abdominal pain or tenderness <p>OR</p> <ul style="list-style-type: none"> • One episode of bloody diarrhea 	<p>2 or more cases (with initial onset within one 48 hour period) of GI illness with a common epidemiological link (i.e. same location or same care giver, and evidence of health care-associated transmission within the facility).</p>

4. Reporting a Suspected Outbreak

Prompt reporting permits early identification and interventions to interrupt transmission, reducing morbidity and mortality.

In order to initiate an outbreak investigation promptly, report any suspected cases of ILI or GI (see definitions **Tables 1, 2 and 3**) to your IPC/ICD. If an outbreak is suspected, using established protocols, notify the office of the MOH in your zone.

Table 4: Outbreak Notification Algorithm



For details of outbreak management refer to:

Section II: Confirmed Seasonal Influenza Outbreak Management

Section III: Pandemic (H1N1) 2009 Outbreak Management

Section IV: Antiviral Chemoprophylaxis and Treatment Guidelines during Seasonal Influenza and Pandemic (H1N1) 2009 Outbreaks

Section V: Gastrointestinal (GI) Illness Outbreak Management

5. Initial Infection Prevention and Control (IPC) Measures

Based on the type of illness presenting (ILI or GI), implement the **initial** IPC measures outlined below as soon as an outbreak is suspected to help reduce the spread of infection. It is not necessary to wait until the causative agent is identified.

Routine practices reduce the possibility that HCWs will sustain accidental exposures to infectious organisms and should be used in the standard care of patients at all times. Implementing additional precautions (e.g. modified droplet and/or contact) is determined by presenting symptoms. Refer to **Tables 5 & 6**. Facilities experiencing an outbreak must implement additional IPC precautions to the extent that resources are available (e.g. private rooms with washroom facilities, physical layout of care units).

5.1 Strict hand hygiene is the most important measure in preventing spread of infections.

- Reinforce the need for frequent and thorough hand hygiene before and after providing care to patients and after touching used patient care equipment or soiled environmental surfaces.
- Alcohol-based hand rubs containing at least 60 - 90% alcohol are as effective as soap and water when hands are not visibly soiled.
- Wash hands with soap and water if visibly soiled or if they feel dirty.

5.2 Restriction of Symptomatic Patients

- In acute care settings, symptomatic patients should be placed on appropriate isolation.
- In Facility Living sites, when possible, symptomatic residents should be confined to their rooms with their meals served to them in the room. If this is not practical, ill residents should be restricted to their own units.
- Ill patients should avoid contact with other patients in common areas as much as possible.

5.3 Staffing (including volunteers, students)

- Exclude symptomatic staff from working
- Cohort or assign staff to care for asymptomatic patients before symptomatic patients
- Consider minimizing movement of staff, students or volunteers between units/floors, especially if some units are not affected
- If possible, during initial investigations of ILI, assign staff that have been vaccinated against influenza to care for symptomatic patients

5.4 Group/Social Activities and Non-Resident Events

- When a **GI outbreak** investigation has been initiated, Public Health advises that:
 - all previously scheduled resident social and special events/activities (e.g. special holiday meal celebrations, birthday parties, entertainers, school groups, community presentations) are cancelled/postponed effective immediately on all affected units/sites or entire facility (as applicable) until the outbreak is declared over by Public Health.
 - as a general principle, it is also recommended that non-resident events previously booked for areas in the outbreak facility (e.g. meetings) also be cancelled/postponed.
- For **ILI outbreak** investigations, Public Health will advise when similar restrictions are to be implemented, based upon laboratory confirmation of the causative agent.

5.5 Communication

- Inform staff and notify visitors that an outbreak is being investigated in the facility
- Discourage ill visitors from visiting
- Ensure individuals visiting ill patients are wearing appropriate PPE

Table 5: Routine Practices and Additional Precautions for ILI

Conduct Point of Care Risk Assessment - HCWs in Acute Care, Oct 7, 2009

<http://www.albertahealthservices.ca/files/ns-ipc-bulletin-4-revised.pdf>

Conduct Point of Care Risk Assessment - HCWs in Facility Living, Oct 7, 2009

<http://www.albertahealthservices.ca/files/ns-ipc-bulletin-5-revised.pdf>

Implement Contact and Modified Droplet Precautions in addition to Routine practices when caring for symptomatic patients to control the spread of respiratory viruses such as influenza:

- Patient Placement and Signage
 - Single-room preferred
 - maintain a distance of two (2) metres between patients sharing a room
- Mask
 - Wear procedure/surgical mask for any encounter with a patient who has, or is suspected of having ILI in the following situations: within two (2) metres of a patient with weak or no cough, or able/willing to comply with respiratory hygiene.
- N95 Respirator (fit-tested) - for point of care encounter
 - within two (2) metres of a forcefully coughing/sneezing patient who is unable/unwilling to comply with respiratory hygiene
 - patient undergoing an aerosol generating medical procedures (AGMP) - i.e. BiPAP, intubation, manual ventilation, open endotracheal suctioning, CPR, bronchoscopy, sputum induction, nebulized therapy, surgery and autopsy, tracheostomy care, chest physical therapy, nasopharyngeal aspirate, high-frequency oscillatory ventilation
- Eye Protection
 - When a mask or N95 respirator is worn, eye protection or face shields should also be worn for all patient care activities
 - Personal (prescription) eyewear does not provide adequate protection
- Gown
 - For direct contact of clothing or forearms with patient or patient's environment
- Gloves
 - Wear non sterile gloves on entry into patient's room or bed space
- Hand Hygiene
 - Before direct contact with patient
 - Before leaving patient's room or bed space, after removing PPE
- Patient Care Equipment
 - Dedicate to this patient or clean and disinfect after use
- Patient Transport
 - Transport for essential purposes only
 - Patients wear mask during transport
 - Notify receiving department

AHS PPE Donning and Doffing posters

<http://www.albertahealthservices.ca/files/ns-ppe-donning.pdf>

<http://www.albertahealthservices.ca/files/ns-ppe-doffing.pdf>

Visitors: discuss precautions with nursing staff before entering patient's room.

Environmental Services: change mop head, cloths and cleaning solution after cleaning room or bed space.

For detailed outbreak control strategies refer to:

Section II: Confirmed Seasonal Influenza Outbreak Management

Section III: Pandemic (H1N1) 2009 Outbreak Management

Table 6: Routine Practices and Additional Precautions for GI

Initiate **Contact Precautions** in addition to Routine Practices when providing direct care for symptomatic patients. Contact Precautions are implemented when caring for symptomatic patients to control the spread of gastrointestinal viruses during GI outbreaks:

- **Gloves** should be worn when providing direct care to symptomatic residents, cleaning an area contaminated with feces or vomitus, or gathering/handling specimens.
- It may be necessary for HCWs (including housekeeping staff) to wear **gowns** when cleaning areas contaminated with feces or vomitus, to protect against possible contamination of clothing.
- Routine practices as necessary (e.g. eye protection, use of masks) for protection from sprays of body fluids
- Maintain at least one (1) metre of physical separation between bed/stretcher spaces.

Statement on use of Alcohol-based Hand Rub during GI Outbreaks

- Alcohol-based hand rubs (with 60-90% alcohol) are an acceptable alternative to hand washing during GI outbreaks, when used according to label directions.
- Although most alcohol-based hand rubs are not classified as being "effective" in the destruction of norovirus, AHS recommendations are based on research which indicates that these products cause significant inactivation of viruses closely related to norovirus.

For detailed outbreak control strategies refer to:

Section V: Gastrointestinal Illness (GI) Outbreak Management

6. Other Respiratory Organisms Commonly Associated with ILI

For management of outbreaks **confirmed** to be seasonal or Pandemic (H1N1) 2009 influenza, refer to **Sections II and III**. Other common organisms associated with ILI (e.g. RSV, Parainfluenza, human metapneumovirus, adenovirus) are summarized in **Table 7**. In the event that the outbreak is confirmed to be an organism other than influenza, outbreak control measures detailed above would continue until the outbreak is declared over. Appropriate infection control practices and additional precautions will be reviewed at the time the outbreak is confirmed. Antiviral chemoprophylaxis is currently **not** recommended for organisms other than confirmed Influenza A or B. Depending on the circumstances, other recommendations for outbreak management and control, including facility restrictions, may be made by Public Health at the time of the outbreak.

