



British Columbia's H1N1 Pandemic Influenza Response Plan (2009)

Influenza Pandemic Planning for Small & Isolated Communities

February 3, 2010

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1. BACKGROUND

The spread of a Pandemic virus in 2009 to Canada was marked by observations of higher rates of illness and hospitalization by some First Nations or Inuit members in relation to their proportion in the population in outbreaks where data was available. Many of those severely affected lived in isolated communities. Similarly, in Australia, the rate of hospitalizations of Aboriginal people and Pacific Islanders during the influenza outbreaks caused by the Pandemic virus was about 3 to 8 times higher than the general population. Because the reasons for this are not clear, British Columbia has taken special measures to maximize the detection and response of Pandemic virus during the 2009/2010 season, both among First Nations, as covered by the BC Remote First Nations Communities Action Plan, and among small and isolated communities -- the focus of this document.

The rationale for having two documents relates to the fact that not all remote or isolated communities are First Nations, and that First Nations communities may have differing social conditions and infrastructures specific to them that need special consideration.

Small and Isolated communities represent locations that are distant from or have poor physical access to health care clinics that operate daily, or hospital emergency rooms or other clinics that provide service at weekends. As will be seen below, leaders in these communities will greatly help their co-residents manage influenza outbreaks by having reliable, established relationships with one or more Health Care Providers who can help them respond to the need for early detection and appropriate treatment of influenza as the Pandemic virus spreads to their area.

2. DEFINITION OF SMALL AND ISOLATED COMMUNITIES

"Small and Isolated Communities", (for the purpose of Influenza Pandemic Planning in BC), includes any community that is sufficiently isolated from the normal health care services found in urban areas that special efforts are needed to prepare for and respond to the introduction of a new influenza variant. Clusters

of geographically close communities may depend on a single community hub for delivery of appropriate health care.

The primary factors which will determine if a community is "Small and Isolated" for influenza pandemic planning are noted in the table below.

Primary Factors in determining if a community is "Small & Isolated" for Influenza Pandemic Planning

Physician (MD) or Nurse Practitioner (NP) normally present less than 5 days per week
--

AND

Round trip travel on an all-weather road takes more than 2 hours to reach the closest MD or NP
--

OR

The community can only be reached by air or boat
--

Access by road should include the availability within the community of reliable all-weather transportation accessible by residents without undue hardship, even if this necessitates community support in providing such transport

to an individual when indicated by an urgent health-care need.

The above definition recognizes that not all communities lacking 7-day a week presence of a

Physician, Nurse Practitioner or Registered Nurse (RN) would be considered "Small or Isolated". However communities lacking access to a Physician or Nurse Practitioner during the normal work week are considered to face extra difficulties in dealing with an Influenza Pandemic due to the irregular nature of contact between residents and a Health Care Provider.

The decisions on which communities are included under the definition are to be made

primarily by the Chief Medical Health Officer of each Regional Health Administration in BC. Once identified, it is desirable that appropriate Health Care workers and organizations, as well as community leaders and community Health Care workers, are informed of the special recommendations for such Small and Isolated Communities. All communities already defined as "Remote" in the BC Action Plan for Remote FN Communities" are automatically included.

3. STRATEGIC APPROACH

During an influenza pandemic, small and isolated communities are considered to require the special procedures described below. These procedures are intended to ensure that influenza cases may be identified and treated early enough to prevent progression to moderate or severe influenza illness. Also they should ensure that an RN specially trained to dispense antiviral prescription medication against influenza is normally in contact with the community. Such an RN may promptly identify and arrange for necessary medical consultation and/or evacuation of residents otherwise at risk of severe outcomes. Information appropriate for residents of such communities with regard to immunizations against influenza and pneumonia are included.

Protocols to resolve the issues of early detection and treatment of pandemic influenza are included as Appendices. Physicians and Nurses who provide care for residents of such communities should be engaged in advance discussions to ensure that the appropriate protocol can be implemented without delay.

The existence of these special protocols does not exclude use of 811 HealthLink BC or 911 Emergency Services Line if any resident feels this is needed. However the protocols described are intended to reduce the need for these telephone support services at a time when they are in any event expected to be in heavy demand.

4. ACTIONS ALREADY TAKEN TO SUPPORT SMALL & ISOLATED COMMUNITIES

As mentioned above, a full Action Plan is already in existence for Remote FN communities in BC. A synopsis of key elements in that plan, which are relevant for any small and isolated community, is presented here.

Remote FN communities were identified through discussions between BC Medical Health Officers, Health Canada, and First Nations Health Council representatives. Such communities were selected where it was felt that access to health care and medical supplies was more complex, due to their small size, location or transportation difficulties encountered compared to some larger or more urban First Nation communities.

The Action Plan was developed by, and its operation is coordinated through, a special Work Group for First Nations: this includes representatives of the BC FN Health Council, Health Canada's First Nation and Inuit Health BC program, and various BC government agencies including the Office of the Provincial Health Officer, the BC Centre for Disease Control (BCCDC), the BC Public Health Services Agency and Regional Medical Health Officers and the Aboriginal Leads in each Regional Health Authority.

