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

Yukon Guidance Document
Yukon Communicable Disease Control
September 2013
# Table of Contents

**Introduction** .............................................................................................................................................. 1

**Part One: Pre-Season Planning and Prevention** .......................................................................................... 3

  - Influenza Vaccine Delivery ...................................................................................................................... 4
  - Immunization of Health Care Workers .................................................................................................. 4
  - Requesting Influenza Information from Health Care Workers ............................................................ 4
  - Immunization of Residents of Acute and Residential Care Facilities .................................................. 5
  - Records and Reporting .......................................................................................................................... 5
  - Influenza Outbreak Preparation ............................................................................................................ 6
  - Anti-Viral Preparation .......................................................................................................................... 6
  - Common Viral Pathogens that Cause Respiratory Infection Outbreaks .............................................. 8

**Tools for Pre-Season Planning and Preparation for Influenza**

- Appendix A - Respiratory Outbreak Pre-Printed Order ........................................................................ 10
- Appendix B - Sample Oseltamivir Script (Treatment and Prophylaxis) ................................................ 11
- Appendix C - Resident Influenza Immunization/Antiviral Pre-Printed Order Record ........................... 12
- Appendix D – Health Care Workers Immunization / Antiviral Pre-Printed Order Record .................. 13
- Appendix E - Readiness Report for YCDC ............................................................................................ 14
- Appendix F - WGH Lab Form: Request for Supplies for Respiratory Infection Outbreak ..................... 15

**Part Two: Outbreak Detection and Consultation** ..................................................................................... 16

- Surveillance for Respiratory Illness ........................................................................................................ 16
- Identifying an Outbreak .......................................................................................................................... 16
- Case Definition for Respiratory Infection ............................................................................................... 16
- Suspected Respiratory Infection Outbreaks ........................................................................................... 16
- Definition of a Suspected Respiratory Infection Outbreak .................................................................. 16
- Reporting a Suspected Respiratory Infection Outbreak ....................................................................... 17
- Identifying Causative Organism ............................................................................................................. 17
- YCDC’s Role in Facilitating Specimen Submission ............................................................................... 17
- Declaring a Respiratory Infection Outbreak .......................................................................................... 18

**Tools for Outbreak Consultation and Detection**

- Appendix G- Specimen Collection and Shipping ....................................................................................... 20
- Appendix H- Nasopharyngeal Swab Procedure ....................................................................................... 21
- Appendix I- Virology Requisition ........................................................................................................... 22
- Appendix J - Quick Reference Guide for Respiratory Outbreaks ........................................................... 25
- Appendix K- Line Lists (Residents and Staff) ......................................................................................... 24
- Appendix L- Respiratory Infection Outbreak Report Form ..................................................................... 26

**Part Three: Outbreak Management** ..................................................................................................... 30

- Managing an Outbreak ........................................................................................................................... 30
- General Measures .................................................................................................................................... 30
- Additional Measures for Respiratory Infection Outbreaks caused by Influenza A and/or B .......... 31
- Antiviral Medication Usage ................................................................................................................. 31
- Tracking an Outbreak ............................................................................................................................ 32
- Declaring the Outbreak Over ............................................................................................................... 33

**Tools for Outbreak Management and Reporting**

- Appendix M- Sample Alert Poster for Visitors ....................................................................................... 35
- Appendix N- Droplet/Contact Precautions ............................................................................................. 36
- Appendix O- Donning and Removal Technique for Personal Protective Equipment ............................. 37
- Appendix P- Sample HCW Antiviral Prophylaxis Letter to Physician .................................................... 38
- Appendix Q- Hand Hygiene Posters ...................................................................................................... 39

**Acronyms and Glossary of terms** ............................................................................................................. 40

**References** ............................................................................................................................................... 43
Introduction

Respiratory infections (RI) are often spread when people cough or sneeze and droplets of their respiratory secretions come into direct contact with the mucous membranes of the eyes, mouth, nose, or airway of another person. Because microorganisms in droplets can survive on other surfaces, droplet-spread infections can also be spread indirectly when people touch contaminated hands, surfaces and objects.

Outbreaks of RI occur predominantly between October and March but can occur at any time during the year. Influenza is a major cause of respiratory outbreaks, but outbreaks can also be caused by other viruses such as parainfluenza, respiratory syncytial virus (RSV), coronavirus, rhinovirus, human metapneumovirus, and adenovirus. Less commonly, outbreaks can be caused by bacterial pathogens such as Streptococcus Pneumoniae, Bordetella Pertussis, Mycoplasma pneumonia, Legionella sp., and Chlamydia pneumonia. The dominant causal organisms are highly variable from season to season and across geographic areas or specific locales or settings.

Of etiologic agents, Influenza A and B viruses are of greatest concern because of their epidemic seasonal behavior, and their relatively high levels of morbidity and mortality, especially amongst those very young, adults > 60 years of age, and those who are immunocompromised or who have chronic diseases.

Purpose

These guidelines describe the infection prevention and control practices for respiratory infections that are primarily droplet spread. Implementing these guidelines will enable the healthcare system to detect and contain clusters and outbreaks of common respiratory infections and assist in the detection of novel pathogens.

Recognizing that Influenza A and B are unique, in that pre-Influenza season preparation can be undertaken, sections of this guidance document are specific to seasonal Influenza preparation and outbreak management.

Scope

While no single protocol can cover all of the more detailed aspects that might be necessary for some specific organism outbreaks, all respiratory outbreaks can initially be managed in a similar fashion with basic measures to prevent further respiratory transmission, at least until the organism is identified and more specific measures can be put into pace (e.g. antiviral prophylaxis for influenza). The scope of this guidance document is such that it encompasses prevention planning and outbreak management. Part One (pg. 3-15) of the document is specific to Influenza, whereas Parts Two (pg. 16-29) and Three (pg. 30-41) are applicable to the management of RI outbreaks generally.

Although the basic control measures described in these guidelines are to be used for outbreak prevention and control of all respiratory infections, specific respiratory infections such as SARS, tuberculosis, or an emerging pathogen with unknown characteristics require special consideration and additional control measures. For known airborne spread infections (e.g. measles, TB), specific guidelines should be followed as laid out by Yukon Communicable Disease Control, and the Public Health Agency of Canada. These illnesses are beyond the scope of this document. Pandemic Influenza events also fall beyond the scope of this document (PICNet BC, 2011).

---

1 Unless otherwise stated, the recommendations presented in the document have been adapted (with permission) from two British Columbia sources 1) Interior Health “Prevention and Control of Respiratory Outbreaks in Residential Care Settings”, September 2012 and 2) PICNet BC “Respiratory Infection Outbreak Guidelines for Healthcare Facilities – Reference Document for use by Health Care Organizations for Internal Policy/Protocol Development”, 2011

2 The term RI is used in place of the more familiar term Influenza-like-illness (ILI) to be inclusive of the many respiratory viruses which may present with similar symptoms and to align with the PICNET guidelines (PICNet, 2011).
Goal

The goal of this territorial guidance document is to provide Yukon acute care, and residential facilities with the information and tools required to prevent, identify, and control outbreaks of RI in a way that balances patient/resident and staff protection with the least possible interference on facility function and patient/resident wellbeing. This document may also be useful for correctional and assisted-living facilities.

How to Use this Document

The document is organized into three sections:

- Part One: Pre-Season Planning and Prevention for Influenza
- Part Two: Outbreak Detection and Consultation
- Part Three: Outbreak Management

Each section includes tools to support facility planning and outbreak management.

Facilities are encouraged to familiarize themselves with this document in preparation for the implementation of the Pre-Season Planning and Prevention for Influenza. This should be done in the spring and fall.
Part One: Pre-Season Planning and Prevention of Influenza

The following is a quick checklist of activities for pre-season planning. Not all strategies are applicable to all types of facilities.

- Familiarize staff with the current Yukon respiratory infection outbreak guidance document and facility specific protocols/policies, including notification process to be used to report a suspected outbreak.

- Arrange influenza vaccination clinics for Health Care Workers (HCW).