Table 7: Organisms Commonly Associated with ILI

ORGANISM	SYMPTOMS	MODE OF TRANSMISSION	INCUBATION PERIOD	PERIOD OF COMMUNICABILITY	OUTBREAK RESTRICTIONS/ RECOMMENDATIONS for Facility Living Sites*
INFLUENZA TYPE A OR B	Sudden onset of fever, often with chills or rigors, non-productive cough, headache, malaise, myalgia, runny nose, sore throat Note: fever may not be prominent in those >65 years	Person to person by droplets or direct contact with articles recently contaminated with respiratory secretions.	1 to 3 days Pandemic (H1N1) 2009: 1 to 7 days	Usually 3-5 days from clinical onset in adults, and up to 7 days in children Pandemic (H1N1) 2009: Usually 7 days, and up to 10 days in severely ill or children	Cases should remain in their rooms until 5 days from the onset of acute illness OR until they are over the acute illness and have been afebrile X 48 h Cases of Pandemic (H1N1) 2009 should remain on precautions for a minimum of 7 days. Admissions/transfers restrictions for confirmed influenza remain in place for 8 days after onset symptoms in the last case.
RESPIRATORY SYNCYTIAL VIRUS (RSV)	Similar to common cold symptoms; usually mild but can be moderate to severe Severe lower respiratory tract disease can occur in the elderly	Person to person usually by direct or close contact with contaminated secretions which may involve droplets. Virus may live on environmental surfaces for many hours and for a half-hour or more on hands.	2 to 8 days, average 4 to 6 days	Period of viral shedding is usually from 3-8 days	Admission/transfer restrictions only when recommended by local MOH. It is recommended that confirmed or symptomatic cases remain in their rooms for 8 days from onset of symptoms.
PARAINFLUENZA Type 1, 2, 3	Similar to common cold symptoms. Can also cause serious lower respiratory tract disease with repeat infection (e.g. pneumonia, bronchitis, and bronchiolitis) in the elderly.	Person to person through direct contact with infected persons or exposure to respiratory secretions on contaminated surfaces or objects.	2 to 6 days	Varies with different types	Admission/transfer restrictions only when recommended by local MOH. It is recommended that confirmed or symptomatic cases remain in their rooms for the <u>duration of the illness</u>
HUMAN METAPNEUMOVIRUS (hMPV)	The clinical features of hMPV are similar to those caused by RSV. Illness may range from mild upper respiratory tract infections to severe bronchiolitis and pneumonia.	Transmission is likely to occur through direct or close contact with contaminated secretions.	Estimated to be 3 to 5 days	The period of viral shedding has not been determined, but individual cases in which otherwise healthy infants shed virus for more than a week have been reported.	Admission/transfer restrictions only when recommended by local MOH. It is recommended that confirmed or symptomatic cases remain in their rooms for the <u>duration of the illness</u>
Other Common Respiratory Viruses such as: Entero/Rhinovirus, Coronavirus	“Common cold like” symptoms. Sneezing, runny nose, cough, sore throat, sinus congestion, malaise, headache, myalgia and/or low grade fever Note: Fever is uncommon in children over 3 and rare in adults.	Direct contact or inhalation of airborne droplets, indirect transmission through hands and articles freshly soiled by nose and throat discharges of an infected person.	Entero / Rhinoviruses: usually 2-6 days Coronaviruses: usually 2-5 days	24 hours before onset up to 5 days after onset	Admission/transfer restrictions only when recommended by local MOH. It is recommended that confirmed or symptomatic cases remain in their rooms for the <u>duration of the illness</u>

* In Acute Care Settings, refer to current IPC Manual for isolation and restriction guidelines.

SECTION II - CONFIRMED SEASONAL INFLUENZA OUTBREAK MANAGEMENT

1. ILI Case and Outbreak Definitions

Case Definition (PHAC FluWatch ILI definition 2009-2010 Season)

<http://www.phac-aspc.gc.ca/fluwatch/09-10/def09-10-eng.php>

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

Two (2) or more cases of ILI within a seven (7) day period, with a common epidemiological link (e.g. the same unit, floor, site or the same care giver; and evidence of health care associated transmission within the facility), **of which at least one is a laboratory confirmed case.**

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

2. Outbreak Control Strategies for Confirmed Seasonal Influenza

2.1 Infection Prevention and Control Measures

- Initiate **Contact and Modified Droplet Precautions** (in addition to Routine Practices). Refer to **Table 5**, or check AHS website IPC section for most current recommendations. <http://www.albertahealthservices.ca/904.asp>
- Wear appropriate PPE as determined by Point of Care Risk Assessment (link in Table 5). Check AHS website for most current recommendations.
- Place symptomatic patients in single rooms if possible. If a single room is not available, patients with infection due to the same micro-organism may be cohorted following consultation with IPC. Maintain at least two (2) metres of physical separation between bed/stretcher spaces.
- In Acute or Urgent Care settings, place signage on the patient's room door indicating the precautions required.
- **Strict hand hygiene** is the most important measure in preventing spread of infections. Practice consistent hand hygiene and respiratory hygiene.
- As per Routine Practices, care equipment used with any patient should be cleaned before use in the care of another patient.
- Staff handling soiled laundry should wear PPE (e.g. gowns, gloves) if there is a risk of contamination of employee clothing from body fluids or secretions.
- Enhance **environmental cleaning** using a facility approved disinfectant. The thoroughness of cleaning is more important than the choice of disinfectant used.
 - The frequency of cleaning and disinfecting "high touch" surfaces (e.g., doorknobs, light switches, call bells, handrails) in patient rooms, care areas and common areas such as dining areas and lounges should be more than the minimum of once daily. Recommendations for enhanced cleaning may be made by the OMT.

- Use a “wipe twice” procedure (a 2 step process) to clean and then disinfect surfaces (i.e. wipe surfaces thoroughly to clean visible soiled material, then wipe again with a clean cloth saturated with disinfectant to disinfect).
- Conduct a thorough, enhanced cleaning in all affected areas at the end of the outbreak.
- Consult with IPC/ICD for assistance with IPC issues.

2.2 Administrative Measures

- Notify appropriate staff/departments within the site/facility as indicated by internal protocols (i.e. administration, WHSEW, pharmacy, transition services and admitting).
- Send ill staff home as soon as possible.
- Ensure that staff are advised of relevant recommendations and work restrictions including working at other health care facilities.
 - Confirm with Public Health to determine if the outbreak influenza strain is covered in the seasonal vaccine.
 - If the outbreak strain is covered in the seasonal vaccine, work with WHSEW to determine which staff on the outbreak unit/facility is not vaccinated and therefore at risk for infection.
 - If the outbreak strain is *not* covered in the seasonal vaccine, work with WHSEW to implement prophylaxis for HCWs IF recommended by Public Health.
- Post outbreak signage (**Attachment II.1**) at the entrance of the facility/unit advising staff and visitors of necessary precautions.
- Ensure proper collection of appropriate specimens as directed by Public Health including using assigned EI# on all specimens. See ProvLab Respiratory Specimen Collection Guidelines (**Attachment II.3**).
- Ensure adequate availability of all supplies (e.g., hand hygiene products, PPE, linen, lab testing supplies) through notification of appropriate departments.
- Communicate with appropriate departments regarding need for enhanced environmental cleaning as necessary.
- Ensure staff are maintaining heightened surveillance to identify and report newly symptomatic patients/residents.
- Consult with the ICP/ICD or Public Health when making decisions about:
 - cohorting staff assignments. As much as possible, consider:
 - cohorting staff to affected areas if practical or assigning staff to care for asymptomatic patients before symptomatic patients
 - minimizing movement of staff, students or volunteers between floors/areas, especially if some areas are not affected
 - assigning staff who have been immunized for influenza to care for symptomatic patients during initial investigations for ILI.
 - cohorting patients with the same illness
 - cohorting exposed asymptomatic patients
- Consult with the Zone MOH or MOH designate on issues pertaining to admissions, discharges and transfers during an outbreak.
- Ensure an **accurately completed list of cases** is sent to Public Health (and to IPC as per Zone requirement) daily as soon as the outbreak is declared. See **Attachment II.2** for reporting data elements.
- Communicate with patients, families and visitors regarding vaccination and chemoprophylaxis when relevant.

2.3 Patient Activities

- Symptomatic patients should remain in their rooms with meal service provided to them until 5 days from the onset of acute illness, or until they are over their acute illness and have been afebrile for 48 hours.

- Ill patients should not participate in group activities.
- If an outbreak is confined to a unit, asymptomatic patients from that outbreak unit should remain on their own unit to avoid contact with other patients at the site/facility.
- Patients requesting a pass to leave a site/facility that is under restrictions due to an influenza outbreak may do so if the patient is asymptomatic. 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.
- During an outbreak, consideration should be given to providing treatment such as physiotherapy or occupational therapy in the ill patient's room instead of a centralized area; however, patients may be allowed to attend medically necessary activities. Ensure receiving facility/unit is notified so that appropriate precautions can be taken for the patient on arrival.
- Symptomatic patients must wear a procedure/surgical mask (as tolerated) when out of their room.

2.4 Restrictions on Affected Units/Site

- Facility/unit status (e.g., open or restricted admissions) will be determined by the MOH or Designate at the time 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 patients and staff affected, new cases continue to develop in spite of implemented control measures).
- For confirmed influenza outbreaks, **admission restrictions will remain in place at minimum for eight (8) days following the onset of symptoms in the last case**, based on recommendations from the National Advisory Committee on Immunization – Statement on Influenza and as directed by the MOH or MOH designate. Restrictions for outbreaks caused by other (non influenza) respiratory viruses will be determined by the OMT.
- When a facility/unit is restricted, admissions and transfers to and from other facilities/sites are generally not permitted; however, they can be considered in consultation with Public Health on a case-by-case basis during times of urgent need.

