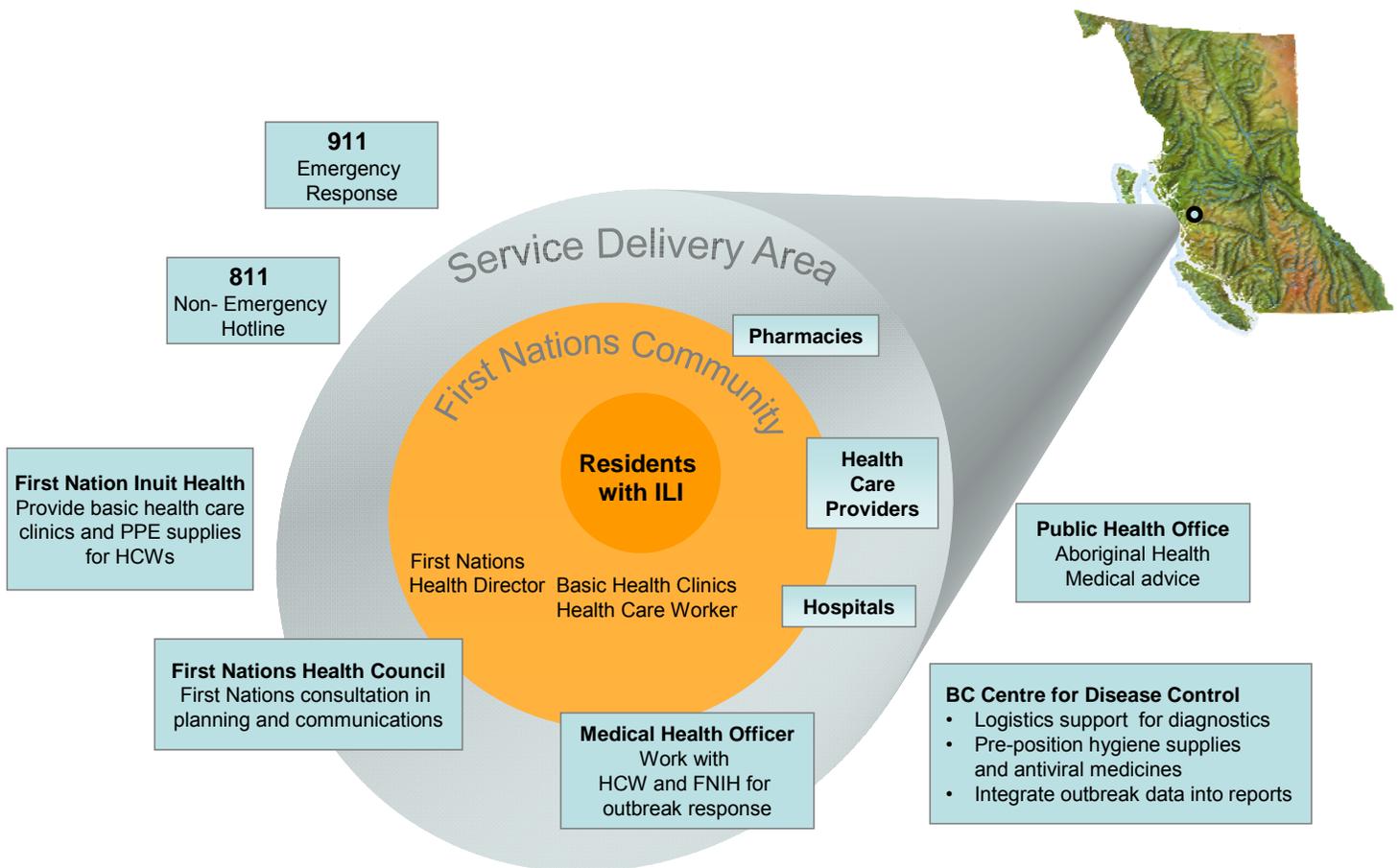


# Pandemic Preparedness and Response for Remote First Nations Communities in British Columbia

## Action Plan – 2009/2010



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## **IMPLEMENTING THIS ACTION PLAN FOR REMOTE COMMUNITIES - FIRST NATIONS**

A “sign-off” at the operational level by representatives of the Tripartite group of organizations will be conducted on or about before September 15<sup>th</sup>. The following steps are then to be completed to ensure implementation occurs.

- Responsible HCWs and alternate HCWs identified, and their contact information shared among agencies
- HCWs and HDs in FN remote communities informed of the essential details of appropriate aspects of the Action Plan by Tripartite representatives
- Shipping POC tests and training materials’
- Completion of training of all nursing staff wishing to have the capacity to themselves use POC kits for on-site confirmation of outbreaks.
- Completion of pre-positioning of prescription drugs, including adequate supplies of paediatric formulations, and of Personal Protection Equipment for HCWs.