Among the measures being adopted are:

1. Establishing responsibilities and clear lines of communications: this has been done to ensure that in emergency situations, as can occur in a Pandemic, there is a clear "chain of command and communication" between FN communities, Regional Health Offices and the First Nations and Inuit Health Branch of Health Canada (see Appendix 1).
2. Establishing weekly surveillance reports from First Nations Communities: this has been initiated across BC to rapidly record the occurrence of Influenza-like Illness (ILI) in many FN communities in different areas of BC. As described above, lines of communication have been set up to share information among the involved parties.
3. Detecting influenza viruses in remote locations: Point of Care testing with rapid diagnostic kits began in about 20 sentinel remote FN communities. The kits confirm within about 30 minutes whether outbreaks of ILI are due to influenza virus. Training of local HCWs was done by a new training video made for them at BCCDC with input from HCWs familiar with FN clinics. Detailed printed instructions on use of kits and interpretation results have also been prepared and distributed.
4. Pre-positioning supplies: Personal protective equipment for Health Care workers in FN communities has been pre-positioned by FNIH in regional stockpiles able to serve FN communities across BC. Amounts are based on usage in Manitoba during the large outbreaks in early summer there.
5. Pre-positioning prescription antiviral medicines: BCCDC in conjunction with FNIH and Regional Health Authorities shipped and secured prescription antiviral medicines at locations in or near FN communities considered by the Work Group to be "Remote". Adult and paediatric formulations have been provided.
6. Overcoming prescribing and dispensing barriers: Issues that raise barriers to rapid prescribing and dispensing prescription antivirals in FN communities, especially remote ones, have been identified and addressed as best possible.
7. Establishing a standard treatment algorithm: An algorithm how prescription antiviral

medicines are to be used in remote communities has been agreed and distributed. The conditions have been adapted from guidelines for the general public, but modified to recognize the barriers that exist in remote communities in dealing with medical emergencies. Hence prescription antiviral medicines will be available for a wider group of patients than is recommended in the general population in these isolated locations.

8. Preparing Health Education materials for FN communities: Simple instructions have been prepared for residents of FN communities, on self-protection from influenza, and how to respond if someone in the home becomes ill with it. The language is appropriate for the situation, and is intended also to help encourage residents to watch for early warning signs

and seek assistance before a health crisis develops.

As a part of the preparations for the influenza season, all Medical Health Officers have been alerted to the types of situations for which they should make advance plans. FN community Health Directors are now being informed also. It has to be recognized that Health Care workers may be sick or needed at home to care for their own families, and there will be the coincident occurrence of numerous outbreaks all requiring effort by the Medical Health Officers. Key to early detection and treatment of influenza is having in place a system that will ensure a Health Care worker is available who is authorized to administer prescription antiviral medication with minimal delay whenever an outbreak occurs in a FN community, however remote.

5. OTHER ACTIONS NEEDED TO SUPPORT SMALL OR ISOLATED COMMUNITIES

Many of the issues relating to rapid access to health care to treat ILIs that apply to Remote FN Communities apply similarly to any small and isolated community. Sometimes there is geographical overlap or very close proximity between non-First Nations and First Nations areas. As mentioned above, similarities can include greater difficulties in early detection and treatment of influenza illness away from urban clinics and hospitals. Guidelines for use of prescription antiviral medicines need to account for both the greater difficulty of access to early treatment, and the greater complexity of dealing with severe illnesses that might occur from

failure to effectively treat cases early, in small or isolated locations.

Accordingly, leaders in small and isolated communities are encouraged to work with health care provider's to enable the two specific actions described below to occur. In particular, this requires having contact with local or back-up Physicians, Health Care Nurses, and Community Caregivers. Residents of communities should also be educated by printed materials (such as the sample included in Appendix 6) or community meetings.

5.1 Authorized dispensing of Antiviral Prescription Medicine during the Pandemic period by trained RN, without a prescription, in the absence of a Physician or Nurse Practitioner

With advice from the College of Registered Nurses of BC and others, Clinical Care guidelines and a Decision Support Tool have been developed that in defined circumstances support actions by RNs who have participated in an appropriate educational program about Pandemic influenza. Once trained, these RN's will be permitted to identify persons with influenza-like illness in communities they serve, and dispense Oseltamivir originating from a governmental pandemic stockpile. The actions permitted are limited to periods that the appropriate Medical Health Officer has confirmed are during the Influenza Pandemic. They are described in full in Appendix 2.

It should be noted that the Decision Support Tool for Registered Nurses dispensing antiviral

medicine in any Small or Isolated communities, as described in Appendix 2 below, does include a non-medical risk factor related to social-environmental considerations, as well as medical risk factors. This has been done in recognition of the special circumstances that may exist with regard to supportive care or transportation barriers that may exist in Small and Isolated Communities in general. ***Thus, the protocol described here ensures that many residents of these other Small and Isolated Communities, even if they lack medical risk factors or signs of moderate or severe influenza illness, are still likely to have access to antiviral treatment, unlike the situation in the urban communities.***

5.2 Ensuring early treatment of Pandemic Influenza when an outbreak begins to occur in a community where a Physician or RN is present only intermittently

This procedure has been developed to deal with the situation where influenza illnesses occur in remote and isolated communities during periods between visits by a Health Care provider. It allows for the pre-dispensing of antiviral prescription medicines to caregivers in the community on behalf of persons who would meet the criteria for antiviral treatment if they develop an influenza-like illness. This is

consistent with directions from the BC Provincial Health Officer to Physicians with high-risk patients. The process to follow is described in Appendix 3, and may require the support of a physician using pre-printed order forms (see Appendix 4) or other types of authorization to a Health Representative of any resident. An RN can then act on the order to dispense the medication.

APPENDICES

Appendix 1: Organizational and Community Responsibilities

Medical Health Officers (MHOs) have the overall authority and responsibility for control and management of communicable disease outbreaks. In the case of influenza, Public Health services include representative participation in disease surveillance and sentinel diagnosis programs, immunizations, and outbreak prevention and control. In an influenza pandemic situation, there is the added responsibility for free provision of recommended antiviral agents such as Oseltamivir (Tamiflu) according to BC guidelines. Some Public Health actions may be adapted to better meet the special needs in remote communities. Local MHOs can make such decisions. They may find it helpful to discuss issues and their decisions with others such as local HCPs.