Restrictions regarding patient admissions/re-admissions/transfer and activities are **ONLY** modified or lifted by the MOH or MOH designate. In the event that restriction of admissions/transfers is unduly impacting the availability of acute care beds for individuals requiring urgent care, the MOH or MOH designate will assess the circumstances surrounding the restriction including the degree of risk to the full spectrum of individuals requiring care. Refer to Admission, Discharge and Transfers During Outbreaks - Risk Assessment Worksheet (**Attachment II.4**).

2.5 Admissions/Transfers from an Acute Care Site to an Outbreak Facility Living Site

As a general rule:

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

If an admission/transfer to a Facility Living site must occur during a confirmed influenza outbreak at the site, following the assessment of the circumstances and consultation with Public Health (as described in the box in 2.4), Facility Living staff should collaborate with the acute care staff before the patient is discharged. The patient should not be transferred until the Facility Living site staff can ensure that:

- the patient/guardian has information on risks associated with the outbreak and consents to the transfer
- the patient is immunized AND
- the patient/guardian is able to and agreeable to take antiviral medication as indicated.

2.6 Transfers from an Outbreak Facility to an Acute Care Site

If a patient requires acute medical attention or treatment off site (e.g. ER, Urgent Care, dialysis), the outbreak facility must notify the transport staff and the receiving care facility that the patient is being transferred from a facility experiencing an influenza/ILI outbreak. The facility receiving the patient can then ensure IPC measures are in place when the patient arrives at the hospital/treatment centre. If tolerated, symptomatic patients should wear a general procedure/surgical mask during transfer.

2.7 Group/Social Activities and Other Events

- For confirmed influenza outbreaks, cancel or postpone previously scheduled patient/resident social and special events (e.g. entertainers, school groups, community presentations, and/or communal meals for special holidays) until the outbreak is declared over.
- As a general principle, previously booked non-patient events (i.e. meetings, staff inservice) in an outbreak unit/facility should be cancelled or postponed to minimize risk of exposure to others.

2.8 Nourishment Areas/Sharing of Food

As appropriate, close the kitchen/nourishment areas accessed by patients/visitors and ensure there is no communal sharing of food in outbreak areas.

2.9 Operating CHOICE/DAY Programs during an Outbreak

- If the outbreak facility operates a CHOICE Program or Day Program, discuss continuance or stopping of this activity with the OMT/Public Health at the time the outbreak is first reported.
- As a general rule, Public Health will recommend that CHOICE Program/Day Programs continue to operate in a facility with an ongoing influenza outbreak IF:
 - The Day Program is operating in an area physically separate from areas of the facility in which there have been resident cases with ILI symptoms.
 - Clients attending the CHOICE Program/Day Program do not socialize with the residents from the outbreak facility
 - CHOICE Program/Day Program staff do not provide care in the areas of the facility in which there have been outbreak cases.

2.10 Visitors

- Post outbreak signage (**Attachment II.1**) at the entrance of the facility/unit advising staff and visitors of necessary precautions.
- Request all visitors to report to the nursing desk before visiting patients. Visitors should be advised of potential risk of exposure.
- Discourage ill visitors from visiting.
- Advise those who choose to visit during an outbreak to practice good hand hygiene, visit one (1) patient only and exit the facility immediately after the visit.
- Advise persons visiting ill patients to wear PPE (e.g. gloves, gown, procedure/surgical mask, eye protection) and to clean hands with alcohol-based hand rub before putting on and removing the PPE.
- Request visitors to follow the directions of HCWs and Facility Administration.
- Complete closure of visitation is not recommended by Public Health since it may cause emotional hardship to both patients and families. However, if a facility is having difficulty controlling an outbreak, Public Health will support their decision to limit visitors.

2.11 Volunteers

- Advise volunteers of the potential risk of acquiring illness.

- Have volunteers who continue to assist during an outbreak to follow the same control measures as staff (see below).

2.12 Staff Related Outbreak Control Measures

- HCWs should be strongly encouraged to receive annual immunization(s) for influenza when available.
- Despite the excellent efficacy of most vaccines, there is a minority of people who may not be fully protected even after vaccination; therefore, vaccinated individuals need to continue daily self-assessment for ILI during influenza season. In addition, vaccinated individuals should continue to use PPE (**Table 5**) to protect against new strains of influenza virus and other infectious respiratory agents.
- Whether related to workplace exposure, or exposure in the community or home, any worker who exhibits ILI symptoms during an influenza outbreak must contact his or her manager and be off work. Staff should be advised of the need for daily self assessment for ILI symptoms.
- HCWs and staff who develop ILI at work should perform respiratory hygiene practices (e.g. coughing into sleeve, using tissues, wearing a mask) and leave the workplace as soon as possible.
- The length of time for which an ill worker should stay off work will be recommended by the Zone MOH at the time of the outbreak. Generally, a person with influenza is infectious for an average of five (5) days.
- Symptoms such as cough may continue for longer than five (5) days. However, if a worker is otherwise healthy, he or she is not likely to continue to be infectious after five (5) days following onset of symptoms.

2.12.1 Post-Exposure Vaccination, Antiviral Prophylaxis and Work Restrictions

Recommendations for post-exposure vaccination, prophylaxis and work restrictions to control influenza A or B outbreaks will be directed by the MOH and the OMT

Vaccination & Prophylaxis

- for asymptomatic staff, no waiting period is required between starting antiviral chemoprophylaxis and returning to work.
- asymptomatic staff immunized greater than 14 days prior to the outbreak may continue to work
- asymptomatic staff who have been immunized less than 14 days prior to the outbreak may continue to work if they begin and continue antiviral prophylaxis until 14 days post-immunization, or for the duration of the outbreak (whichever period is shorter). These individuals must be alert to signs and symptoms of ILI, especially within the first 48 hours after starting antiviral prophylaxis, and should be excluded from patient care if symptoms develop.
- staff who are not immunized at the time of the outbreak should receive influenza immunization as soon as possible. They can continue to work if they begin and continue antiviral prophylaxis until 14 days post-immunization, or for the duration of the outbreak (whichever is shorter). These individuals must be alert to signs and symptoms of ILI, especially within the first 48 hours after starting antiviral prophylaxis, and should be excluded from patient care if symptoms develop.
- staff who are unable or unwilling to receive influenza vaccine can continue to work if they take antiviral prophylaxis for the duration of the outbreak. These individuals must be alert signs and symptoms of ILI, especially within the first 48 hours after starting antiviral prophylaxis, and should be excluded from patient care if symptoms develop.

Restriction from Work

- **Unvaccinated** staff who are asymptomatic and agree to be vaccinated, but decline prophylaxis should be:
 - Excluded from work for three (3) days (based on average incubation period) from the last day of work on the outbreak unit/site. If they remain asymptomatic after three (3) days, they may be reassigned to a non-outbreak unit/site for the duration of the outbreak or for fourteen (14) days from date of vaccination whichever occurs first. If reassignment of work is not possible, then the staff should be excluded from work for 14 days from the time of vaccination or for the duration of the outbreak, whichever occurs first.
- **Asymptomatic** staff who are not immunized **and** are not taking recommended antiviral prophylaxis should be:
 - Excluded from working with patients in the affected facility/unit(s) until the outbreak is over, **OR**
 - Relocated to a non-outbreak unit/site if they remain asymptomatic after waiting three (3) days from the last day of work on the outbreak unit. Relocated staff should not return to the outbreak unit/site for the duration of the outbreak.
- **Asymptomatic** staff immunized less than fourteen (14) days prior to the outbreak **and** are not taking recommended antiviral prophylaxis should be:
 - Excluded from working in the affected unit/facility until 14 days from date of vaccination, or for the duration of the outbreak whichever occurs first, **OR**
 - Relocated to a non-outbreak unit if they remain asymptomatic after waiting and not working for three (3) days from the last day of work on the outbreak unit.

Note: It is the responsibility of the individual who works in more than one facility/unit to inform the alternate facility/unit that an influenza outbreak is in progress in the index facility, and determine whether or not they are permitted to work at the alternate facility/unit.

3. Attachments

Attachment II.1 - Outbreak Signage

Attachment II.2 - Data Collection for Respiratory Outbreak Management

Attachment II.3 - ProvLab Respiratory Specimen Collection Guidelines

Attachment II.4 - Admission, Discharge and Transfers during an Outbreak (Risk Assessment and Form)

Attachment II.5 - MOH Notice to all Unvaccinated Workers - Exclusion from Work (SAMPLE) Letter used for Seasonal Influenza)

THIS FACILITY/UNIT IS EXPERIENCING AN OUTBREAK

OUTBREAK



The number of visitors is limited.