- Provide influenza and pneumococcal vaccine (as required) to residents.

- Maintain staff and resident influenza immunization records.

- Maintain a current listing of staff in the facility.

- Order and maintain a supply of infection control supplies required for outbreak management.

- Update resident antiviral medication pre-printed orders.

- Provide a “readiness report” for YCDC, to be submitted by January 15th (appendix E).

- Provide education to staff and residents such as the importance of seasonal influenza vaccine, routine respiratory precautions, and respiratory outbreak management.
Influenza Vaccine Delivery

Influenza remains a significant cause of illness and death amongst the elderly and frail residents of care facilities. Influenza immunization of both residents and health care workers is the most effective measure for reducing the impact of influenza in residential and acute care facilities. It reduces the risk of severe illness or death from influenza infection in individuals and it reduces the risk of influenza outbreaks. Immunization of health care staff is critical to the care of vulnerable clients in order to achieve the best protection for them.

Immunization of Health Care Workers (HCWs)

A HCW is any person carrying out paid or unpaid work in a health care facility, including persons who volunteer or undergo training in a health care facility for any period of time between October to April. Influenza vaccine is provided free of charge to all Yukon residents.

It is the recommendation of the Chief Medical Officer of Health (CMOH) to have at least 80% of all health care workers (acute, community and residential health care workers) immunized and at least 90% of all residents immunized.

Immunization of HCWs should commence each year as soon as the vaccine becomes available. The vaccine will be available throughout the season and managers should ensure that staff is immunized whenever they commence working in a facility during the months October-April.

Staff may be immunized, as arranged, through their place of employment, or through community immunization clinics. The Yukon Immunization Program statement for the current influenza season should be used to screen for contraindications and precautions to vaccine administration.


• It is important for each facility to keep an up to date record of who has received influenza vaccine.

• The most responsible person in the facility should review the immunization rates by the end of December. If staff rates are less than 60% and resident rates are less than 90%, the facility should develop a plan to increase immunization rates or mitigate the effect should an influenza outbreak be declared.

Requesting Influenza Immunization Information from HCWs

Currently in Yukon, influenza immunization for HCWs is voluntary. There are currently no work-related repercussions for not doing so. HCWs may choose whether or not to disclose their influenza immunization status.

The Yukon Public Service Commission, in conjunction with the ATIPP (Access to Information & Protection of Privacy Act) Coordinator for Yukon Health and Social Services, has been consulted regarding the collection, use, disclosure, and disposal of employee information that may be provided to a supervisor as proposed by this guideline. Through this consultation process, it has been determined that the employee information outlined in this guideline is acceptable for a supervisor to request. It has also been determined that the supervisor must maintain employee records in accordance to the following ATIPP regulation:


Also of note, the CMOH holds the authority to request employee specific information.
A review of the following points should occur when discussing immunization status with HCWs:

- The request for collecting this information comes from the CMOH.

- The purpose of collecting HCW immunization information is to ascertain the immunization coverage rate per facility (residents and HCWs) as influenza immunization of HCWs can help prevent outbreaks from occurring. Influenza outbreaks may still occur with sub-optimal immunization coverage among health care personnel or in the event of substantial virus drift away from the selected vaccine components. **Although influenza immunization may not prevent infection, it can prevent serious complications.** Even with some drift of the circulating virus away from the vaccine component, cross-protection against the drift variant can be provided by vaccination. In the event of a facility influenza outbreak, knowing HCW influenza immunization status will expedite the offer of antiviral prophylaxis to those HCWs who are not immunized.

- HCWs who disclose immunization status should have their information kept confidential within the facility. As part of pre-season preparedness, each fall, the CMOH will request a report on HCW immunization uptake (facility wide) to be provided to YCDC. Additional information i.e. employee specific information will be requested at the discretion of the CMOH.

### Immunization of Residents of Acute and Residential Care Facilities

Residents of any age are eligible for free influenza vaccine and require immunization annually. Unimmunized residents who catch influenza can become very ill and can spread the virus to other residents and staff in the facility. Immunization helps prevent illness and reduces shedding of the virus.

In addition residents are eligible for pneumococcal vaccine as per the Yukon Immunization Program. Facilities are encouraged to screen for pneumococcal immunization eligibility on admission.

### Records and Reporting

Facilities should strive to maintain annual records of both resident and HCW influenza immunization status (although it is currently not mandatory that staff provide their immunization status) and have these records available in the event of an influenza outbreak.

Templates and reporting forms are included at the end of this section.
Influenza Outbreak Preparation

When the RI outbreak has been identified as an influenza outbreak based on the assessment of the CMOH, including lab confirmation, the key to successful management is implementing all of the appropriate measures as soon as possible. All staff should be aware of how to put the measures into place.

To be prepared:

- Develop a facility protocol that outlines staff responsibilities for implementing outbreak response. This should include chain of reporting and communication within the facility and notification to YCDC and the CMOH.
- Order specimen collection material/Respiratory Outbreak Collection Kits from Whitehorse General Hospital Laboratory by September 15th. These kits are prepared by BCCDC. Swabs may be ordered and replaced as needed.
- Please use the order form provided in appendix F Request for Supplies –Respiratory Infection (RI) Outbreak. WGH Lab Phone: 867-393-8739.
- When the supply of testing kits is received, discard any remaining stock which may have expired.
- Keep a record of all residents and/or patients who are immunized and request that staff report immunization status.
- Ensure new residents and/or patients are immunized and pre-printed orders for antiviral medication are prepared.
- Ensure adequate infection control and cleaning supplies are available, such as hand soap/sanitizer, masks, goggles, gowns, linens, surface disinfectants, waste-bins with step-on lids and signage.

Templates for these activities are included at the end of this section.

Anti-viral Preparation

When the RI outbreak has been identified as an influenza outbreak, antivirals are initiated, both for treatment and for prevention. Pre-planning for antiviral medication dosage for prophylaxis and treatment of residents during an outbreak is essential. Antivirals for treatment are most effective when started within the first two days of illness; similarly, the sooner prophylactic administration of antivirals occurs, the more effective it can be in controlling the outbreak.

- Prior to the influenza season, each facility should establish with its medical director and/or Infection Control Practitioner (ICP) the protocol for administering antiviral medication in a timely manner during an outbreak. Please refer to the Rapid Guide to Assessment & Management of ILI Yukon: http://www.hss.gov.yk.ca/pdf/ILI_rapid_guide.pdf
- Identify individuals with a contraindication to Oseltamivir. Please consult with internist for dosing regimens in patients with reduced creatinine clearance below 30 mL/min.
- Zanamivir (Relenza) may be used as an alternative antiviral agent to Oseltamivir.
- The facility should be ready to give antiviral medication on a few hours notice to all residents to control an outbreak. In order to do that, each facility should establish a plan of action with the pharmacy or supplier that provides services for them, so that antivirals are obtained in a timely fashion. (PICNet, 2011)
Prior to the end of October each year the facility should:

- Obtain pre-printed antiviral orders for both prophylaxis and treatment - approved by a physician and available on each patient/resident chart.

- Patients/residents should have contraindications and precautions to antiviral prophylaxis and treatment reviewed.

- A record of antiviral orders should be maintained so that this information is readily available in the event of a respiratory outbreak.