After September 15 2009 the following actions will continue or commence:

- Regular weekly illness surveillance reporting in place in all of remote FN communities
- Weekly update conference call established among agencies to share information on the emerging situation and response when outbreaks occur or as needed for good coordination
- POC diagnostic kits being used in Sentinel sites and by RHAs
- System in place for use of pre-printed orders, where needed, to ensure prescription antiviral medicine use authorized for RNs needed to dispense the medicines in all Remote FN Communities
- Health Educational materials distributed to residents throughout FN remote communities
- First Nations Remote Communities locations and contact information shared by individual FN communities with Emergency Medical Services Operations Centers (911) or other local service providers when the community has experienced previous difficulty with being reached

By October 1 2009

- Review of operations and implementing modifications as needed, in time for Formal sign-off by highest level Tripartite representatives

By November 1 2009 (If resources are identified and approvals obtained for this activity to proceed)

- Arrangements for protocols, approvals and organization of seroprevalence and vaccine immunogenicity completed with applications for permissions from required agencies and FN communities underway. In order to perform this work, a formal protocol will be developed by the Working Group in conjunction with colleagues in FNIH and BCCDC, and approval sought from FN representatives. Any FN person volunteering to participate

would first have to give written consent, and know that the information shared with others would never allow them to be identified. The study will adhere to local research ethics (OCAP) and the Tripartite Data & Quality Sharing Agreement. Agreements would need to cover the following actions:

- Collecting sera and testing seroprevalence in selected communities
- Collecting and testing post vaccine sera (e.g. by December 2009)

By proposed deadline May 1 2010

- Summarizing findings
- Evaluating the program from the perspectives of FN and Public Health officials to identify needed improvements
- Deciding what aspects to continue after the first year of a Pandemic influenza virus
- Communicating with FN communities by an agreed process

## **PURPOSE**

The purpose of the main body of this document is to define the rationale and provide a managerial-level framework of policies and actions to reduce the impact of Pandemic influenza in remote BC FN communities during the fall and winter of 2009/2010. Specific appendices include technical descriptions of procedures, or reporting forms, to assist local health workers and community leaders in implementing the actions approved by higher-level health managers.

## **SCOPE**

Various organizations will participate in implementing activities described in this document. They represent First Nations, as well as BC and Federal Agencies with responsibility for Health Policies and Health Care Delivery related to a Pandemic of Influenza. Stakeholders to this process who have been or will be consulted about developing or implementing the Action Plan include:

- First Nations Health Council (FNHC)
- Health Directors (HDs) of individual First Nations Communities participating in the surveillance
- Aboriginal Health Physician Advisor to the Provincial Health Officer, Ministry of Healthy Living and Sport
- BC Centers for Disease Control (BCCDC)
- The BC Provincial Health Services Administration (PHSA)
- Medical Health Officers (MHOs) and the Aboriginal Health leads of each Regional Health Authority (RHA)
- Health Canada's First Nations and Inuit Health (FNIH)-BC Region
- Nurses (Health Care Workers, or HCWs) providing medical services and supplies to FN communities

## **THE CONSULTATIVE PROCESS**

Early in the period after the new variant H1N1 virus was detected, it was recognized in BC that historically, remote communities suffered disproportionately in the 1918 Pandemic. A small working group was assembled of staff from within the Office of the Provincial Health Officer, BCCDC, BC Regional Health Administrations and the FNIH to develop an Action Plan for improving the response to the anticipated Pandemic in remote First Nations Communities. Under the leadership of the Aboriginal Medical Health Advisor, the work group was expanded to include representatives of the BC First Nations Health Council, and development and revision of the Action Plan was done as a tripartite activity.

The consultative process helped identify many barriers to effective identification and treatment of influenza in remote FN communications, to each of which answers were sought. Communication lines were established, and lines of responsibility defined. As one example of the joint input, a representative of the FN reviewed a training video for use of point of care

diagnostic test kits, that are being provided to about 20 remote FN communities to help in early detection of virus. That FN person identified as issues that needed explaining to FN communities the negative connotations when the person collecting specimens wore a gown. It was also clear that more effort was needed in explaining the role of POC kits at this time. These comments will be taken into account during the actual training sessions for HCPs who will learn how to use the kits. In due course the FN comments can be included in revised audio-visual training material, updated on the basis of the first year's practical experience in FN communities.