**Please wash your hands or apply alcohol-based hand rub
before and after your visit.**

If you are ill, please do not visit.

For more information, see reception.

Attachment II.2 - Data Collection for Respiratory Outbreak Management

It is important that as soon as an outbreak is suspected, front line staff assess and track symptomatic patients and staff for surveillance, monitoring and reporting purposes. Accurately completed lists of cases should be reported to Public Health (and to Infection Prevention and Control as per Zone requirement) on a **daily basis** once an outbreak has been declared. Outbreak data elements that should be reported daily to Public Health include:

Outbreak Facility/Site (name, unit/floor, contact person, phone and fax)

Date of Report

Population affected at the time outbreak is declared (total patient and staff population at risk on the outbreak unit/site, number of patients and staff who meet the case definition)

Outbreak/EI number (as provided by Public Health)

Demographics of Cases

- Patients: name, personal health number, date of birth, gender, unit/room #
- Staff: initials, gender, occupation, unit they work on

Signs and Symptoms

- Onset date
- Signs and symptoms meeting case definition (new cough, fever, sore throat, joint pain, muscle aches, severe exhaustion)
- Duration of illness

Lab tests/Results

- NP or throat swabs (date sent)
- Results

Vaccination/Antiviral Prophylaxis

- Date of influenza vaccination for that season
- Date antiviral prophylaxis commenced (if recommended by Public Health)

Hospitalization or Death of Cases

- cases hospitalized (name, personal health number, date of admission, name of hospital)
- cases who died (name, personal health number, date and cause of death)

Zones may already have established methods or tools for tracking illness during outbreaks compatible with current Information Technology (IT) systems. For Zones that do not currently have tools for collecting and reporting outbreak data or if they would like to see other tracking forms being used, they can contact Public Health offices in the other Zones. Over the next few years plans are in place to develop AHS standardized forms and province-wide outbreak data management systems.

Attachment II.3 - ProvLab Respiratory Specimen Collection Guidelines

ProvLab Bulletin # 2009-09 (July 9, 09) - Testing and Interpretation of Lab Results for Influenza A (seasonal & swine origin influenza virus) and other Respiratory Viruses

http://www.provlab.ab.ca/LabBulletin2009/LabBulletin2009_9.pdf

ProvLab Bulletin #2009-11 (Sept 11, 09) - Lab Testing and Turn-around Time for Influenza A (seasonal Pandemic (H1N1) 2009 virus) and other Respiratory Viruses

http://www.provlab.ab.ca/LabBulletin2009/LabBulletin2009_11.pdf

Complete ProvLab Requisition Correctly:

- Patient demographic information from the addressograph; if no addressograph available, then include Alberta Provincial Health Care Number, address, and date of birth
- Clinical history and other clinical information
- Site of the outbreak (i.e. facility/unit)
- EI# (assigned by the ProvLab and provided to Public Health Lead investigator)
- Type of specimen
- Date specimen was collected
- Fax number of outbreak facility/unit or ICP/ICD office
- Results will be faxed to the outbreak facility/unit or ICP/ICD **when it is noted on the requisition**, and reported to Outbreak Response Lead.

Note: Viral history information is not required as long as the EI# is clearly recorded on the requisition.

Specimen Transport:

- Follow current Provincial Laboratory standards for transporting specimens.
- AHS is reviewing current transportation processes within Zones to identify gaps and make appropriate recommendations.

Attachment II.3 cont'd

NASOPHARYNGEAL (NP) AND THROAT SWAB FOR DETECTION OF RESPIRATORY INFECTIONS

General Information:

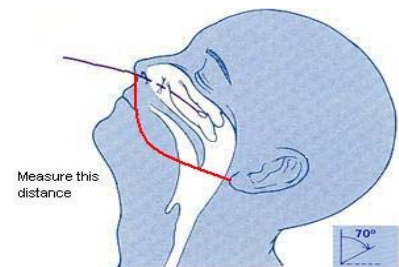
- The amount of virus is greatest in acute phase of illness, usually within the first 48-72 hours of symptom onset.
- NP swabs are the preferred specimens for respiratory virus rapid antigen (DFA) testing and pertussis testing
- If nasopharyngeal swabs are difficult to collect, or if nasal secretions are minimal, throat swabs collected in viral transport media are acceptable alternatives.
- Collect up to a maximum of six (6) NP or throat swabs from separate cases, in the acute phase of illness, to determine the etiological agent of a suspected viral respiratory outbreak. Submit these as a batch of samples.
- If one or more of these samples are positive and an etiological agent has been identified, then further swabs should not be collected. If additional specimens are received under the EI# at some later period, these will not be tested unless the external investigator (Zone Outbreak Response Lead or MOH) has contacted the ProvLab point person for the EI# or designate.
- If six (6) samples have been tested and all are negative for respiratory virus for a particular EI#, additional samples will not be tested unless there is consultation between the external investigator and the ProvLab point person for the EI# or designate (e.g. MOCVOC).
- Contact the ProvLab point person for the EI# or designate anytime, if the clinical situation for the EI# has changed and additional testing needs to be done.
- Results of DFA testing are usually available within four (4) hours from time specimen received at the lab.
- Results of the Respiratory Virus Panel (RVP) by molecular testing are usually available within 48hrs.

Swab Description: The NP swab has a white plastic shaft, with three (3) different thicknesses, ending in a “furry” or flock tip. There is a deep score mark (∇) on the thick part of the shaft where it can be snapped to fit into the transport medium container, removing the need to cut it with a sterile scissors (see graphic). Each swab is individually packaged and labeled “Copan sterile swab applicator”.



Collection of a Nasopharyngeal (NP) Swab:

1. Access the respiratory outbreak specimen collection kit (contains NP flock swab, Universal Transport Media, ProvLab requisition), and appropriate PPE
2. Check expiry date of Universal Transport Medium (UTM). Do not use if the media is leaking, has turned color, is cloudy or has expired.
3. Perform hand hygiene by washing hands with soap and water or using alcohol-based hand rub.
4. Put on appropriate PPE.
5. Have the patient sit in a chair or lie on a bed - elevate the head of the bed so that their head can be tilted back (see diagram).
6. Remove any mucous from the patient's nose, with a tissue or cotton tipped swab prior to collecting the NP swab.
7. How deep is the NP swab inserted into the nasopharynx? Measure the distance from the corner of the nose to the front of the ear and insert the shaft ONLY **half this length**.
In adults, this distance is usually about four (4) cm, (finest thickness of this swab shaft). In children this distance is less.



Attachment II.3 cont'd

8. Tilt the patient's head back slightly (about 70°) to straighten the passage from the front of the nose to the nasopharynx to make insertion of the swab easier.
9. **Gently** insert the swab along the medial part of the septum, along the base of the nose, until it reaches the posterior nares - gentle rotation of the swab may be helpful. (If resistance is encountered on one side, try the other nostril, as the patient may have a deviated septum).
10. Rotate the swab several times to dislodge the columnar epithelial cells, and then remove the swab.
Note: *Insertion of the swab usually induces a cough.*
11. Put the NP swab into the transport medium and break it at the score mark on the shaft so that it does not protrude above the rim of the container. Failure to do so will result in the transport medium leaking and the **sample being discarded.**
12. Ensure that the lid of the container is screwed on tight, and put the specimen in the biohazard zip lock bag.
13. Remove and discard gloves. Perform hand hygiene by washing hands with soap and water or using alcohol-based hand rub.
14. Remove and discard face mask and eye protection, and repeat hand hygiene if hands become contaminated.
15. Follow the labeling and transport instructions given in the collection kit insert. Ensure to label the UTM container with patient information.

Source: Provincial Laboratory for Public Health (Microbiology) and Capital Health Microbiology Laboratory (UAH Site), June 14, 2006.

Collection of a Throat Swab (TS) in viral transport media:

1. Access the respiratory outbreak specimen collection kit (contains NP flock swab, Universal Transport Media, ProvLab requisition), and appropriate PPE
2. Check expiry date of Universal Transport Medium (UTM). Do not use if the media is leaking, has turned color, is cloudy or has expired.
3. Perform hand hygiene by washing hands with soap and water or using alcohol-based hand rub.
4. Put on appropriate PPE.
5. Using the plastic shafted swab in the kit, vigorously swab the back of the throat around the tonsillar area.
6. Place the swab into the transport medium, and break off the shaft so that it does not protrude above the rim of the container. Failure to do so will result in the transport medium leaking and the **sample being discarded.**
7. Ensure that the lid of the container is screwed on tight.
8. Remove and discard gloves. Perform hand hygiene by washing hands with soap and water or using alcohol-based hand rub.
9. Remove and discard face mask and eye protection, and repeat hand hygiene if hands become contaminated.
10. Follow the labeling and transport instructions given in the collection kit insert. Ensure to label the UTM container with patient information.