- Ensure the designated pharmacy/stores can supply the volume of Oseltamivir required to provide prophylaxis to all of the facility residents and/or patients.
## Common Viral Pathogens That Cause RI Outbreaks

<table>
<thead>
<tr>
<th>Virus</th>
<th>Epidemiology</th>
<th>Incubation period</th>
<th>Symptoms and symptom duration</th>
<th>Period of communicability</th>
<th>Prophylaxis and treatment</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Influenza A</strong></td>
<td>- Typically spans November to April - Causes mild to severe symptoms - Causes infection in all age groups with highest incidence in children; highest mortality in elderly and those with comorbidity - Can infect animals and humans - Causes most outbreaks</td>
<td>1-4 days</td>
<td>- Fever*, cough (often severe and may last longer than other symptoms), headache, muscle/joint pain, sore throat, prostration and exhaustion. - Gastro-intestinal symptoms may occur in children - 2-7 days</td>
<td>- Probably 3-5 days from clinical onset in adults; up to 7 days in young children - Asymptomatic people may be infectious</td>
<td>- Yearly vaccine (for A&amp;B) - Antivirals for prophylaxis and treatment: Neuraminidase inhibitors are preferred (for A&amp;B): i.e. Oseltamivir</td>
</tr>
<tr>
<td><strong>Influenza B</strong></td>
<td>- November-April - Causes milder infection - Mostly affects children - Can cause outbreaks</td>
<td></td>
<td></td>
<td>- Probably 3-5 days from clinical onset in adults; up to 7 days in young children - Asymptomatic people may be infectious</td>
<td></td>
</tr>
<tr>
<td><strong>Parainfluenza virus</strong></td>
<td>- Entire year (little seasonal pattern) - Predominantly causes infection &amp; outbreaks in young children and the elderly</td>
<td>2-6 days</td>
<td>- Fever, cough, wheezing - Croup</td>
<td>- From shortly prior to clinical onset and for duration of active disease</td>
<td>Symptomatic treatment only</td>
</tr>
<tr>
<td><strong>Respiratory Syncytial virus (RSV)</strong></td>
<td>- Usually late winter and early spring - Predominantly causes infection &amp; outbreaks in young children and the elderly</td>
<td>Usually 4-6 days, range 2-8 days</td>
<td>- Fever, cough, wheezing - Bronchiolitis in children - Pneumonia in adults</td>
<td>- From a day or so before clinical onset and usually for 3-8 days. However, viral shedding may persist for several weeks or longer after symptoms have subsided, especially in children</td>
<td>Symptomatic treatment only - For severe pediatric cases consult a Pediatrician or an Infectious Disease physician</td>
</tr>
<tr>
<td><strong>Adenovirus</strong></td>
<td>- Usually fall and winter - Causes infection in all ages</td>
<td>Usually 4-5 days, range 2-14 days for respiratory disease</td>
<td>- Conjunctivitis, sore throat, fever, and other respiratory symptoms</td>
<td>- From up to a week prior to clinical onset and for duration of active disease - Viral shedding may persist for a long period of time</td>
<td>Symptomatic treatment only</td>
</tr>
<tr>
<td><strong>Common respiratory viruses such as:</strong></td>
<td>- Rhinovirus - Coronavirus - Metapneumo virus - Echovirus - Coxsackie virus - other enteroviruses.</td>
<td>Throughout the year with peaks in the spring and fall</td>
<td>Usually 2-3 days, but may be longer</td>
<td>'Common cold' type illness: Sneezing, runny nose, cough, sore throat, sinus congestion malaise, headache, myalgia and/or low grade fever</td>
<td>- Viral shedding usually most abundant during the first 2-3 days of clinical illness. Shedding usually ceases by 7-10 days, but may continue for up to 3 weeks in young children</td>
</tr>
</tbody>
</table>

(Adapted from PICNet BC, 2011)
Tools for Pre-Season Preparation and Prevention
For Influenza
# Prevention and Control of Respiratory Outbreaks in Residential and Acute Care Settings

**Yukon Communicable Disease Control September 2013**

## Appendix A: Respiratory Outbreak Pre-Printed Orders

<table>
<thead>
<tr>
<th>Immunization/Test/Antiviral Medication</th>
<th>Ordering Physician</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Signature:</strong> ______________________</td>
<td></td>
</tr>
<tr>
<td><strong>Print name:</strong> ______________________</td>
<td></td>
</tr>
<tr>
<td><strong>Date:</strong> (dd/mm/yyyy): _____ / _____ / ________</td>
<td></td>
</tr>
</tbody>
</table>

### Respiratory Outbreak Pre-Printed Orders

<table>
<thead>
<tr>
<th>Immunization/Test/Antiviral Medication</th>
<th>Ordering Physician</th>
</tr>
</thead>
<tbody>
<tr>
<td>Influenza immunization*</td>
<td>□ YES □ NO</td>
</tr>
<tr>
<td>TIV: 0.5ml I.M</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Immunization/Test/Antiviral Medication</th>
<th>Ordering Physician</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pneumococcal polysaccharide immunization*</td>
<td>□ YES □ NO</td>
</tr>
<tr>
<td>0.5ml S.C. or I.M (if required)</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Immunization/Test/Antiviral Medication</th>
<th>Ordering Physician</th>
</tr>
</thead>
<tbody>
<tr>
<td>Tenanus immunization* (Td/Tdap)</td>
<td>□ YES □ NO</td>
</tr>
<tr>
<td>0.5ml I.M (if required)</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Immunization/Test/Antiviral Medication</th>
<th>Ordering Physician</th>
</tr>
</thead>
<tbody>
<tr>
<td>eGFR in chart within the past 12 months (if client stable and &gt;18 years) OR Creatinine clearance (serum) as appropriate</td>
<td>□ YES □ NO</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Immunization/Test/Antiviral Medication</th>
<th>Ordering Physician</th>
</tr>
</thead>
<tbody>
<tr>
<td>Oseltamivir prophylaxis in event of influenza outbreak</td>
<td>□ YES (Complete Accompanying Antiviral Script – Appendix B) □ NO Reason:________</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Immunization/Test/Antiviral Medication</th>
<th>Ordering Physician</th>
</tr>
</thead>
<tbody>
<tr>
<td>Oseltamivir treatment in event of infection in influenza outbreak.</td>
<td>□ YES (Complete Accompanying Antiviral Script – Appendix B) □ NO Reason:________</td>
</tr>
</tbody>
</table>

Appendix B: Sample Oseltamivir Script (Treatment and Prophylaxis)

---

### Oseltamivir

**Treatment and Prophylaxis of Influenza A and B**

Allergies - check (✓) on box:

- [ ] None known
- [ ] Unable to obtain
- [ ] See Allergy Record (if in use at the facility)
- [ ] List: ____________________________

Age _______ years  Weight ________ kg (Pediatrics only)

### Estimated Glomerular Filtration Rate (eGFR) _______

**Serum Creatinine (SCr) _______

\[
CrCl = \frac{(140 - \text{age}) \times (88.4)}{\text{SCr (mcmoVL)}} \times 0.85 \text{ for females}
\]

For individuals > 18 years of age, the eGFR result can be used as an estimate of creatinine clearance. In those <18 years of age creatinine clearance must be calculated by a physician.

**TREATMENT**: Continue for 5 days. Active treatment for symptomatic patients should be initiated within 48 hours of symptom onset.

<table>
<thead>
<tr>
<th>Select one</th>
<th>eGFR/CrCl (mL/min)</th>
<th>Adult Oseltamivir Treatment (13 yrs. and older)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>&gt; 80 mL/min</td>
<td>75 mg PO BID for 5 days</td>
</tr>
<tr>
<td></td>
<td>&gt; 30 - 60 mL/min</td>
<td>75 mg PO DAILY for 5 days or 30 mg PO TWICE daily X 5 days</td>
</tr>
<tr>
<td></td>
<td>10 - 30 mL/min</td>
<td>30 mg PO once daily X 5 days Please consult with internist for dosing regimens in patients with reduced creatinine clearance below 30 mL/min.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Select one</th>
<th>Weight (kg)</th>
<th>Pediatric Oseltamivir Treatment (&gt;1 - 12 years)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>&lt; 15</td>
<td>30 mg PO BID for 5 days</td>
</tr>
<tr>
<td></td>
<td>15 - 23</td>
<td>45 mg PO BID for 5 days</td>
</tr>
<tr>
<td></td>
<td>23 - 40</td>
<td>60 mg PO BID for 5 days</td>
</tr>
<tr>
<td></td>
<td>&gt; 40</td>
<td>75 mg PO BID for 5 days</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Select one</th>
<th>eGFR/CrCl (mL/min)</th>
<th>Oseltamivir Prophylaxis (13 yrs. and older)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>&gt; 80 mL/min</td>
<td>75 mg PO once DAILY until prophylaxis no longer required</td>
</tr>
<tr>
<td></td>
<td>&gt; 30 - 60 mL/min</td>
<td>30 mg ONCE DAILY until prophylaxis no longer required</td>
</tr>
<tr>
<td></td>
<td>10 - 30 mL/min</td>
<td>30 mg PO or (susp) - if can not swallow capsules once EVERY OTHER day until prophylaxis no longer required Please consult with internist for dosing regimens in patients with reduced creatinine clearance below 30 mL/min.</td>
</tr>
</tbody>
</table>