The First Nations and Inuit Health Branch of Health Canada (FNIH) is responsible for providing basic health care to many FN communities, including Preventive Health services such as immunizations. First Nations Health Services (those whose health care services funding has transferred from FNIH to the First Nations community or grouping) deliver their own health services.

Basic health clinics in remote communities may operate daily, weekly or less frequently. The level of training of the HCW at the clinic may vary, with some authorized to dispense prescription medications and others needing a Physician's instructions. Clinics provide for preventive services such as immunizations and pre- or post- natal routine checks of pregnant women and children.

Health Directors of each First Nations Community are residents who have been designated to communicate within and outside the community as needed to ensure adequacy of health care for the community. They are responsible for planning for Pandemic Influenza in their First Nations community.

Community pharmacies and Health Care providers in the local area nearest to each remote community provide additional support for individuals seeking more health care services than available within their own community when needed.

Remote health advice and emergency response is provided through HealthLink BC (811) and the Emergency Response System (911) which are available to all BC residents. This allows residents to connect to a nurse by telephone, or request ambulance service by road or, if needed, by air, to a hospital emergency room. Other BC systems identify hospital beds and arrange transfers to access for in-patient services if needed.

In an Influenza Pandemic it is possible there will be very large workloads on all components of the Health Care system. Further burdens will arise from staff being ill with the Pandemic Virus, or needing to care for ill family members. Contingency planning for dealing with these situations is needed by each community, or local health care provider which provides health care services to residents of remote communities who become acutely ill.

Other Public Health Responses to Influenza Outbreaks

Information and guidance about responding to an outbreak in a remote community (e.g. cancelling community events, school closings etc) will be provided by the MHOs to the communities in their region. There may be

instances where minor differences exist between Federal and BC approaches to an issue. Information distributed in BC (including in this document) conforms to BC policies, modified if necessary to meet the special needs of Small and Isolated Communities.

Appendix 2: Registered Nurse Decision Support Tool (Clinical Practice Guidelines): Identification & Early Treatment of Influenza-Like Illness Symptoms in the Absence of a Medical Practitioner or Nurse Practitioner

Purpose

This document provides registered nurses (RNs) with guidance in screening and early intervention for clients who appear to be experiencing influenza-like illness (ILI), under the following circumstances:

- 1) the local Medical Health Officer or the Provincial Health Officer has determined that H1N1 or other influenza is circulating in or around the client's community (this may be confirmed by the RN through official surveillance reports, such as from BCCDC or the BC Government H1N1 Pandemic H1N1 Influenza website for Medical Practitioners, and
- 2) a medical practitioner or nurse practitioner is not available to examine and diagnose the client.

The guidelines provide RNs with the decision-support tools required to screen and treat symptomatic clients with oseltamivir (Tamiflu®) antiviral medication, and refer clients to a medical practitioner (MP) or nurse practitioner (NP) when needed.

Through these efforts it is expected that RNs will assist in reducing the number of clients requiring hospitalization or treatment in an intensive care unit for influenza-related complications during an influenza pandemic.

The Nurses (Registered) and Nurse Practitioners Regulation under the *Health Professions Act* was amended by the Minister of Health Services, effective October 14, 2009. The regulatory amendment along with the College of Registered Nurses of British Columbia's (CRNBC) approval, constitute the authorization RNs require to dispense and administer oseltamivir for the purpose of treating conditions that are symptomatic of ILI, without an order from a MP or NP.

Background

In an influenza outbreak situation, laboratory diagnosis of ILI in an individual is not required to consider treatment. The presence of ILI in the home, community or neighbouring community, supported by laboratory diagnosis that pandemic influenza is occurring in the community or region is sufficient.

Potential Causes of ILI

Viral infection: Influenza A or B viruses, Adenovirus, Rhinovirus, Parainfluenza viruses, Human Coronaviruses, Respiratory Syncytial Virus (RSV) all cause many of the same symptoms. In an influenza outbreak situation, most cases of ILI are caused by infection due to influenza viruses.

Bacterial infection: Mycoplasma pneumonia, Chlamydia pneumonia, Bordetella pertussis, Streptococcus pneumonia, and Legionella may cause some symptoms similar to influenza virus infection. See the decision support tool for further guidance about how to respond to secondary complications such as respiratory bacterial infections.

Epidemiology

The incubation period, period of communicability and method of transmission of H1N1 influenza is similar to other human Influenza strains;

- Incubation period: On average 3 to 4 days but can range from 1 to 7 days
- Period of communicability: 24 hours before to up to 7 days after onset of illness. Shedding of the virus may be prolonged in children or immuno-compromised persons of any age.

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- Method of transmission: primarily droplet and direct and indirect contact
- Transmission by asymptomatic persons is possible but is more efficient when symptoms such as coughing, are present and viral shedding is high (i.e. early in the symptomatic period)

Symptoms of ILI

Symptoms of ILI include acute onset of respiratory illness with fever over 38^o C (80% of all cases) **and** cough with one or more of the following:

- Sore throat
- Fatigue
- Joint pain
- Runny nose
- Muscle aches
- weakness
- Headache
- Decreased appetite

Gastrointestinal symptoms (nausea, vomiting or diarrhea), may be present but are not diagnostic of influenza. Fever may be less common in infants under 1, seniors over 65, and those with chronic illnesses. Presentation may include exacerbation of chronic condition, confusion and/or disorientation.