Source: Provincial Laboratory for Public Health (Microbiology) and Capital Health Microbiology Laboratory (UAH Site), June 14, 2006.

If the specimens are for outbreak diagnosis, ensure specimen is transported to the lab ASAP. Rural facilities to transport lab specimens to ProvLab as directed by the Outbreak Response Lead or by the fastest means possible.

Attachment II.4 - Admission, Discharge and Transfer during an Outbreak (Risk Assessment Worksheet)

RISK ASSESSMENT WORKSHEET

Purpose:

To provide a consistent risk assessment tool for care providers when considering admitting, discharge and transfers to or from a site/facility experiencing an outbreak during urgent need.

Urgent need including but not limited to:

- necessity for specialized care to mitigate patient safety risk
- length of time on waiting list for specialized services
- urgency of specialized service provision

Process for Assessment:

- The Risk Assessment Worksheet should be fully completed collaboratively by the discharging and admitting site/facility, prior to contacting Public Health.
- Documentation on this worksheet will provide rationale for why transfer/admission may or may not proceed.

Attachment II.4 cont'd
RISK ASSESSMENT WORKSHEET
Patient/Resident Name: _____ **Date:** _____

Outbreak facility and EI number: _____

Patient/resident transferring or admitting: to outbreak facility from outbreak facility

Discharging Unit, contact: _____ (name) **Date:** _____

Receiving Facility, contact: _____ (name) **Date:** _____

RISK ASSESSMENT CATEGORIES
*** = high risk factors**
**PATIENT/CLIENT- RELATED RISK FACTORS
(DISCHARGING/TRANSFERRING UNIT)**
Symptoms (Check one):

- None - symptoms resolved
- None - no known exposure
- Symptomatic - infectious *
- Symptomatic - past infectious period

Cognition and hygiene compliance (Check one):

- Independent and compliant
- Compliant but requires prompting (needs to be monitored)
- Non-compliant, mobile *
- Non-compliant, mobile with assistance (walker, wheelchair, personal assistance)
- Non-compliant, non-mobile (bed-ridden)

Medical status (Check ALL applicable):

- Immunodeficient *
- Cardiopulmonary disease * (only for respiratory outbreaks)
- Post operative abdominal or chest surgery within 7 days * (only for GI outbreaks)
- Renal failure (requires dialysis) * (only for GI outbreaks)
- Pregnancy * (only for rubella, measles, chickenpox outbreaks)

**RISK FACTORS
(RECEIVING UNIT)**
Available accommodation (Check one):

- Private room with private bathroom
- Room with blocked bed and dedicated bathroom
- Private room with shared bathroom * (only for GI outbreaks)
- Semi private with dedicated bathroom * (only for respiratory outbreaks)
- Semi private with 2 or more sharing bathroom * (only for GI outbreaks)
- Ward (3 or more in room or sharing bathroom) * (only for GI outbreaks)
- Shared room or bathroom with symptomatic individual *

Supervision and staffing resources (Check one):

- Able to confine cases to rooms
- Able to cohort staff (staff assigned to care for only ill or only well patients)

Housekeeping (Check one):

- Resources to do enhanced cleaning, more than once a day
- Regular housekeeping services only *

Laundry services (Check one):

- Provided by facility (off-site)
- Done by family members off-site
- Common laundry area (shared washer and dryer) * (if GI ob)

Dining facilities (Check one):

- Meal service in room
- Communal dining area only *

Interventional therapy requirements (Check one):

- Requires group interaction *
- Can deliver therapy in room or as individual in dedicated space
- Can arrange therapy in common area at the end of the schedule day to allow proper disinfecting of the area

OUTBREAK RISK FACTORS

Status (Check one):

- Early investigation, agent not identified *
- Agent confirmed
- Number of new cases increasing *

Outbreak confined to (Check one):

- Ward 1 room only single unit
- Floor
- Wing/Pod
- Entire facility

Comments:

Attachment II.5 - MOH Notice to all Unvaccinated Workers - Exclusion from Work (SAMPLE) Letter used for Seasonal Influenza)

The Medical Officer of Health (MOH) or designate has declared an outbreak of influenza at _____ effective _____. Influenza is a serious infectious disease, especially in persons who are elderly or have underlying medical conditions. Workers in health care facilities who come into contact with these vulnerable persons have a duty of care to protect them by being vaccinated against influenza.

Facility records indicate that you were not vaccinated against influenza during the _____ influenza season. Under Section 29(2) of the Public Health Act of Alberta, the MOH has the legal authority to undertake whatever steps are necessary to prevent the spread of a communicable disease to others, and may prohibit a person from engaging in their occupation if this activity could transmit an infectious agent.

Because of the risk that you could transmit influenza to vulnerable individuals in your care, effective immediately, the MOH has ordered your manager to **exclude you from further work** in the outbreak facility until:

a) You receive the influenza vaccination now, AND commence antiviral prophylaxis for a period of two weeks. Protection from vaccination takes two weeks to develop completely. Vaccine is available from a Community Health Centre, your family physician or may be available at your facility. Your family physician or another physician can also prescribe the appropriate antiviral agent.

OR

b) You start antiviral prophylaxis immediately WITHOUT receiving influenza vaccination. Prophylaxis must be taken for the duration of the outbreak and an initial two week supply should be obtained by prescription from your family physician or through special arrangements at your facility, if they exist. Without vaccination, you will not develop immunity against influenza, and to continue to work in the event of other influenza outbreaks you will need to take antiviral prophylaxis again.

OR

c) Two weeks after you have been vaccinated, if you DO NOT take antiviral prophylaxis.

OR

d) The outbreak is declared over (8 days following onset of symptoms in the last case at the outbreak facility) if you refuse a, b, or c.

You may return to work **immediately** after commencing prophylaxis, provided you do not have any symptoms of influenza (acute onset of headache, chills and dry cough, followed by fever, muscle aches and pains, runny nose, and/or malaise). If you develop symptoms, the length of time for which you should stay off work will be recommended by the Zone MOH at the time of the outbreak. Generally, a person with influenza is infectious for an average of five (5) days.

If you work at health care facilities in addition to the outbreak facility, you may continue to report for work at these facilities if you have complied with either of option (a) or (b) above. If you have not, you are excluded from working in any non-outbreak facility for a period of **three (3) days**, the average incubation period for influenza, after your last shift at the outbreak facility, in addition to you remaining symptom free, in order to ensure you do not spread influenza to other facilities.

If you have questions about this exclusion, please contact your manager.

Medical Officer of Health

SECTION III - PANDEMIC (H1N1) 2009 OUTBREAK MANAGEMENT

1. Pandemic (H1N1) 2009 Case and Outbreak Definitions

(AHW Public Health Notifiable Disease Guidelines: Pandemic H1N1 2009 based on current scientific evidence and is subject to review and change as new information becomes available)
<http://www.health.alberta.ca/documents/ND-Pandemic-H1N1-2009.pdf>

During Pandemic (H1N1) 2009, a higher sensitivity for recognizing ILI symptoms is recommended when conducting a Point of Care Risk Assessment.

Adult: sudden onset of NEW cough or change in existing cough PLUS one or more of the following:

- fever (greater than or equal to 38°C on arrival or by history)
- sore throat
- joint pain
- muscle aches
- severe exhaustion

Pediatric: sudden onset of any of the following symptoms:

- runny nose
- cough
- sneezing
- +/- fever

Triggers for Pandemic (H1N1) 2009 Outbreak in Closed Facilities (including Facility Living)

- 1 confirmed case of Pandemic (H1N1) 2009 within the facility, i.e. Unit or floor within seven (7) days
OR
- 2 or more cases of ILI, one of which can be a staff member with known contact with resident/patient care, in one geographic area within a seven (7) day period
OR
- More than one geographic area of the facility reporting a case of ILI

Note: this definition for closed facilities is usually not applicable to most acute care units as patient turnover is high and units/wards usually cannot be closed. The ILI Outbreak Definition is used in acute care.

2. Public Health Case Reporting Definitions

Confirmed Case = lab confirmation of Pandemic (H1N1) 2009 infection with or without clinical evidence by one or more of the following tests:

- RT-PCR together with genotyping of hemagglutinin (HA) and/or neuraminidase (NA) genes resulting in A/California/7/2009 (H1N1)v subtype
OR
- A/California/07/2009-like [Pandemic (H1N1) 2009] by serological characterization (hemagglutination-inhibition assay) reported by Provincial Laboratory for Public Health as "Pandemic (H1N1) 2009"

Probable Case = positive lab test for influenza A with or without clinical evidence by one or more of the following tests:

- RT-PCR nontypeable
- RT-PCR indeterminate (low viral load)
- DFA

3. Outbreak Control Strategies for Pandemic (H1N1) 2009

Outbreaks of respiratory illness caused by Pandemic (H1N1) 2009 are recognized, reported and investigated in the same way as for seasonal influenza. Initial infection prevention and control measures implemented for Pandemic (H1N1) 2009 are consistent with those implemented for ILI in Section I. For detailed outbreak control strategies for confirmed influenza, refer to Section II. Any additional recommendations related to Pandemic (H1N1) 2009 will be determined by the MOH.