**PROPHYLAXIS**: Continue oseltamivir until the outbreak is declared over.
## Appendix C: Resident Influenza Immunization/Antiviral Pre-Printed Order Record

<table>
<thead>
<tr>
<th>Resident Name</th>
<th>Room</th>
<th>Date immunized against influenza this Season</th>
<th>Year of Pneumococcal immunization</th>
<th>Are annual pre-printed orders for oseltamivir prophylaxis &amp; treatment on chart?</th>
</tr>
</thead>
<tbody>
<tr>
<td>Last</td>
<td>First</td>
<td>YYYY MM DD</td>
<td>Yes</td>
<td>No</td>
</tr>
<tr>
<td>Person in Charge of Resident Influenza Immunization / Antiviral Preparation:</td>
<td>Tel</td>
<td>Date Updated</td>
<td>Are annual pre-printed orders for oseltamivir prophylaxis &amp; treatment on chart?</td>
<td>Yes</td>
</tr>
<tr>
<td>Resident Name</td>
<td>Room</td>
<td>Date immunized against influenza this Season</td>
<td>Year of Pneumococcal immunization</td>
<td>Are annual pre-printed orders for oseltamivir prophylaxis &amp; treatment on chart?</td>
</tr>
</tbody>
</table>
### HCW Influenza Immunization / Antiviral Contraindication Record

<table>
<thead>
<tr>
<th>Name</th>
<th>Regular</th>
<th>Auxiliary</th>
<th>Volunteer</th>
<th>Contract</th>
<th>Influenza Vaccination</th>
<th>Medical contraindication to influenza vaccine?</th>
<th>Date Updated</th>
<th>Medical contraindication to Oseltamivir?</th>
<th>Vaccine info. not disclosed</th>
</tr>
</thead>
<tbody>
<tr>
<td>Last</td>
<td>First</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Y</td>
<td>YYYY-MM</td>
<td>N</td>
<td>Y</td>
<td>N</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Y</td>
<td>N</td>
<td>Not disclosed</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
### FACILITY INFLUENZA READINESS REPORT For YCDC

(Please fill in all that applies to your facility)

<table>
<thead>
<tr>
<th>Date completed:</th>
<th>Facility Name:</th>
</tr>
</thead>
<tbody>
<tr>
<td>Director of Care:</td>
<td>Tel: Fax: E-mail:</td>
</tr>
<tr>
<td>Director of Care Alternate:</td>
<td>Tel: Fax: E-mail:</td>
</tr>
<tr>
<td>Medical Director</td>
<td>Tel: Fax: E-mail:</td>
</tr>
<tr>
<td>Medical Director Alternate:</td>
<td>Tel: Fax: E-mail:</td>
</tr>
<tr>
<td>Specimen Kit(s) Available?</td>
<td>Yes No</td>
</tr>
</tbody>
</table>

#### Staff and Others

<table>
<thead>
<tr>
<th>No. of people</th>
<th>No. immunized against influenza</th>
<th>No. with medical contraindication to Oseltamivir documented</th>
</tr>
</thead>
<tbody>
<tr>
<td>Regular staff</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Auxiliary staff</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Volunteers</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Others (identify)</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

#### Wards or Units in Facility

<table>
<thead>
<tr>
<th>Unit Name</th>
<th>Floor</th>
<th>No. of Residents on Unit</th>
<th>No. of residents on this unit immunized against influenza this season</th>
<th>No. of residents on this unit immunized against pneumococcus (<em>see note above</em>)</th>
<th>No. of residents on this unit with pre-printed order for prophylactic Oseltamivir</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Total for All Units:
Appendix F: WGH Lab Form: Request for Supplies for Respiratory Infection Outbreak

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

REQUEST FOR SUPPLIES
for Respiratory Infection (RI) Outbreak

________ VIRUS ISOLATION SWAB: For Virus Culture
  Includes: Universal Transport Media (UTM) and Copan sterile swab

________ PHSA Laboratories Virology Requisition (can be photocopied)

________ INFLUENZA LIKE ILLNESS OUTBREAK KIT
  For Facility Testing Only
  Includes:
  • 6 Virus Isolation Swabs with UTM
  • 6 PHSA Laboratories Virology Requisitions
  • 1 PHSA Laboratories Influenza-Like Illness (ILI)
    Outbreak Laboratory Form

Requestor Name:_________________________ Date:_________________________

Address:_________________________ Delivery Method:_______________

Phone:_________________________ Fax:_________________________

Fax Request to WGH Lab at 867-393-8772
Part Two: Outbreak Detection and Consultation

This section contains information and tools to assist facilities when they suspect an outbreak is caused by a respiratory infection. Facilities need to be aware of staff and patients who meet the case definition for a respiratory infection.

Surveillance for Respiratory Illness

RI outbreaks may occur at any time, but are much more frequent during the winter season due to common circulating viruses, including influenza. RI may have different presentations but a common symptom to watch for is a new or worsening cough.

Facility managers should make every attempt to ensure that both health care workers and residents are monitored for the presence of new or worsening cough and other signs of respiratory illness. As part of outbreak readiness, designate one staff member to be responsible for maintaining records for the RI outbreak.

Identifying an Outbreak

Case Definition for Respiratory Infection

Prior to lab confirmation of infection by a particular organism, the following case definition is used to identify possible cases of RI:

**New or worsening cough and**
- Fever greater than 38°C, or a temperature that is abnormal for that individual
- Additional symptoms may include myalgia/arthritis, fatigue, runny nose, sore throat, headache

**Note:** There may be groups within the population that would not meet this definition, yet are infected with influenza or another organism that can cause respiratory outbreaks. For example, young children, the elderly, the immuno-compromised, or those taking medications such as steroids, NSAIDS, or ASA, may not develop a fever or may have a lowered temperature as a result of the infection. For example, a temperature of <35.6°C or > 37.4°C in the elderly could be an indication of infection

Suspected Respiratory Infection Outbreaks

Early detection of respiratory outbreaks and implementation of control measures will reduce the impact on the health of both staff and residents/patients. Use a definition of a “suspected outbreak” to investigate cases for the presence of a causative organism and to facilitate the efficient implementation of control measures should this be considered likely.

Definition of a Suspected Respiratory Infection Outbreak

A RI outbreak is defined as:

- One laboratory confirmed case of an RI-causing organism and no other cases of RI.
  OR
- Two cases of RI occurring within a 7 day period in a geographic area (i.e. unit or floor) amongst staff and/or residents/patients. One of the two cases may be in a staff member epidemiologically linked to the resident/patient/client.
  OR
- More than one unit in a facility having a case of RI within 7 days.
When a suspected RI outbreak occurs in a facility, staff should:
- obtaining nasopharyngeal swabs on residents/patients meeting the criteria of a case definition
- be on the lookout for more cases and
- be ready to implement full unit wide control measures (contact/droplet precautions).

Reporting a Suspected RI Outbreak

The most responsible person in each residential care facility should review annually and clarify the details of how to report a suspected respiratory infection outbreak for their facility staff. This annual review is best done in early October of each year.

A suspected respiratory outbreak needs to be reported as soon as possible to the Director of Care or the facility designated most responsible person and the ICP, if applicable, who will ensure outbreak measures are put in place.