Treatment with oseltamivir antiviral medication

Oseltamivir is effective in preventing progression of influenza to its most severe manifestations (such as pneumonitis, pneumonia or exacerbation of an underlying chronic medical condition) if administered within 24 - 48 hours after the onset of influenza symptoms. Oseltamivir may also be used after the 48 hour period, in persons who are already moderately or severely ill to reduce further progression.

Distribution of Oseltamivir

The BC Centre for Disease Control (BCCDC) has worked with Health Authorities and First Nations stakeholders to position oseltamivir in remote communities. RNs screening and dispensing oseltamivir from the provincial pandemic stockpile under these guidelines need to access medication through existing remote community distribution mechanisms.

Monitoring and Recording Antiviral Administration

RNs will be accountable for recording and reporting on the provision of antiviral medication in accordance with BCCDC guidelines/procedures on the *BCCDC Antiviral Medication Recording Form*. RNs are responsible for returning unused supplies, and assisting their employer to resolve issues about tracking the use of antiviral supplies originating from the BC pandemic stockpile issued to the RN.

Registered Nurse Decision Support Tool (Clinical Practice Guidelines): Identification & Early Treatment of Influenza-Like Illness Symptoms in the Absence of a Medical Practitioner or Nurse Practitioner

Step 1: History of Present Illness & Review of Systems

CLINICAL PRESENTATION OF ILI:
Does the client have symptoms that are consistent with ILI?
 Primary Symptoms:

- Sudden onset of cough & fever 38°C or higher*
 - Chills or "feverishness" may be used when temperature has not been recorded &/or has been treated within a few hours by the client at home using acetaminophen or similar OTC medications)

AND

- At least one of the following secondary symptoms:
 - Fatigue, muscle aches, sore throat, headache, runny nose, decreased appetite, joint pain or weakness

*Fever may be absent in infants under 1, people over 65 and the chronically ill. Presentation may include exacerbation of chronic condition, confusion and/or disorientation.

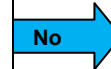


SEVERITY INDICATORS:
Does the client have any indicators of moderate to severe (in bold) influenza?

- Exacerbation/instability of chronic condition post onset
- Severe vomiting
- **Shortness of breath, wheezing, rapid or difficulty breathing**
- **Chest Pain**
- **Bloody or coloured sputum**
- **Fever 39°C or higher***

If the client is a child under 5 yrs, does he/she have any of the following additional indicators of moderate to severe (in bold) influenza?

- Not eating or drinking enough fluids
- Decreased urine output or other signs of dehydration (i.e. sunken fontanel in infants)
- Irritability: Not wanting to play or be held
- **Non-responsiveness and/or severe lethargy**
- **Not urinating**
- **Respiratory distress (i.e. grunting, strider, cyanosis, tachypnea, chest indrawing**
- **Febrile seizures**
- **Temp >38.5 in infant under 3 months**



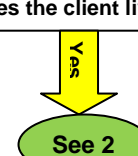
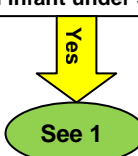
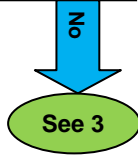
RISK FACTORS:
Does the patient have any medical risks?

- Age <5 yrs (especially < 2yrs) or >64 yrs
- Pregnancy (especially 2nd & 3rd trimester)
- Post-partum (up to 6 weeks)
- Body Mass Index over 35
- Adults & children with chronic health conditions including:
 - Cardiac disorders
 - Asthma, cystic fibrosis, bronchopulmonary disease, COPD
 - Diabetes & other metabolic diseases
 - Cancer
 - Immunodeficiency or immunosuppression
 - Renal disease
 - Anaemia or hemoglobinopathies
 - Other conditions that compromise the management of respiratory secretions or increase the risk of aspiration

Does the client have any non-medical risks?
 Assess client's overall situation: living conditions, lifestyle etc., and the availability of care if the clinical situation deteriorates quickly.

Does the client live in a remote or isolated area?

Step 3: Treatment Decisions



1 Moderate to Severe ILI with or without risk factors

- Provide oseltamivir antiviral medication soon as possible preferably within 24-48 hrs of symptoms
- Provide information on signs of worsening condition, symptom management, medication administration and infection control
- Inform client to seek immediate medical assistance if condition worsens
- Consult with a MP or NP if ILI is moderate. Consult and/or refer to a NP, MP or hospital if ILI is severe

2 Mild ILI with risk factors &/or other considerations

- Provide oseltamivir antiviral medication as soon as possible preferably within 24-48 hrs of symptoms
- Provide information on signs of worsening condition, symptom management, medication administration, and infection control
- Inform client to seek immediate medical assistance if condition worsens
- Consult with MP or NP for clients under 1, or with risks

3 No ILI or Mild ILI without risk factors

- **DO NOT provide oseltamivir**
- Inform client to remain at home until symptom-free for 24 hrs
- Provide information on signs of worsening condition, symptom management and infection control
- Provide advice for reassessment if condition worsens

Follow-up to assess client's condition: For infants under one year phone parents within 24 hours, for clients with risk factors or moderate ILI contact within 24-48 hours.
 Note: Infants and young children can experience rapid changes in their health condition; therefore it is extremely important to inform parents to watch for signs of deteriorating health status and to seek immediate medical assistance.

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Client Information

Provide client with information on managing illness, over the counter medications, infection control, signs of worsening condition and if applicable, medication administration.