4. Additional Pandemic (H1N1) 2009 guidelines (check AHW and AHS websites for most current recommendations)

<http://www.health.alberta.ca/health-professionals.html>

<http://insite.albertahealthservices.ca/default.asp>

- PHAC Interim Guidance for the Management of Pandemic (H1N1) 2009 Outbreaks in Closed Facilities www.phac-aspc.gc.ca/alert-alerte/h1n1/guidance-orientation-07-16-eng.php
- PHAC Interim Guidance: Infection Prevention and Control Measures for Health Care Workers in Acute Care Facilities www.phac-aspc.gc.ca/alert-alerte/h1n1/hp-ps/ig_acf-ld_esa-eng.php
- PHAC Interim Guidance: Infection Prevention and Control Measures for Health Care Workers in Long-term Care Facilities www.phac-aspc.gc.ca/alert-alerte/h1n1/hp-ps/prevention-eng.php
- AHW Public Health Notifiable Disease Guidelines: Pandemic H1N1 2009, go to the AHW website: <http://www.health.alberta.ca/documents/ND-Pandemic-H1N1-2009.pdf>

SECTION IV - ANTIVIRAL CHEMOPROPHYLAXIS AND TREATMENT GUIDELINES DURING SEASONAL INFLUENZA AND PANDEMIC (H1N1) 2009 OUTBREAKS

1. Attachments

Attachment IV.1 - Post-exposure Antiviral Prophylaxis for Confirmed Outbreaks of Seasonal or Pandemic (H1N1) 2009 Influenza

Attachment IV.2 - Antiviral Dosing Recommendations

Attachment IV.1 - Post-exposure Antiviral Prophylaxis for Confirmed Outbreaks of Seasonal or Pandemic (H1N1) 2009 Influenza

General Guidelines

Alberta Health Services (AHS) supports the National Advisory Committee on Immunization (NACI) recommendations for influenza control published annually in the Canada Communicable Disease Report. <http://www.phac-aspc.gc.ca/publicat/ccdr-rmtc/index-eng.php>

Influenza immunization is the primary strategy for prevention of influenza infection and illness.

Antiviral prophylaxis should not replace annual influenza vaccination; instead, it should be used as an adjunct to immunization during influenza outbreaks.

Both oseltamivir and zanamivir can be used for the prevention of influenza A and B. The mechanism of action of these neuraminidase inhibitors is to prevent release of influenza virus from infected cells. Because of high levels of amantadine resistance in recent years, amantadine is not recommended for prophylaxis against influenza. Oseltamivir is not effective for prophylaxis in preventing respiratory infections other than influenza (e.g. RSV, Parainfluenza).

The recommendation to implement antiviral prophylaxis for outbreak management is made by the Zone MOH.

- Symptomatic individuals do not require antiviral prophylaxis. **Early treatment** with antiviral medication may be considered for patients or staff who have had symptoms for less than 48 hours.
- During a facility outbreak, antiviral prophylaxis is recommended for all exposed, asymptomatic patients (regardless of their influenza immunization status), and unimmunized staff unless a contraindication is present.
- Each attending physician is responsible for prescribing antiviral medication, either for prophylaxis or treatment for their individual patients (in Facility Living sites, standing orders may be helpful in the event of an outbreak).
- Antiviral prophylaxis of exposed, asymptomatic persons should be administered for the duration of the outbreak. This date is defined as a minimum of eight (8) days after the onset of symptoms in the last case. If cases persist, consult with Public Health promptly for further direction.
- During outbreaks caused by influenza strains that are not well matched by the vaccine, prophylaxis should also be considered for exposed, asymptomatic HCWs regardless of their immunization status.
- HCWs who require antiviral prophylaxis should consult with WHSEW or Designate or their own family physician for prescriptions and monitoring.
- When antiviral prophylaxis is administered simultaneously to all eligible patients and staff as soon as an outbreak is confirmed, the number of new cases usually decreases quickly. If cases continue beyond the first 72 hours after initiating prophylaxis, consult with Public Health promptly for further direction.

Antiviral for Early Treatment

Treatment decisions are the responsibility of the attending physician. Antiviral for early treatment of symptomatic patients and staff must be started within 48 hours of onset of symptoms to be effective in reducing the duration and severity of illness, and decreasing the rate of complications. Current recommendations will be discussed at the time of the outbreak.

Attachment IV.2 - Antiviral Dosing Recommendations

	Treatment	Prophylaxis of exposed, asymptomatic contacts
Oseltamivir (Tamiflu®)	75 mg twice daily x 5 days For cases with known renal impairment and known creatinine clearance of 10-30 mL/min give once daily x 5 days)	75 mg daily x 10 days For cases with known renal impairment and known creatinine clearance of 10-30 mL/min, give 75 mg every other day, or alternatively, one 30 mg capsule or 30 mg suspension every day for the duration of the outbreak.
Zanamivir (Relenza®)	10 mg (2 inhalations) twice daily x 5 days	10 mg (2 inhalations) x 10 days or for duration of outbreak

Oseltamivir is generally considered first line treatment due to its systemic absorption and increased availability. Zanamivir is inhaled and may be more difficult to administer to children and the cognitively impaired; it is not recommended for people with reactive airway disease. Product monographs contain additional prescribing information.

In the event of antiviral resistance in the outbreak influenza strain, alternate recommendations for antiviral prophylaxis will be provided by the Zone MOH.

2. Additional Antiviral Guidelines (check AHW and AHS websites for most current recommendations):

<http://www.health.alberta.ca/health-professionals.html>

<http://insite.albertahealthservices.ca/default.asp>

- Antiviral Prescribing Guidelines for Pandemic (H1N1) 2009 & Availability through Community Pharmacies <http://www.health.alberta.ca/documents/Influenza-H1N1-Tamiflu-Appendix.pdf>
- AHW Public Health Notifiable Disease Guidelines: Pandemic (H1N1) 2009, go to the AHW website: <http://www.health.alberta.ca/documents/ND-Pandemic-H1N1-2009.pdf>
- Pregnant and Lactating Women - (Annex 4 AHW Public Health Interim Guideline Pandemic (H1N1) 2009, November, 2009) <http://www.health.alberta.ca/documents/ND-Pandemic-H1N1-2009.pdf>

SECTION V – GASTROINTESTINAL (GI) ILLNESS OUTBREAK MANAGEMENT

1. GI Case and Outbreak Definitions

Case Definition

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):

- 2 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

OR

- One episode of bloody diarrhea

NOTE: Laboratory confirmation is not required

While it is recognized that *Clostridium difficile* and multi-drug resistant organisms (e.g. MRSA, VRE) can be responsible for clusters or outbreaks, and that some of the measures outlined in this protocol may be applicable in preventing or controlling them, it is beyond the scope of this document to include these organisms, due to their unique epidemiological properties.

Outbreak Definition

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), with initial onset within one 48 hour period.

2. Outbreak Control Strategies for GI Outbreaks

Outbreaks of infectious GI in healthcare facilities can result in high morbidity and a strain on operations. Typically, the majority of these outbreaks are attributable to norovirus (previously known as norwalk-like virus). Norovirus is extremely communicable and outbreaks are common. Outbreaks can present in sporadic episodes, or as intensely concentrated events occurring all at once. Attack rates can be quite high (> 50%) in both staff and residents. Although GI outbreaks in healthcare facilities can occur at any time of year, in Alberta most outbreaks occur between October and April.

Most GI cases are mild and self-limiting; however, serious dehydration and/or aspiration pneumonia secondary to vomiting can occur in debilitated individuals. Symptoms of GI include any combination of nausea, vomiting, diarrhea, and/or abdominal pain, which may be accompanied by myalgia, headache, low-grade fever, and malaise. An outbreak control program is aimed at early detection and elimination of any common sources of exposure. Despite stringent IPC, outbreak control can be difficult. It is vital that infection control measures are implemented promptly, without waiting for laboratory confirmation of an etiologic agent. Transmission usually occurs via the fecal/oral or vomitus/oral route, but can also include contact or droplet spread.

2.1 Infection Prevention and Control Measures

- Consult with ICP/ICD for assistance with IPC issues
- Ensure adequate availability of all supplies needed for outbreak management (e.g., hand hygiene products, PPE, linen, laboratory testing supplies) through notification of appropriate departments
- Initiate Contact Precautions in addition to Routine Practices when providing direct care for symptomatic patients.
- **Contact Precautions** are implemented when caring for symptomatic patients to control the spread of gastrointestinal viruses during GI outbreaks:
 - **Gloves** should be worn when providing direct care to symptomatic residents, cleaning an area contaminated with feces or vomitus, or gathering/handling specimens.
 - It may be necessary for HCWs (including housekeeping staff) to wear **gowns** when cleaning areas contaminated with feces or vomitus, to protect against possible contamination of clothing.
 - Routine Practices as necessary (e.g. eye protection, use of masks) for protection from sprays of body fluids
- In Acute or Urgent Care settings, place signage on the patient's room door indicating that Contact Precautions are required.
- Maintain at least one (1) metre of physical separation between bed/stretcher spaces.