- The facility must notify Yukon Communicable Disease Control (Monday to Friday 08:30-16:30) at 867-667-8323. If an outbreak is identified after business hours (Monday to Friday 08:30 to 16:30), report it first thing on the next business day. On weekends between 08:30 and 16:30, notify the Chief Medical Officer of Health at 867-332-1160.
- Initiate staff and resident line lists (appendix K)
- Designate an individual to be responsible for daily outbreak tracking, including submission of the RI Outbreak Report Form to YCDC (at the start of the outbreak, daily by 09:30hrs and when the outbreak is declared as over) (appendix L)

Information required upon initial notification includes:
- total number of residents ill and the date of symptom onset
- total number of residents who reside on the affected unit
- total number of staff ill and the date of symptom onset
- total number of staff who work on the affected unit
- location of outbreak in facility
- number of swabs sent (this is to be reflected on the line list)
- general outbreak measures initiated
- staff immunization rates (estimate)
- resident immunization rates

YCDC’s Role in Facilitating Specimen Submission

- YCDC is responsible for notifying BCCDC to expect specimens that are part of a RI Outbreak Investigation. This notification serves to expedite testing.
- YCDC will send BCCDC one Respiratory Illness Outbreak Laboratory Form for each outbreak (up to six residents tested).
- The facility is asked to use the line list (appendix K) to record who has been swabbed and when. This must be done in a timely manner as YCDC uses this information to notify BCCDC.

Identifying Causative Organisms

Currently in Yukon, nasopharyngeal (NP) swabs are the preferred method used to detect several viruses that can cause respiratory illness.

- Respiratory Outbreak Kits are ordered from the Whitehorse General Hospital Laboratory (obtained from BCCDC). Kits should be ordered by September 15th of each year. To order please use the
When an institutional outbreak of a respiratory infection is suspected, specimens are collected for virus testing:

- One NP swab should be collected from each ill individual (residents and staff; a maximum of 6 different individuals who meet the case definition for RI Outbreak as per instructions in the swab kits.
- Swabs should be collected within 48 hours of symptom onset.
- Swabs should be sent as soon as possible by courier (or by other local arrangements approved by your facility) to the Whitehorse General Hospital Laboratory.
- A sample requisition is provided in appendix I

### Declaring an Respiratory Infection Outbreak

The Chief Medical Officer of Health is responsible for declaring the RI outbreak and determining when to close and reopen the facility to admissions and transfers. YCDC and the infection control practitioner (ICP) within the facility may be consulted as required.

The care facility should alert service providers and others as appropriate (e.g. EMS, Whitehorse General Hospital, oxygen delivery services, pharmacy) that the facility is under outbreak protocols.

When there are additional cases identified beyond those recognized within one of the three “suspect outbreak” definitions, an outbreak is said to exist. See Part 3.
Tools for Outbreak Detection and Consultation
Appendix G: Specimen Collection and Shipping

Specimen Collection Principles

- Respiratory specimens should be collected as per the instructions of the laboratory processing the specimen or as outlined below. (Detailed procedures for specimen collection are provided in appendix H)

- Wear personal protective equipment when collecting the specimens as required (i.e. gloves, mask, eye protection and gowns). This is to protect from a splash or a spray with a body fluid, substance, excretion or secretion, i.e. if the patient/resident coughs or sneezes during the procedure.

- Specimens should be collected only from symptomatic individuals within 48 to 72 hours of onset of symptoms, including members of the health-care staff if available. From acutely ill patients specimens collected after 72 hours may be acceptable.

- After collection, keep specimens at refrigerator temperature (2°C to 8°C) as much as possible after collection and during transport to the laboratory; this may be achieved by using an ice pack. Do not freeze the specimens.

- For institutional outbreaks, specimens from up to 6 symptomatic individuals should be initially submitted. If no etiological agent can be identified, further specimens may be sent.

- Always label the specimen with the patient/resident’s full name, date of birth, health care number and the date the specimen was collected.

- Complete the laboratory specific requisition form for each specimen (appendix I). These must be sent with the specimens to the laboratory.

- Update the line list to indicate which ill person was swabbed and when (appendix L).

- YCDC will complete the laboratory specific respiratory outbreak form and fax to BCCDC as instructed on the form.

- Transport to the laboratory according to established guidelines

(Adapted from PICNet, 2011)

Transportation of Specimens

- Assemble the swabs with the accompanying virology requisitions and ship in a cooler marked Diagnostic Specimens. Include an icepack if possible.

- Send the specimen as soon as possible to the Whitehorse General Hospital Laboratory to allow for shipping on the next business day.
Appendix H: Nasopharyngeal swab procedure

a) Assemble supplies:
   I. Sterile swab with transport media
   II. Personal protection equipment (i.e., mask, gloves, eye protection, gowns)
   III. Requisition and label, biohazard bag

b) Explain procedure to resident/patient.

c) Wash hands. Put on personal protection equipment to protect yourself in case the patient/resident coughs or sneezes while you are collecting the specimen.

d) If the patient/resident has a lot of mucous in his/her nose, this can interfere with the collection of cells. Ask the patient/resident to use a tissue to gently clean out visible nasal mucous before a swab is taken. Influenza viruses are located in cells that line the surface of the inner nose. The virus is not found in the mucous discharge.

e) Seat resident/patient in a comfortable bed. It is best if the patient is placed in a high-fowler’s position in bed with the back of the head supported. It may be necessary to have a second person available to assist with collection.

f) Swab Collection

Nasopharyngeal Swab

   • Enter a flexible swab several centimeters with a slow, steady motion along the floor of the nose (straight back, not up the nose) until the posterior nasopharynx has been reached (distance from nostrils to external opening of ear)
   • Place finger on the tip of the patient/resident’s nose and depress slightly
   • Once resistance is met (the swab should pass into the pharynx relatively easily), rotate the swab several times and withdraw the swab

   g) Break off top of swab (it will snap off)

   h) Place in transport medium.

   i) Remove PPE, wash hands.

   j) Ensure the specimen is labeled and transport to the laboratory with completed requisition (appendix I).

Complete the Accompanying Documentation

   • Send one Virology Requisition for each nasal swab taken (appendix I)
   • Update the line list to reflect the sample taken (appendix K)
**Appendix I: Virology Requisition**

<table>
<thead>
<tr>
<th>Section 1 - Patient Information</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>PERSONAL HEALTH NUMBER</strong> (or out of province Health Number and province)</td>
</tr>
<tr>
<td><strong>DOB</strong> (DD/MM/MM/YYYY)</td>
</tr>
<tr>
<td><strong>PATIENT SURNAME</strong></td>
</tr>
<tr>
<td><strong>ADDRESS</strong></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Section 2 - Healthcare Provider Information</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>ORDERING PHYSICIAN</strong> (Provide MOC #)</td>
</tr>
<tr>
<td>Whitehorse General Hospital</td>
</tr>
<tr>
<td>#5 Hospital Road</td>
</tr>
<tr>
<td>Whitehorse YT Y1A 3H7</td>
</tr>
<tr>
<td><strong>ADDITIONAL COPIES TO:</strong> (Address / MOC #)</td>
</tr>
<tr>
<td><strong>OUTBREAK ID</strong></td>
</tr>
<tr>
<td><strong>SAMPLE REF. NO.</strong></td>
</tr>
<tr>
<td><strong>DATE COLLECTED</strong> (DD/MM/MM/YYYY)</td>
</tr>
<tr>
<td><strong>TIME COLLECTED</strong> (MM/HH/MM)</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Section 3 - Test(s) Requested</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>PATIENT STATUS</strong></td>
</tr>
<tr>
<td>Hospital inpatient</td>
</tr>
<tr>
<td>History of contact with infection</td>
</tr>
<tr>
<td>Travel history</td>
</tr>
<tr>
<td><strong>SIGN/SYMPTOMS</strong></td>
</tr>
<tr>
<td>Date of Onset: (DD/MM/MM/YYYY)</td>
</tr>
<tr>
<td><strong>ASYMPTOMATIC</strong></td>
</tr>
<tr>
<td><strong>COUGH</strong></td>
</tr>
<tr>
<td><strong>FEVER</strong></td>
</tr>
<tr>
<td><strong>UPPER RESPIRATORY INFECTION</strong></td>
</tr>
<tr>
<td><strong>LOWER RESPIRATORY INFECTION</strong></td>
</tr>
<tr>
<td><strong>RESPIRATORY VIRUSES</strong></td>
</tr>
<tr>
<td>Nasopharyngeal swab</td>
</tr>
<tr>
<td>Nasal swab</td>
</tr>
<tr>
<td>Bronchoalveolar lavage</td>
</tr>
<tr>
<td>Nasal wash</td>
</tr>
<tr>
<td><strong>HERPES VIRUSES</strong></td>
</tr>
<tr>
<td>Genital lesion for HSV</td>
</tr>
<tr>
<td>Non genital lesion for HSV</td>
</tr>
<tr>
<td>Skin swab for Varicella-Zoster</td>
</tr>
<tr>
<td><strong>GASTROINTESTINAL VIRUSES</strong></td>
</tr>
<tr>
<td>Feces* for:</td>
</tr>
<tr>
<td>Rotavirus/Adenovirus</td>
</tr>
<tr>
<td>Norovirus</td>
</tr>
<tr>
<td>Other, specify:</td>
</tr>
<tr>
<td><strong>HEPATITIS VIRUSES</strong></td>
</tr>
<tr>
<td><strong>ENCEPHALITIS / MENINGITIS</strong></td>
</tr>
<tr>
<td>Cerebrospinal Fluid for:</td>
</tr>
<tr>
<td>Encephalitis (e.g. HSV-1, West Nile Virus)</td>
</tr>
<tr>
<td>Meningitis (HSV-2, Enterovirus)</td>
</tr>
<tr>
<td>Other, specify:</td>
</tr>
<tr>
<td><strong>MUMPS VIRUSES</strong></td>
</tr>
<tr>
<td>Buccal swab</td>
</tr>
<tr>
<td>Urine</td>
</tr>
<tr>
<td><strong>BIOPSY / AUTOPSY / OTHER TESTS</strong></td>
</tr>
<tr>
<td></td>
</tr>
</tbody>
</table>