Managing the illness

- Explain the diagnosis of ILI and that the expected course of illness is resolution of symptoms within one week
- Inform client to recuperate at home until they are feeling better (other than lingering dry cough which can occur in some cases) and client is able to resume all their usual activities
- Encourage client to increase bed rest away from others, if possible, until symptoms improve
- Reinforce the importance of maintaining adequate hydration and discuss the signs and symptoms of dehydration in infants, children and elderly
- Inform client on options for treating fever and symptoms with over the counter medications
- Explain the importance of creating a smoke-free environment
- Review and provide client with the following Health Files *H1N1 Influenza Virus (Human Swine Flu)* and *Self Care During an Influenza Pandemic* (see Other Sources of Information)
- Inform client to seek immediate medical assistance if condition worsens (see signs of worsening condition)
- Inform client to call the HealthLinkBC (call 811) if they have questions or need advice. This service provides nursing advice 24 hours a day 7 days a week

Infection control measures

- Explain the importance of reducing other people's exposure to respiratory secretions from coughing and sneezing
- Encourage clients who are actively sneezing or coughing to use tissues, or disposable surgical masks if available
- Inform client that masks are not normally recommended in the home setting, although clients who are very actively sneezing and coughing can use surgical masks when being attended by caregiver
- Demonstrate technique for coughing into elbow if tissues are not available
- Explain importance of disposing tissues in a garbage bag
- Provide education to client and caregiver on hand hygiene (e.g. before and after eating, after sneezing, coughing and toileting)
- Provide education on use of alcohol-based hand cleaners
- Recommend cleaning of commonly touched surfaces (e.g. doorknobs, counters) with household cleansers, after client use
- Recommend, where possible, that pregnant women, especially those in their late pregnancy, or those with chronic diseases NOT be caregivers

Signs of worsening condition

- Inform client of signs of moderate to severe ILI and to seek immediate medical attention from a medical practitioner, nurse practitioner or hospital if they experience severe (in bold) ILI. Signs include:
 - Exacerbation/instability of chronic condition post onset
 - Severe vomiting
 - **Shortness of breath, wheezing, rapid or difficulty breathing**
 - **Chest Pain**

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- **Bloody or coloured sputum**
- **Fever 39°C or higher**
- Persons 65 years and older do not always present with high fever; confusion &/or disorientation are more likely.
- Inform client of additional signs of moderate to severe (in bold) influenza in children, under 5, if appropriate. Signs include:
 - Not eating or drinking enough fluids
 - Decreased urine output or other signs of dehydration (i.e. sunken fontanel in infants)
 - Irritability: Not wanting to play or be held
 - **Non-responsiveness and/or severe lethargy**
 - **Not urinating**
 - **Respiratory distress (i.e. grunting, strider, tachypnea, chest indrawing)**
 - **Febrile seizures**
 - **Temperature greater than 38.5 in infants less than 3 months of age**
- Inform client to call the RN, 811, 911 or First Responders for assistance in obtaining emergency services if the client is unable to contact a medical practitioner, nurse practitioner or hospital and condition worsens.

Note: Potential complications of ILI include exacerbation of chronic conditions, viral pneumonitis, viral pneumonia, bacterial pneumonia or secondary infection and sepsis. In children bronchiolitis, croup and pneumonia are more common complications.

Over the counter medications

- Acetaminophen (Tylenol) and Ibuprofen (Motrin, Advil) can be used to reduce fever and relieve some symptoms. These products are recommended for children and most adults.
- Acetylsalicylic Acid (ASA, Aspirin) and Ibuprofen (Motrin, Advil) are not recommended for pregnant women as they can affect fetal kidney function.
- Acetylsalicylic Acid (ASA, Aspirin) is not recommended for children and youth <20 years as this product can lead to Reye's syndrome.
- Over the counter cold medications are not recommended for infants and children <6 years.
- Instruct on safe usage of over the counter medications. Inform clients that dosage recommendations for children less than 12 are dependent on the child's weight and should not exceed adult recommended doses.

Oseltamivir administration (for clients receiving oseltamivir only)

- Explain medication and side effects.
- Inform client to complete the full course of oseltamivir. Clients should NOT stop treatment because they start to feel better. This may reduce the value of the treatment for others in their family or community by allowing the development of resistance to the treatment among the influenza viruses.
- Inform client to call the HealthLinkBC (call 811) for advice regarding medication administration, side effects, etc before deciding to stop medication.
- Inform client that the most common side effect of oseltamivir is mild stomach upset or nausea.

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Oseltamivir dosage

Dosage Forms	Client Population	Treatment Dosing
Pandemic Supply	<i>Adults and adolescent ≥ 13 years</i>	75 mg twice daily for 5 days
	<i>For children 1 to < 13 years inclusive</i>	
<ul style="list-style-type: none"> • 75mg capsule (majority) • 45mg capsule • 30mg capsule 	>40kg	75 mg twice daily for 5 days
	>23 to 40 kg	60 mg twice daily for 5 days
	>15 to 23 kg	45 mg twice daily for 5 days
Commercial Supply	≤ 15 kg	30 mg twice daily for 5 days
	<i>For infants under 1 year</i>	
NOTE: The pandemic supply of oseltamivir will mainly consist of 75mg capsules.	6 to < 12 months	25 mg twice daily for 5 days
	3 to < 6 months	20 mg twice daily for 5 days
	0 to < 3 months	12 mg twice daily for 5 days

Note: Capsules can be opened by the patient/caregiver and mixed with a sweetened liquid (e.g. chocolate syrup) immediately prior to administration. If this is not an option, a 15 mg/mL suspension can be extemporaneously compounded using the 75 mg capsules. A 12 mg/mL commercial suspension is NOT available as part of the pandemic supply, but may be available in limited quantities in the commercial supply.