2.1.1 Strict hand hygiene

Strict hand hygiene is the most important measure in preventing spread of infections. Soap and water is the preferred method of hand hygiene when caring for a patient with GI.

Statement on use of Alcohol-based Hand Rub during GI Outbreaks

- Alcohol-based hand rubs (with 60-90% alcohol) are an acceptable alternative to hand washing during GI outbreaks, when used according to label directions.
- Although most alcohol-based hand rubs are not classified as being "effective" in the destruction of norovirus, AHS recommendations are based on research which indicates that these products cause significant inactivation of viruses closely related to norovirus.

2.1.2 Environmental Cleaning

Environmental surfaces often become contaminated with feces or vomitus (and norovirus) during GI outbreaks. Thorough cleaning and disinfection can help interrupt disease transmission during GI outbreaks.

Recommended disinfectants

It should be emphasized that thoroughness of cleaning is more important in outbreak control than the choice of disinfectant used. However, based on study findings in the literature, effectiveness of norovirus inactivation varies by disinfectant category. Many disinfectants in wide use in AHS facilities have active ingredients known as quaternary ammonium compounds, or “quats.” Quats may not be effective for complete disinfection of surfaces contaminated with norovirus at the concentrations recommended for general disinfection by the manufacturer. AHS facilities should consider making disinfectants available that are known to be effective in inactivating norovirus (see below) during outbreak situations.

The following disinfectant categories/concentrations are recommended for disinfecting surfaces during GI outbreaks:

1. 0.5% accelerated hydrogen peroxide (e.g. ACCEL/VIROX)
2. Chlorine (sodium hypochlorite) at a concentration of 1000 parts-per-million. If diluting household bleach (5.25% sodium hypochlorite), use fresh bleach and add 5 tablespoons bleach to four liters of water to achieve this concentration. A fresh solution must be prepared daily.

- Use a “wipe twice” procedure (a 2-step process) to clean and then disinfect surfaces (i.e. wipe surfaces thoroughly to clean visibly soiled material then wipe again with a clean cloth saturated with disinfectant to disinfect)
- The frequency of cleaning and disinfecting “high touch” surfaces (e.g. doorknobs, light switches, call bells, handrails) in patient rooms, care areas and common areas such as dining areas and lounges should be more than the minimum of once daily. Recommendations for enhanced cleaning may be made by the OMT.
- Clean and disinfect shared patient care equipment (e.g. commodes, blood pressure cuffs, thermometers) prior to use by a different patient
- Conduct a thorough, enhanced cleaning in all affected areas at the end of the outbreak.

2.1.3 Laundry

- Soiled laundry should be handled with minimal agitation and should be bagged appropriately.
- Staff handling soiled laundry should wear gloves at all times.
- Appropriate PPE (e.g. gowns) should be worn if there is a risk of contamination of employee clothing from body fluids or secretions.

2.2 Specimen Collection

Stool specimen results do not typically impact outbreak management strategies for GI outbreaks. However, from a public health perspective it is valuable to collect stool specimens from cases during outbreaks to try and identify the etiology, if possible. Typical GI outbreak stool specimen collection procedures are found in **Attachment V.I.**

2.3 Administrative Measures

- Post outbreak signage (**Attachment II.1**) at the entrance of the facility/unit advising staff and visitors of necessary precautions.
- Ensure proper collection of appropriate specimens as directed by Public Health including adequate supplies and timely transport to ProvLab following internal established procedure.
- Advise the housekeeping supervisor of enhanced environmental cleaning of affected area as outlined above.
- Advise staff to report symptoms of GI in themselves during the outbreak to the unit/facility Manager, so that their illness can be tracked for the scope of the outbreak.
- Ensure all recommended staff restrictions are implemented - see **Staff Restrictions** below.
- Advise staff about relevant work restrictions including working at other health care facilities.
- Ensure adequate availability of all supplies through notification of appropriate departments
- Notify Laundry Services and Distribution Services of the increased need for supplies.
- Notify Transition Services and Admitting.
- Consult with the Zone MOH or MOH designate when issues pertaining to admission, discharge and transfers arise during an outbreak.
- Complete daily case listings during the outbreak, for both patients and staff. See **Attachment V.2** for required data elements to be reported to Public Health daily (and to IPC as per Zone requirements).

2.4 Restrictions on Affected Units/Site

- Decisions regarding GI outbreak unit restrictions will be made by the OMT or Public Health in consultation with the facility/unit administration.
- Restrictions regarding patient admissions/readmission/transfer and activities during an outbreak are **ONLY** modified or lifted by the Zone MOH or MOH designate. In the event that restriction of admissions/transfers is unduly impacting the availability of acute care beds for individuals requiring urgent care, the Zone MOH or MOH designate will assess the circumstances surrounding the restriction. The review will assess the degree of risk to the full spectrum of individuals requiring care, considering both those awaiting acute care as well as the resident in the outbreak facility.
- Admission restrictions may be amended if, in the judgment of the Zone MOH or MOH designate, it is appropriate for all parties involved.
- Even when admission restrictions are lifted at the recommendation of the OMT or Public Health, some residents may still be symptomatic with GI. Isolation precautions for symptomatic patients should remain in effect to prevent further spread of infection.
- 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 patients and staff affected, new cases continue to develop in spite of implemented control measures).
- Restrictions typically remain in place until the outbreak has been declared over. The guideline for declaring an outbreak over is:
 - 48 hours from symptom resolution in the last case,
 - OR**
 - 96 hours from onset of symptoms in the last case**whichever occurs first**

2.4.1 Patient Restrictions

- Whenever possible, symptomatic patients should be isolated (i.e. remain in their rooms) with meals delivered to them for the duration of the acute illness, and until 48 hours after the last episode of vomiting or diarrhea.
- Symptomatic patients should only leave the outbreak unit/facility when it is medically necessary; in which case the receiving site should be alerted that the patient is symptomatic and coming from a facility experiencing a GI outbreak.

- Use of disposable plates and cutlery by symptomatic residents is not required for GI outbreak management.
- If an outbreak is confined to a unit, all patients on that unit should remain on their own unit to avoid contact with other patients in the facility.
- Patients requesting a pass to leave a facility that is under restrictions due to a GI outbreak may do so if the patient is asymptomatic. Patients should be advised that if they become symptomatic while away from their facility, they should return to/contact their facility, or seek medical attention.

2.4.2 Staff Restrictions

- Cohort staff to affected areas if practical, or assign staff to care for asymptomatic patients before symptomatic residents.
- Consider minimizing movement of staff, students, and volunteers between floors/units, especially if some units are not affected.
- Symptomatic staff that fit the case definition for GI should be **excluded from work until 48 hours following the last episode of vomiting and/or diarrhea.**
- Symptomatic staff that fit the GI case definition should be excluded from work at **all care facilities** until 48 hours following the last episode of vomiting and/or diarrhea.
- Staff that have no gastrointestinal illness during the outbreak, or are free of vomiting and diarrhea for at least 48 hours, may **continue to work at any care facility**, even if they are employed at a facility with an ongoing GI outbreak.

2.4.3 Visitor Restrictions

- Post outbreak signage (**Attachment II.1**) at the entrance of the facility/unit advising staff and visitors of necessary precautions.
- All visitors should report to the nursing desk before visiting patients.
- Ill visitors should be discouraged from visiting.
- Visitors should be advised of the potential risk of acquiring illness, and advised to practice hand hygiene before and after visiting.
- Those visiting symptomatic patients must be advised to practice Contact Precautions to protect themselves.
- Visitors who choose to visit during an outbreak should be advised to practice good hand hygiene, visit only one (1) patient and exit the facility immediately after the visit.
- Complete restriction of visitation during GI outbreaks is typically not recommended by AHS as it may cause emotional hardship to both patients and families. However, if a facility is having difficulty controlling an outbreak, Public Health will support the facility's decision to limit visitors.

2.4.4 Volunteer Restrictions

- Volunteers should be advised of the potential risk of acquiring illness.
- As a general rule, volunteers who continue to help during an outbreak would be managed in the same manner as staff (see above for staff exclusion recommendations).

2.4.5 Admission Restrictions

- Facility/unit status (e.g. open or restricted admissions) will be determined by the MOH or Designate at the time 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 patients and staff affected, new cases continue to develop in spite of implemented control measures).

- For GI outbreaks, restrictions typically remain in place until the outbreak has been declared over. The guideline for declaring an outbreak over is:
 - 48 hours from symptom resolution in the last case.
 - OR**
 - 96 hours from onset of symptoms in the last case,
whichever occurs first.
- When a facility/unit is restricted, admissions and transfers to and from other facilities/sites are generally not permitted; however, they can be considered in consultation with Public Health on a case-by-case basis during time of urgent need.