For information on sample collection, please call Virus Isolation Lab at (604) 767-2623
Appendix J: Quick Reference Guide for Respiratory Outbreaks

**Trigger to launch a Respiratory Infection outbreak investigation:**

- 2 or more people with new or worse cough and
  - Fever greater than 38 degrees or is abnormal for that individual
  - Additional symptoms may include myalgia, runny nose, sore throat and/or headache

1. Report as a suspect RI outbreak to YCDC/CMOH
2. Initiate lab testing with nasopharyngeal swabs
3. Implement general RI outbreak control measures and initiate surveillance forms
4. Consult with YCDC (867-667-8323) and Director of Care, ICP (or most responsible person). If after hours, consult CMOH by calling 867-332-1160
5. Offer influenza vaccine to unimmunized residents and staff

**Laboratory Confirmed Influenza**

1. Continue with RI outbreak control measures
2. In consultation with CMOH, initiate anti-viral protocols if appropriate

- Maintain general outbreak control measures and continue with surveillance

- Review with YCDC:
  1. Any other virus detected
  2. Additional testing required
  3. Modification of outbreak control measures

Fax (867-667-8349) a summary report to YCDC daily for the duration of the outbreak Appendix L
## Appendix K: Line List - Resident

<table>
<thead>
<tr>
<th>Case Identification</th>
<th>Name</th>
<th>First</th>
<th>Last</th>
<th>Room</th>
<th>Gender</th>
<th>Date of Birth (MM/DD/YY)</th>
<th>Onset of Illness</th>
<th>Onset of Symptoms</th>
<th>Onset of Signs</th>
<th>Last Contact Information</th>
<th>Contact Person Name</th>
<th>Contact Person Phone Number</th>
<th>Exposed to</th>
<th>Date of Exposure (MM/DD/YY)</th>
<th>Source of Illness</th>
<th>Initial Location</th>
<th>Outcomes</th>
</tr>
</thead>
<tbody>
<tr>
<td>RESIDENTS</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Electronic Form available, contact Yukon Communicable Disease Control
Appendix K: Line List - Staff

Electronic Form available, contact Yukon Communicable Disease Control
## Appendix L: Respiratory Infection Outbreak Report Form

### Respiratory Infection Outbreak Report Form

<table>
<thead>
<tr>
<th>Facility Name:</th>
<th>Unit/Area:</th>
<th>Facility description:</th>
</tr>
</thead>
<tbody>
<tr>
<td>Facility Address:</td>
<td>Phone #:</td>
<td>Fax #:</td>
</tr>
<tr>
<td>Facility Contact Person:</td>
<td>Phone #:</td>
<td>Fax #:</td>
</tr>
<tr>
<td>Report provided by:</td>
<td>Designation:</td>
<td>Phone #:</td>
</tr>
</tbody>
</table>

**We are reporting:**

A. Initial outbreak notification [ ]

(please complete part A & D)

B. Daily outbreak update [ yyyy/mm/dd ]

(please complete part B & D)

C. Outbreak over [ ]

(please complete part C)

### Part A For initial outbreak notification please provide:

<table>
<thead>
<tr>
<th>Outbreak description</th>
<th>Residents/Patients</th>
<th>Staff</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total # in facility</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total # in affected area</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total # affected (meet case definition for RI)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total # cases admitted to hospital</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total # cases with pneumonia</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total # deaths among cases</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Vaccination status**

Total # in facility vaccinated prior to outbreak

Total # in affected area vaccinated prior to outbreak

Total # affected vaccinated prior to outbreak

Date of illness onset in the first (resident/patient) case [ yyyy/mm/dd ]

Date of illness onset in the first (staff) case [ yyyy/mm/dd ]

Common symptoms: ___________________________

Specimen(s) submitted? [ ] Yes [ ] No [ ] Unkn If yes, has this been entered onto the line list? [ ] Yes [ ] No

# Specimens sent today _______________________ Specimen type i.e. NP _______________________

Reported to MOH [ ] Yes [ ] No [ ] Unkn Date: [ yyyy/mm/dd ]

Electronic Form available, contact Yukon Communicable Disease Control
### Prevention and Control of Respiratory Outbreaks in Residential and Acute Care Settings

**Yukon Communicable Disease Control September 2013**

#### Part B

For daily outbreak update please provide:

<table>
<thead>
<tr>
<th></th>
<th>Residents/Patients</th>
<th>Staff</th>
</tr>
</thead>
<tbody>
<tr>
<td># new cases since last report</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total # of cases</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total # cases vaccinated prior to outbreak</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total # cases not vaccinated prior to outbreak</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Severe outcomes</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total # cases hospitalized</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total # cases with pneumonia</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total # deaths among cases</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

#### Have any specimens been submitted today?

- [ ] Yes
- [ ] No

#### If yes has this been enter onto the line list?

- [ ] Yes
- [ ] No

#### # Specimens Specimen type i.e. NP

#### If antivirals have been initiated please complete the following:

- Those who received antivirals in the affected area

<table>
<thead>
<tr>
<th>Residents/Patients</th>
</tr>
</thead>
<tbody>
<tr>
<td># of persons who have received antiviral treatment</td>
</tr>
<tr>
<td>Ill persons within 48 hours of onset of symptoms (treatment)</td>
</tr>
<tr>
<td>Ill persons &gt; 48 hours after onset of symptoms</td>
</tr>
<tr>
<td># of those not yet ill on prophylaxis</td>
</tr>
<tr>
<td>Length of prophylaxis (in days)</td>
</tr>
</tbody>
</table>

#### Part C

For outbreak over please provide:

<table>
<thead>
<tr>
<th></th>
<th>Residents/Patients</th>
<th>Staff</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total # of those ill</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Onset date of most recent case</td>
<td>yyyy/mm/dd</td>
<td></td>
</tr>
<tr>
<td>Date outbreak declared over by MOH</td>
<td>yyyy/mm/dd</td>
<td></td>
</tr>
</tbody>
</table>

#### Part D

Description of outbreak control measures/updates:

<table>
<thead>
<tr>
<th>New developments/concerns:</th>
</tr>
</thead>
<tbody>
<tr>
<td>Further actions required:</td>
</tr>
</tbody>
</table>
Part Three: Outbreak Management

Managing an Outbreak

This section contains information and tools to assist facilities in managing an outbreak caused by a RI. The initial outbreak management strategies are generic to all respiratory infection outbreaks and specific measures are applied when the causative agent is identified as influenza.