To compound a paediatric oral suspension from capsules refer to Antiviral Medications - Clinical Information for Pharmacists at: <http://www.hls.gov.bc.ca/pho/pharmh1n1.html>

Consultation and/or referral

- Consult with a MP or a NP on clients under 1 year, clients with mild ILI and risk factors and clients with moderate ILI.
- Consult with and/or refer to a MP, NP or a hospital any client who is experiencing severe ILI.

Client Monitoring and Follow-up

Complete a follow-up phone call to assess changes in client's condition within:

- 24 hours for clients under 1 year of age
- 24-48 hours for clients with mild ILI and risk factors, and clients with moderate ILI

Documentation

Complete the *BCCDC Antiviral Medication Recording Form* and submit to BCCDC for each client who receives oseltamivir. Follow employer protocols and/or procedures for recording and reporting oseltamivir administration in keeping with CRNBC documentation guidelines.

Other Sources of Information

Client information is available from:

BC H1N1 Pandemic Influenza <http://www.gov.bc.ca/h1n1/>

Public Health Agency of Canada: <http://www.FightFlu.ca>

HealthLinkBC <http://www.healthlinkbc.ca/kbaltindex.asp>

- H1N1 Influenza Virus (Human Swine Flu) <http://www.healthlinkbc.ca/healthfiles/hfile108.stm>
- Self Care During an Influenza Pandemic <http://www.healthlinkbc.ca/healthfiles/hfile94c.stm>

Registered Nurse Decision Support Tool (Clinical Practice Guidelines): Identification & Early Treatment of Influenza-Like Illness Symptoms in the Absence of a Medical Practitioner or Nurse Practitioner

References

BC website for health care providers on pandemic H1N1 influenza:

<http://www.gov.bc.ca/h1n1/healthcareproviders/index.html>

Public Health Agency of Canada <http://www.FightFlu.ca>

College of Registered Nurses of BC <http://www.crnbc.ca/>

Appendix 3: Ensuring early treatment of Pandemic Influenza when an outbreak begins to occur in a community where a Physician or RN is present only intermittently

The following steps are to be followed in such communities or other small or isolated communities where a Health Care Provider may not be available daily:

1. A BC Medical Health Officer determines that surveillance data (illness and/or virology diagnosis) confirms that pandemic influenza is extremely likely or proven to be present in the area where a community resident or leader requests medical treatment for influenza be provided that is otherwise lacking
2. Through the presence of an RN or physician, evaluation of symptoms is done and a physician order obtained for dispensing antiviral treatment to acutely ill people. In a remote community, all persons with ILI symptoms meeting the case definition are entitled to antiviral treatment if within 48 hours of onset and not showing reduction of symptoms already. If the setting is one where health care delivery is readily available, then dispensing antiviral medication can be limited to residents with more than a mild illness, or those with high risk medical conditions.

Assessment and treatment arranged by an RN not able to be present each day

If the continuing daily presence of an RN is not possible, then the following steps may be followed, subject to agreement of the Medical Health Officer that this is appropriate for the community:

1. The responsible RN obtains approval from someone with prescribing authority to dispense antiviral medication to any person in the community with high risk conditions who is likely to be exposed to the pandemic
6. The caregiver has the right at the time when initiating treatment after the RN has

flu in their home or by significant community contact. The prescribing authority is recorded on a stock of pre-printed order forms adequate to meet the potential demand from ill high risk residents. Pre-printed order forms and an algorithm for their use are provided in Appendix 4. The decision support tool included in the Clinical Care Guidelines for RNs above may also be used.

2. The RN should identify with help from the community leaders caregivers in the community. The caregivers may be home care nurses, other community health workers or health care representatives.
3. An adequate supply of adult and paediatric dosages of antiviral should be dispensed to caregivers on behalf of high-risk residents, in amounts expected to meet demand until the next visit by the RN.
4. The caregivers, who may serve many families, should be instructed by the RN while present on when and how to provide the treatment, including the symptoms indicating onset of influenza and the daily dosage to be given after that occurs.
5. Such “advance prescriptions” for early treatment can be recorded on the pre-printed order forms for each individual who needs and receives the treatment, as well as in due course on a master list (see Appendix 4 below) by the RN or physician. The medication dispensed on behalf of the high risk exposed individuals should be kept under safe storage conditions by the responsible caregivers who are present in the community when the RN or physician is not.

departed to phone the patient’s existing physician for a consultation about H1N1

pandemic influenza, under a new arrangement established for this purpose with physicians by the BC Government.

7. If the patient does not have such a physician or the physician cannot be reached, HealthLink BC (811) may be used by the caregiver or a community health worker or other health care representative on behalf of the patient to resolve any questions about treatment with the antiviral medication.
8. If there is a young infant involved, or there is any concern about the situation, a medical consultation is encouraged and medical evacuation may be arranged if needed through calling the 9-1-1 emergency system.

9. The RN responsible for the health care of persons in the community should be kept informed of all illnesses and treatments, at the latest at the next visit to the community, and ensure patient records are up to date.
10. It is also important to ensure that patients beginning a course of antiviral treatment complete it.

After the influenza season has ended

After the influenza season has passed, the RN serving the community should collect and record any unused antiviral dispensed to caregivers, as well as all documentation, to ensure they are stored and filed appropriately.

Appendix 4: Sample Pre-Printed Medical Order for Prescribing Antiviral or Other Medication in Remote Communities

Community: _____ Patient name: _____

MD Signature: _____ License no: _____ Date: ___/___/___

These instructions are valid until June 30, 2010 unless rescinded beforehand in writing

When the existence of an outbreak of influenza affects the community where the above-named patient resides, a course of an approved influenza neuraminidase inhibitor should be provided to the patient at the time the patient meets the following criteria, unless they have the contraindication of a known intolerance to the drug or severe kidney disease. (Patients are recommended to take Oseltamivir with food if possible to reduce side effects).