Restrictions regarding patient admissions/re-admissions/transfer and activities are **ONLY** modified or lifted by the MOH or MOH designate. In the event that restriction of admissions/transfers is unduly impacting the availability of acute care beds for individuals requiring urgent care, the MOH or MOH designate will assess the circumstances surrounding the restriction including the degree of risk to the full spectrum of individuals requiring care. Refer to Admission, Discharge and Transfers During Outbreaks - Risk Assessment Worksheet (**Attachment II.4**).

2.4.6 Admissions/Transfers from an Acute Care to an Outbreak Facility Living Site

A patient who is hospitalized at another facility prior to the outbreak should not be transferred back to the facility until the outbreak is declared over. **EXCEPTION:** if a patient from the outbreak facility was hospitalized due to GI, he/she may return to the outbreak facility upon discharge.

If an admission/transfer to a Facility Living site must occur during a GI outbreak at the site, following the assessment of the circumstances and consultation with Public Health (as described in the box in 2.4.5), Facility Living staff should collaborate with the acute care staff before the patient is discharged. The patient should not be transferred until the Facility Living site staff can ensure that the patient/guardian has information on risks associated with the outbreak and consents to the transfer.

2.4.7 Transfers from an Outbreak Facility to Acute Care

If a patient requires acute medical attention or treatment off site (e.g. E.R, Urgent Care, dialysis), the outbreak facility must notify the transport staff and the receiving care facility that the patient is being transferred from a facility experiencing a GI outbreak. The facility receiving the patient can then ensure IPC measures are in place when the patient arrives there.

2.4.8 Treatment within the Outbreak Facility

During an outbreak, consideration should be given to providing treatment such as physiotherapy or occupational therapy in the patient's room instead of a centralized area; however patients may be allowed to attend medically necessary activities provided measures are taken to minimize transmission.

2.4.9 Group/Social Activities and Other Events

It is recommended that previously scheduled patient social and special events/activities (e.g. entertainers, school groups, community presentations, and/or communal meals for special holidays) on the affected unit(s) be canceled/postponed for the duration of the outbreak.

As a general principle, it is also recommended that non-patient events (e.g. meetings) previously booked for areas in proximity to areas under restriction in the outbreak facility be cancelled or postponed.

2.4.10 Nourishment Areas/Sharing of Food

Close the kitchen/nourishment areas accessed by patients/visitors and ensure there is no communal sharing of food in outbreak areas.

2.4.11 CHOICE Program or Day Program during an Outbreak

If the outbreak facility operates a CHOICE Program or Day Program, discuss this with the OMT/PH at the time the outbreak is first reported. As a general rule, Public Health will recommend that CHOICE Program/Day Programs continue to operate in a facility with an ongoing GI outbreak **IF**:

- the Day Program is operated in an area physically separate from areas of the facility in which there have been patient cases with GI symptoms
- clients attending the CHOICE Program/Day Program do not mix with the patients from the outbreak facility
- CHOICE Program/Day Program staff do not provide care in areas of the facility in which there have been outbreak cases

2.5 Management of “Relapse” Cases

GI cases frequently “relapse,” i.e. experience onset of vomiting or diarrhea after being asymptomatic for 24 to 48 hours. The relapse is likely due to malabsorption during an existing norovirus infection rather than being a new infection. AHS recommends that “relapse” GI cases:

- be isolated until they are free of vomiting and diarrhea for 48 hours, as they may still be infectious.
- should NOT be counted as new outbreak cases (and should therefore NOT be included on daily case listings) - these are not new outbreak cases, and a patient should only be counted as a new case once on a daily case listing. Therefore, relapse case(s) alone would not result in the extension of admission restrictions.

Note: If a previously identified GI case has onset of GI symptoms after being symptom free for **at least seven (7) days**, it is considered a new case.

2.6 Heightened Surveillance Post-Outbreak

A 48-hour period from symptom resolution of the last case OR 96 hours from the onset date of the last case (whichever occurs first) is usually indicative of the end of a GI outbreak. However, it is strongly recommended that heightened GI surveillance be maintained for at least 72 hours after restrictions are lifted, in the event that unrecognized transmission is occurring in the facility.

Report any new cases during this period in the same manner that an outbreak is reported. The Zone Outbreak Response Lead will assess to determine if restrictions should again be implemented.

3. Attachments

Attachment V.1 - Stool Specimen Collection for GI Outbreaks

Attachment V.2 – Data Collection for Gastrointestinal Illness Outbreak Management

Attachment V.1 - Stool Specimen Collection for GI Outbreaks

Stool specimen results do not typically impact outbreak management strategies for GI outbreaks. However, from a public health perspective it is valuable to collect stool specimens from cases during outbreaks to try and identify the etiology, if possible. Please note that norovirus cannot presently be isolated from vomitus, therefore the collection of vomitus specimens is not recommended for GI outbreak management.

A unique EI# is assigned to each specific outbreak. Public Health will obtain an EI# from the ProvLab when a GI outbreak is reported. Stool specimens submitted without an EI# on the requisition will not be analyzed for norovirus; therefore it is important that an EI# be obtained **prior to** collection of outbreak stool specimens. The typical turnaround time for norovirus PCR results from the Provincial Laboratory (i.e. time between receipt of the specimen at the lab and report of results) is 48 hours. Public Health will report the result to the ICP/ICD within one business day of receipt of results from the lab.

Procedures to collect stool specimens

- As directed by Public Health, collect stool specimens from patients that are acutely ill with diarrhea, preferably within 24-48 hours of onset of symptoms.
- Collect one stool specimen from up to 4-6 symptomatic patients, preferably during the acute phase of illness. This number of specimens is usually sufficient to determine the etiology of the outbreak.
- Collect stool in a specimen collection “hat” or other clean and dry receptacle (i.e. bed pan, margarine container).
- Do not mix stool with urine or water.
- Place the stool in a dry sterile container. If stool specimen containers from the lab are available, use the spoon on the lid of the plastic container to scoop the stool into the plastic container. If stool specimen containers are not available, dry sterile urine containers can be used instead. Scoop stool into the urine container with a disposable tongue depressor or plastic spoon. Fill the container with stool up to one third or at least one-tablespoon full, and discard the remaining stool.
- Keeping the outside of the container clean, screw the lid tightly onto the plastic container.
- Put the container with the stool into the plastic (biohazard) bag, and seal the bag.
- Complete the lab requisition form, ensuring the EI#, patient’s name, date-of-birth, and date of specimen collection are on the form as well as on the specimen container.
- Keep stool specimens in the fridge (not the freezer) until ready for transport.
- Batch specimens (4-6) together and transport to the ProvLab within 24-48 hours.
- If one or more of these samples are positive and an etiological agent has been identified, then further specimens should not be collected. If additional specimens are received under the same EI# at some later period, these will not be tested unless Public Health has contacted the ProvLab point person for the EI# (e.g., MOC/VOC).
- If all batched samples received have been tested and if all are negative for a particular EI#, additional samples will not be tested unless there is consultation between Public Health and the ProvLab.
- Public Health will contact the ProvLab if the clinical situation for the outbreak has changed and additional testing needs to be done.

Specimen Transport:

- Follow current Provincial Laboratory standards for transporting specimens.
- AHS is reviewing current transportation processes within Zones to identify gaps and make appropriate recommendations.

Attachment V.2 – Data Collection for Gastrointestinal Illness Outbreak Management

It is important that as soon as an outbreak is suspected, front line staff assess and track symptomatic patients and staff for surveillance, monitoring and reporting purposes. Accurately completed lists of cases should be reported to Public Health (and to Infection Prevention and Control as per Zone requirement) on a **daily basis** once an outbreak has been declared. Outbreak data elements that should be reported daily to Public Health include:

Outbreak Facility/Site (name, unit/floor, contact person, phone and fax)

Date of Report

Population affected at the time outbreak is reported (total patient and staff population at risk on the outbreak unit/site, number of patients and staff who meet the case definition)

Outbreak/EI number (as provided by Public Health)

Demographics of Cases

- Patients: name, personal health number, date of birth, gender, unit/room #
- Staff: initials, gender, occupation, unit they work on

Signs and Symptoms

- Onset date
- Signs and symptoms meeting case definition (vomiting, diarrhea, bloody diarrhea)
- Duration of illness

Lab tests/Results

- Stool specimen (date sent)
- Results

Hospitalization or Death of Cases

- cases hospitalized (name, personal health number, date of admission, name of hospital)
- cases who died (name, personal health number, date and cause of death)

Zones may already have established methods or tools for tracking illness during outbreaks compatible with current Information Technology (IT) systems. For Zones that do not currently have tools for collecting and reporting outbreak data or if they would like to see other tracking forms being used, they can contact Public Health offices in the other Zones. Over the next few years plans are in place to develop AHS standardized forms and province-wide outbreak data management systems.