General Measures

*If a facility is experiencing a respiratory outbreak, non-immunized residents and staff who do not have contraindications to influenza immunization should be offered the vaccine.*

These measures are to be implemented when two or more people meet the definition for a respiratory illness. Following notification of causative agent or on the advice of the Medical Director and/or CMOH further additional control measures may be required.


1. Ill Residents:
   - Isolate in their rooms as much as possible while potentially infectious.
   - Provide meal tray service in room.
   - Ensure staff and visitors use appropriate infection control measures.

2. Ill Staff:
   - Recommend ill staff stay away from work for the duration of their acute symptoms or 5 days whichever is longer.
   - Practice good respiratory and hand hygiene on return to work.

3. Education:
   - Teach staff early signs of specific RI, how to prevent its spread and how to educate residents and their visitors.

4. Exclusion of health care workers:
   - Currently there is no policy in Yukon to exclude well health care workers (who have chosen not to be immunized) during influenza outbreaks. Despite this, such workers may be reassigned to different work duties during the outbreak as determined by the facility.

5. Restrict Admissions and Transfers:
   - In consultation with the CMOH, restrict admissions and transfers when two or more residents meet the definition for a respiratory illness. When the causative agent is confirmed as non-influenza, the MOH will assess and may lift restrictions based on case number/attack rate, clinical severity, and type of respiratory pathogen, if known.
   - Limit transfer of residents in or out of the facilities to those deemed to urgent in nature.
   - Notify receiving facility of the outbreak so they can initiate appropriate precautions.
   - Incoming resident or their decision-maker and the family physician should be made away of the outbreak and be able to provide informed consent regarding the admission.

6. Restriction of Activities:
   - Review group activities and consider cancelling or modifying to cohort ill residents with ill residents and well residents with well residents.
   - Weigh the importance of group activities to resident well-being against the needed infection control measures.
Consider cancelling non-critical volunteer services (e.g. hair dressing, animal visits)

7. Post outbreak signage
   - Use to alert visitors of the outbreak and precautions to use. Sample posters are included at the end of this section

8. Cohort Staff:
   - Assign groups of staff to work in either affected or non-affected areas but not both.
   - If not possible to cohort, staff should work first in unaffected areas or with well residents, using strict hand hygiene between residents and areas.

9. Implement infection prevention and control practices
   - Provide hand sanitizer at all entrances and exits with signage on how to use
   - Practice hand hygiene before and after contact with each resident.
   - Post signs noting infection control practices for both visitors and staff.
   - Droplet precautions can be found at the end of this section (appendix N)

For additional information on personal protective equipment (PPE) please refer to the BC PICNet Reference Document - Respiratory Infection Outbreak Guidelines for Healthcare Facilities (Feb 2011). Available at: http://www.picnetbc.ca/

10. Enhanced Housekeeping:
    - Frequent disinfection of commonly touched surfaces or items such as handrails, elevator buttons and door handles. Use a product approved for use on viruses
    - Provide sufficient receptacles for safe disposal of contaminated items such as tissues
    - Clean and disinfect all equipment between use for different residents or areas

11. Daily Outbreak Tracking:
    - Remain alert for new cases
    - Ensure the line list for ill residents and staff is up to date daily (appendix K)
    - Send YCDC (Fax 867-667-8369) the RI Outbreak Report Form by 0930 each day.
    - When the causative agent is confirmed as non-influenza the YCDC may decrease the reporting frequency (appendix L)

Additional Measures for RI outbreaks caused by Influenza A and/or B

12. Well health care workers:
    - Currently in Yukon there is no exclusion policy for health care workers who have chosen not to be immunized.
    - Consideration may be given for unimmunized HCWs to be reassigned (only if logistically feasible for the facility) for the duration of the outbreak unless taking antiviral medication.

13. Initiate antiviral medication (treatment and prophylaxis).

Antiviral Medication Usage

Health Care Workers

- All symptom-free, unimmunized HCWs should be offered influenza antiviral medication and/or vaccine as soon as possible.
- Antiviral prophylaxis should continue until the outbreak has been declared over (usually 8 days after the onset of illness in the last case) or until 14 days after immunization if the outbreak has not been declared over.
Health care workers may return to work as soon as they have received their first dose of antiviral medication.

Staff must obtain a prescription for the antiviral medication from their family physician. A sample letter for staff to take to their physician can be found in appendix Q. Facilities may issue this letter to their eligible staff members, who would then present it to their family physician.

**Oseltamivir**

The recommended oral dose of Oseltamivir for **prophylaxis** of influenza in persons ≥ 13 years of age is 75mg once daily.

The recommended oral dose of oseltamivir for the **treatment** of influenza in persons ≥ 13 years of age is 75 mg twice daily for 5 days.

Refer to appendix B for pediatric treatment and prophylaxis dosing guidelines.

**Renal Impairment**

- Availability of a recent result of a serum creatinine or creatinine clearance based on 24- hour urine collection is not required before starting Oseltamivir prophylaxis, unless there is reason to suspect significant renal impairment. (PICNet, 2011)

- Typically a serum creatinine is used to determine creatinine clearance. For individuals > 18 years of age, the eGFR result can be used as an estimate of creatinine clearance. In those <18 years of age creatinine clearance must be calculated by a physician.

- It is outside the scope of this guideline to outline antiviral recommendations for those individuals <13 years of age who have renal impairment.

The recommended oral dose of Oseltamivir for **prophylaxis** of influenza in persons ≥ 13 years of age is 75mg once daily until the outbreak is declared over with a creatinine clearance or eGFR >60 mL/min; no dose adjustment is necessary. For those with a rate of 30-60mL/min, reduce the dosage of Oseltamivir to 75 mg every second day or 30 mg once daily. For those with a creatinine clearance/ eGFR of 10-30 mL/min reduce the dosage of Oseltamivir to 30 mg once every other day until prophylaxis no longer required (Please consult with internist for dosing regimens in patients with rates below 30 mL/min). The discontinuation of prophylaxis will come at the discretion of the CMOH.

The recommended oral dose of oseltamivir for the **treatment** of influenza in persons ≥ 13 years of age is with creatinine clearance or eGFR of 30-60 ml/min, it is recommended that the dose be reduced to 75 mg once daily for 5 days or 30 mg twice daily for 5 days. For those with a creatinine clearance or eGFR of 10-30 mL/min reduce the dosage of Oseltamivir to 30 mg once daily for 5 days (Please consult with internist for dosing regimens in patients with rates below 30 mL/min).

**Surveillance of Side Effects from Antivirals**

As with any medication, surveillance of adverse side effects should be documented in the resident’s/patient’s chart. Particular or unusual concerns that arise should be reported to the Director of Care, Medical Director, or ICP as applicable.

More detailed information on the use of antivirals including indications for use, dosage, potential side effects can be found in the most current CPS.
Tracking an Outbreak

Once an outbreak has been identified, a running record of new cases, their symptoms and other information is required to determine if outbreak measures are effective.

Required Reporting:

1. Summary information is to be reported daily to YCDC using the RI Outbreak Report Form (appendix L) and if applicable to the Infection Control Practitioner.

   This form should be completed and faxed to YCDC at 867-667-8349, at the start of the outbreak, at the start of each day, by 09:30hrs (including weekends) and when the outbreak is declared over.

2. In addition to the RI Outbreak Report Form, the line list of ill residents and staff is to be updated daily and must be available either on a common shared drive (computer access) or faxed to YCDC at the start of each day by 09:30hrs (including weekends) refer to appendix L.