Case Definition of Influenza-like Illness (ILI)

Acute onset of respiratory symptoms with fever $>38^{\circ}\text{C}$ (which could be due to influenza virus). *Chills or "feverishness" may be used when temperature has not been recorded, and has been treated within a few hours by the patient at home using acetaminophen or similar over-the-counter (OTC) medications. Fever may not be present in infants < 1 year or the elderly.*

AND

Cough

AND

one or more of the following: sore throat, muscle aches, joint pain or weakness, fatigue, runny nose, headache, or decreased appetite. Presentation may include exacerbation of chronic condition, confusion and/or disorientation. Gastrointestinal symptoms (nausea, vomiting or diarrhea) may also be present, more frequently in children < 5 yrs, and these do not EXCLUDE ILI. However they are NOT a recognized symptom qualifying a patient as HAVING ILI.

AND

- Patient is within 48 hours of illness onset, (time limit does not apply if illness appears moderate to severe compared to other cases being seen)

The dosage provided and other comments are as follows:

Adults and children ≥ 13 years of age: Oseltamivir (Tamiflu) 75 mg orally twice daily for 5 days.

Children ≤ 12 years of age: Pediatric doses (>12 months) by weight, as per the table below.

Antiviral Use in Pregnancy: Data is limited on the safety and effectiveness of oseltamivir and zanamivir in pregnancy. However pregnant women are at higher risk for influenza complications than women who are not pregnant. **Therefore it is recommended that pregnancy not be considered a contraindication to oseltamivir or zanamivir use.** Oseltamivir is the preferred treatment for pregnant women because of its absorption and availability. Severity of disease, and benefit/risk analysis should be considered before prescribing.

Antiviral Use during Breastfeeding: Data is limited; however oseltamivir and zanamivir therapy is compatible with breastfeeding. (Toshihiro et al. CMAJ. Early Release June 16, 2009. 55-58).

Antiviral treatment dosing* recommendations for Adults and Children (Table extracted from IDSA guidelines for seasonal influenza, CID 2009; 48: 1003-1032: www.idsociety.org/content.aspx?id=9202#flu)

Age Group	Weight	Drug	Dosing Schedule
Adults and children ≥ 13 years of age		Oseltamivir (Tamiflu®)	75 mg orally twice daily x 5 days
Children age 1 to < 13 years of age	≤ 15 kg	Oseltamivir (Tamiflu®)	30 mg orally twice daily x 5 days
	>15-23 kg	Oseltamivir (Tamiflu®)	45 mg orally twice daily x 5 days
	>23-40 kg	Oseltamivir (Tamiflu®)	60 mg orally twice daily x 5 days
	> 40 kg	Oseltamivir (Tamiflu®)	75 mg orally twice daily x 5 days
Adults and children ≥ 7 years of age		Zanamivir (Relenza®)	2 inhalations twice daily x 5 days

* Dosages may need to be modified based on the presence of renal disease or other co-morbidities. Refer to product monograph for details and/or consult with an Infectious Diseases specialist or a Nephrologist.

Dosing recommendations for antiviral treatment of children younger than 12 months of age using oseltamivir (US CDC. *Interim Guidance on Antiviral Recommendations for Patients with Novel Influenza A (H1N1) Virus Infection and Their Close Contacts*, May 6, 2009: www.cdc.gov/h1n1flu/recommendations.htm)

Age	Dosing
< 3 months	12 mg orally twice daily for 5 days
3-5 months	20 mg orally twice daily for 5 days
6-11 months	25 mg orally twice daily for 5 days

Additional dosing information

Oseltamivir is provided in 75 mg capsules for adults. Capsules with 30 and 45 mg are available for children. All sizes are included in supplies sent from BCCDC for pre-positioning.

If children refuse to or are unable to swallow capsules, the capsules may be cut open and the powder mixed with chocolate milk. Low doses for infants can be prepared by a compounding pharmacy. Directions are available on BCCDC's website. If infant doses must be prepared on site, the HCP may need to make approximations when capsules are opened and mixed with a liquid such as chocolate syrup. For example, a 30 mg capsule can be used to mix 2 approximately 15 mg doses, and a 45 mg capsule can be used to make 2 approximately 20-25 mg doses. Having a needle-less syringe for oral administration would be helpful.

Appendix 5: Influenza Illness and Treatment Record Form

BCCDC Antiviral Medication Administration Form



BC Centre for Disease Control
AN AGENCY OF THE PROVINCIAL HEALTH SERVICES AUTHORITY

PLEASE FAX THIS FORM TO VACCINE AND PHARMACY SERVICES WHEN AN ANTI-VIRAL MEDICATION HAS BEEN USED.

FAX: (604) 775-2716

PATIENT DEMOGRAPHICS					
Surname:				Address:	
Given Name (s):					
Middle Name(s):					
Personal Health Number (PHN):					
Other ID / Reference # :					
Date of Birth (yyyy / mm / dd)	Sex	Weight	Allergies	Telephone	First Nations Nursing Station (if applicable)
	<input type="checkbox"/> Male <input type="checkbox"/> Female	_____ lbs _____ kg		()	

MEDICATION				
Drug	Dosage	Quantity Dispensed	Date Given	Lot # / Expiry Date Given
Tamiflu 75 mg	75 mg bid x 5 days	10 capsules		
Tamiflu 45 mg	45 mg bid x 5 days	10 capsules		
Tamiflu 30 mg	30 mg bid x 5 days	10 capsules		
Relenza	2 x 5 mg blister inhalations, bid x 5 days	20 blistered doses		

PRESCRIBER'S NAME	
-------------------	--

Signature:	
Telephone:	
Date:	

Vaccine and Pharmacy Services
855 West 12th Avenue Fax
Vancouver, British Columbia
Canada V5Z 4R4

Tel 604 660 6000
Fax 604 775 2716
or 604 775 2718
www.bccdc.org

A research and teaching centre affiliated with UBC

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Appendix 6: Pandemic Flu - What You Can Do If You Live In a Small or Isolated Community

Trying to stop getting infected

Those who do NOT have the 'flu should stay away from crowds, and especially from people who are ill, as much as they can, to stop being infected.

When caring for a family member who is sick with 'flu, try to keep away from them most of the time, especially while they are coughing or sneezing.

People who were ill with 'flu can start returning to normal activities after feeling better for a day or two. It is better to wait a few more days before visiting a high-risk person.

Simple things like washing hands often, using plenty of soap and water, can help stop 'flu spreading to others. Soap and water are best for cleaning hands; "Hand sanitizers" are only needed if there is no soap and water available.

If you live where water must be boiled before drinking it, the water is still fine for washing with soap.

It is also a good idea to use soapy water or disinfectant liquid to wash things like door handles, water faucets or other places that are often touched with hands.

Anyone with 'flu who is sneezing or coughing should try to cover their face with a washable or disposable tissue or cloth. Sneezing into the arm is another way to stop spreading the virus to other people nearby.

After coughing or sneezing into a hand, the hand should be washed afterwards with soap and water to remove 'flu virus particles.

Keep hands away from the nose, mouth or eye.

Do not share things like cups, plates, toothbrushes etc. with people who are ill with 'flu. Let others know you are ill.

People who have flu symptoms - fever, **and** cough or sore throat, as well as body aches or fatigue – should call the nearest nursing station or health centre to see if they should come in for a check-up and possibly obtain some anti-'flu medicine. Let the Health Care Worker know how many people are ill in the home.

Risks of more serious illness and warning signs

Be aware of special risks and warning signs: for example, babies and young children with 'flu might not have a fever. They are too young to tell you how they feel. If a baby or young child seems very tired and is coughing, wheezing or gasping for breath, check with your health worker.

Women who are in the last few months of pregnancy or who have recently given birth may have more problems from 'flu.

People with weakened hearts or lungs, bad kidneys, diabetes, asthma and so on, can have more severe medical problems from the 'flu.

Even though very few people older than about 60 years get ill with this Pandemic 'flu, if they do they might be more ill than younger people.

Some of the main warning signs of more serious illness in adults are:

Having trouble breathing, because of chest pain or being “short of breath”

Coughing yellow or green sputum suggests an antibiotic may be needed

If either happens, if you are pregnant, or if you feel a heart or other condition getting worse, make sure you get in touch with a health care worker right away.

Some of the main warning signs of more serious illness in infants & children are:

• Drinks less than usual • Has dry diapers or not peeing much • Sleeping more than usual

• Stays irritable • Does not want to be held • Does not want to play

If your infant/child has these symptoms, get in touch with a health care worker right away.

If there is no health care worker where you live, and you want advice on what to do, call 811 to talk to a nurse.

In emergency call 911. It is a good idea for community leaders to make sure now that 911 operators know how to reach your community quickly in an emergency.

If you have internet access, you can find more information at: www.fightflu.ca

Appendix 7: Immunizations Logistics and Priorities

The vaccines described here are given free by the government because of the health benefits they bring. About 3 in 4 persons vaccinated will be protected from the strains in the vaccines.

All vaccinations are voluntary and people must give their consent to be vaccinated. People with questions about vaccines and their safety should ask the Physician, Nurse Practitioner, or Registered Nurse before being vaccinated.

Most people who live in small or isolated communities prefer to receive immunizations from the Health Care Worker or clinic they see for other needs. Immunization program plans should respect this wish when feasible. First Nations members may be vaccinated while away from their community. There are no fees anywhere in BC to get any of the vaccinations against influenza or Pneumococcal pneumonia.

1: Vaccine to prevent Pneumococcal pneumonia

People with more risk of pneumonia who have not yet been vaccinated with Pneumococcal pneumonia vaccine should receive this vaccine. Some Health Authorities will give it at public clinics at the same time as influenza vaccine(s). In other areas it will be given only through private physicians. Ask your doctor, nurse practitioner or nurse to find out if you should get this vaccine, and if you need it, how you can get it.

2: Vaccine to prevent seasonal Influenza

Persons who are high risk of complications from seasonal influenza are being offered

this vaccine containing the recommended strains of influenza A (H1N1), A (H3N2) and influenza B. Note that the influenza A (H1N1) virus in the seasonal influenza vaccine is NOT the same as the new Pandemic strain of influenza (H1N1) virus and is not believed to protect against it.

People getting both the pandemic and the seasonal influenza vaccines this year may get them both at the same time, but in separate arms. It is often more convenient for patients and Health Care staff to have both vaccines given at one visit.

One dose of seasonal vaccine will be enough for older children and adults, but children <9 years should have two doses if this is the first year they receive influenza vaccine.

3: Vaccine to prevent Pandemic influenza

As of November 19, 2009, the H1N1 pandemic influenza vaccine was made available to the general public. Only one dose is needed for adults. Information pertaining to the number of doses for children, the adjuvant and non-adjuvant vaccine, scheduling, etc. is available at the BC H1N1 Pandemic Influenza Website: <http://www.health.gov.bc.ca/pandemic/response/>.

The information above is subject to change if necessary for any reason. More information may be found at

<http://www.immunizebc.ca/ImmVacPrevDis/influenza.htm>