Declaring the Outbreak Over

The CMOH is responsible for declaring the outbreak over. As a general rule, influenza outbreaks are declared over if no new cases have occurred within 8 days from the onset of the last case (two incubation periods). When the outbreak is confirmed as non-influenza, the CMOH may declare the outbreak over sooner based on the type of respiratory pathogen, the case number/attack rate, clinical severity and the onset date of the last case.
Tools for Outbreak Management and Reporting
Appendix M: Sample Alert Poster for Visitors

STOP

WE ARE EXPERIENCING AN OUTBREAK

YOU MAY WISH TO RECONSIDER VISITING AT THIS TIME

VISITORS

PLEASE DO NOT VISIT IF YOU ARE ILL
Appendix N: Droplet/Contact Precautions

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

<table>
<thead>
<tr>
<th>GLOVES</th>
<th>gloves for contact with respiratory secretions</th>
</tr>
</thead>
<tbody>
<tr>
<td>GOWN</td>
<td>Wear a gown if contamination or soiling likely</td>
</tr>
<tr>
<td></td>
<td>Remove gown before leaving resident room or bed space</td>
</tr>
</tbody>
</table>

| MASK/PROTECTIVE EYEWEAR | Year procedure mask and protective eyewear within one meter of the resident. Eyewear should be worn if there is likelihood of spray from respiratory secretions |

<table>
<thead>
<tr>
<th>HAND HYGIENE</th>
<th>Before and after any contact with resident</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>After touching contaminated articles</td>
</tr>
<tr>
<td></td>
<td>After removing gloves</td>
</tr>
<tr>
<td></td>
<td>An alcohol hand product may be used for routine decontamination of hands unless hands are visibly soiled</td>
</tr>
<tr>
<td></td>
<td>Use soap and water if hands are visibly soiled</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>EQUIPMENT</th>
<th>Dedicate equipment for resident care</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Wash and disinfect equipment before removing from resident’s room or bed space</td>
</tr>
</tbody>
</table>

| RESIDENT TRANSPORT | Resident must wear procedure mask during transport |

| □ Notify receiving department of infection control precautions |

| RESIDENT Placement | Maintain a distance of at least two meters (6 feet) between residents |
|                    | Door may remain open |
**Appendix O: Donning and Removal Technique for Personal Protective Equipment**

**SEQUENCE FOR DONNING PERSONAL PROTECTIVE EQUIPMENT (PPE)**

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

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

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

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

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

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

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

**SEQUENCE FOR REMOVING PERSONAL PROTECTIVE EQUIPMENT (PPE)**

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

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

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

4. **MASK OR RESPIRATOR**
   - Front of mask/respirator is contaminated – DO NOT TOUCH
   - Grasp bottom, then top ties or elastics and remove
   - Discard in waste container
   - Final HAND HYGIENE
Appendix P: Sample HCW Antiviral Prophylaxis Letter to Physician

Date:

Dear Physician:

Re: Influenza Antiviral Prophylaxis for _________________________________

Due to an outbreak of influenza at their place of work, this susceptible person could be offered influenza antiviral chemoprophylaxis (Oseltamivir).

Prophylaxis must continue until the outbreak is over (usually 8 days after the last case) or 14 days after vaccination, if the outbreak has not been declared over before this interval.

Information on contraindications, precautions, adverse effects and dosage can be found in the product monograph for Tamiflu™ or Oseltamivir (antiviral) in the CPS.

Oseltamivir is effective against certain strains of Type A and Type B influenza.

If the antiviral is discontinued prior to completion of treatment, or if this person has a valid medical contraindication for the use of these antiviral medications it is the person's responsibility to notify the employer for possible reassignment or exclusion from work.

Thank you.

Insert applicable facility/unit manager name and signature
### Hand Hygiene with Soap and Water

<table>
<thead>
<tr>
<th>Step</th>
<th>Image</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Remove jewelry. Wet hands with warm water</td>
<td>![Image of hands being washed]</td>
</tr>
<tr>
<td>2. Add soap to palms</td>
<td>![Image of hands with soap]</td>
</tr>
<tr>
<td>3. Rub hands together to create a lather</td>
<td>![Image of hands rubbing together]</td>
</tr>
<tr>
<td>4. Cover all surfaces of the hands and fingers</td>
<td>![Image of hands covered with soap]</td>
</tr>
<tr>
<td>5. Clean knuckles, back of hands and fingers</td>
<td>![Image of hands with knuckles cleaned]</td>
</tr>
<tr>
<td>6. Clean the space between the thumb and index finger</td>
<td>![Image of thumb and index finger cleaned]</td>
</tr>
<tr>
<td>7. Work the finger tips into the palms to clean under the nails</td>
<td>![Image of fingers being scrubbed]</td>
</tr>
<tr>
<td>8. Rinse well under warm running water</td>
<td>![Image of hands rinsing]</td>
</tr>
<tr>
<td>9. Dry with a single-use towel and then use towel to turn off the tap</td>
<td>![Image of hands drying and turning off the tap]</td>
</tr>
</tbody>
</table>

Minimum wash time 10-20 seconds.
Acronyms (adapted from PICNet BC, 2011)

ABHR Alcohol based hand rub
BCCDC British Columbia Centre for Disease Control
CMOH Chief Medical Officer Health
EGFR Estimated Glomerular Filtration Rate
HCW Health Care Worker
ICP Infection Control Practitioner/Professional
ILI Influenza-like Illness
NACI National Advisory Committee on Immunizations
NP Nasopharyngeal
OHN Occupational Health Nurse
PHAC Public Health Agency of Canada
PHN Public Health Nurse
PICNet Provincial Infection Control Network of British Columbia
PPE Personal Protective Equipment
RSV Respiratory Syncytial Virus
RI Respiratory Infection
SARS Severe Acute Respiratory Syndrome
TB Tuberculosis
TIV Trivalent Inactivated Influenza Vaccine
WGH Whitehorse General Hospital
YCDC Yukon Communicable Disease Control

Glossary of Terms (adapted from PICNet BC, 2011)

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

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

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

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

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

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

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

**Cohort HCWs:** The practice of assigning specified personnel to care only for patients/residents known to be colonized or infected with the same organism. Such personnel would not participate in the care of patients/residents/clients who are not colonized or infected with that organism

**Contact Precautions:** Interventions to reduce the risk of transmission of microorganisms through direct or indirect contact. Contact Precautions include the use of gloves and gowns when giving direct care to patients/residents/clients or when in contact with their environment.

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

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

**Hand Hygiene:** A process for the removal of soil and transient microorganisms from the hands. Hand hygiene may be accomplished using soap and running water or by the use of alcohol-based hand rubs. Optimal strength of alcohol-based hand rubs should be 60% to 90% alcohol. Hand washing is required whenever hands are visibly soiled. Alcohol based hand rubs have limited effect on non-enveloped viruses (depending upon concentration) and spore forming bacteria (e.g. C. difficile).

**Health Care Worker (HCW):** Includes all disciplines who provide or support health care services to or around patients/residents. This includes, but is not limited to: emergency service providers, physicians, dentists, chiropractors, nurses, podiatrists, respiratory therapists and other allied health professionals, students, support services (e.g. housekeeping, dietary, maintenance, hairdressers), and volunteers.

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

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

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

**Occupational Health:** the specialized practice of medicine, public health and ancillary health professions in an occupational setting. Its aims are to promote health as well as to prevent occupationally related diseases and injuries and the impairments arising there from, and when work related illness or injury occurs to treat these conditions.

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

**Public Health Nurse:** Public Health nurses care for the physical and mental health needs of the community as a whole. They may work with families in the home, with community groups, in schools, in government agencies and at workplaces.
Residential Care Facility: Residential care facilities provide 24-hour professional nursing care and supervision in a protective, supportive environment for people who have complex care needs and can no longer be cared for in their own homes.

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

Surveillance: Systematic, ongoing collection, collation, analysis, interpretation and communication of health-related information that is disseminated in a timely manner to all who need to know and for which action may be required. Surveillance is a central feature of epidemiological practice, where it is used to prevent and control disease. Information that is used for surveillance comes from many sources, including reported cases of communicable diseases, hospital admissions, laboratory reports, cancer registries, population surveys, reports of absence from school or work, and reported causes of death. Surveillance approaches may include passive reporting, enhanced reporting and active case identification and follow-up.
References