## **ACTION PLAN ELEMENTS AND INFORMATION**

Key elements of the actions to be undertaken are:

- Weekly surveillance for influenza like illness (ILI) during the regular influenza season
- Use of Point of Care (POC) diagnostic tests in sentinel communities to help detect or confirm ILI outbreaks
- Preparation to respond to ILI using standard approaches and ensuring there is flexibility to meet individual circumstances

Remote FN communities and Community Health workers will find in the document:

- Information about hygiene practices to minimize contamination and decrease exposure to ILI, and to educate residents about warning signs for severe disease
- Forms and guidance for collecting ILI surveillance data and reporting to relevant BC organizations, as well as guidance and sample forms to be completed when Influenza A and/or B is confirmed and treated
- instructions for using POC testing kits (only relevant to selected sentinel communities)
- Information on pre-positioning of antiviral medications and guidelines for accessing and using them
- Advice regarding cancellation of community functions if needed as a result of confirmed ILI

## **RESPONSIBILITIES**

**Medical Health Officers (MHOs)** have the responsibility for control and management of communicable disease outbreaks and have statutory authority with the Public Health Act to fulfill this function for all BC citizens living both on and off reserve. 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 (or other) FN communities. Local MHOs can make such decisions and they may find it helpful to discuss issues and their decisions with others such as local HCWs, or the Aboriginal Health Physician Advisor in the Provincial Health Office to ensure all parties send the same message.

**First Nations and Inuit Health-BC Region of Health Canada (FNIH)** is responsible for providing basic health care to some FN communities, including Preventive Health services such as immunizations. Other FN communities have opted to make their own arrangements for this basic health care. In either case, acute health care needs beyond the most basic ones are usually met by accessing Health Care Providers (HCPs) in urban communities (i.e. physicians, pharmacies and hospitals). This may be more difficult for residents of remote FN communities. The FNIH Health Protection Communicable Disease Unit is also involved in communicable disease control and outbreak response with select First Nations on-reserve.

**Nursing stations and/or health centres** in First Nations' communities may operate daily, weekly or less frequently. The level of training of the Health Care Worker (HCW) at the centre may vary, with some authorized to dispense prescription medications and others needing a physician's instructions. For the purposes of this Action Plan the term **Health Care Provider** refers to only a Community Health Nurse or a physician, whichever is available.

**First Nations' Communities will implement pandemic plans, including: identifying any gaps in service and seeking an appropriate remedy.**

**Health Directors** of each First Nations Community are persons responsible for managing and administering the local community health services by planning, organizing, managing, and evaluating the development and administration of health care services. They provide a point of contact for pandemic related surveillance and reporting and ensure adequacy of health care for the community.

**Local primary care physicians, pharmacies and other health care professionals such as in hospitals or other medical service facilities** in the area nearest to a remote FN community provide additional services, over and above basic health centres situated in FN communities. These services would be similar for residents of urban FN communities or other BC residents. FN community residents should be known to a physician or physician assistant in order to receive medical attention beyond that provided through a nurse in their community. Some FN communities employ or contract with their own physicians or physician assistants for such services. Others utilize physicians nearby who are employed by the Province on a salary basis. Such contracts with the Province cover the cost of all medical support the physician or physician

assistant provides to persons in their service area, including FN communities. They can provide telephone consultation and prescriptions (e.g. approve pre-printed orders for antiviral prescription medicines) to community health nurses on behalf of patients those nurses, such as in an FN community.

**General Practitioners** also exist who are paid on a fee for service basis which would include services to residents of FN communities. There is a fee schedule for certain telephone consultations about patients in rural areas. It has been agreed that for the Pandemic period this fee can be used to reimburse a physician for consulting with a community health nurse (instead of just a community health representative, CHR) who is attending a patient in a remote FN community. This telephone consultation could determine if treatment with a prescription antiviral medicine is appropriate, and if so authorise a pre-printed order and prescription to be dispensed by the community health nurse for such treatment. When a province-wide reimbursement fee comes into effect for this Pandemic response, that fee schedule will be used instead.

**Non-emergency remote health advice** is provided over the phone by HealthLink BC 8-1-1 or online at [www.HealthLinkBC.ca](http://www.HealthLinkBC.ca). The Emergency Response System 9-1-1 by phone exists for emergency health services to remote FN communities as for other communities. It links to medical evacuation services if needed. In certain remote communities a designated person in the community makes the call for medical evacuations to 9-1-1. FN Health Directors are encouraged to ensure all residents know the system to use in that location.

During an Influenza Pandemic it is possible there may be greater difficulties to access the health care system as a result of high demand and ill health among care providers or their dependent families. So contingency planning is needed by each FN community, service providers (e.g. FNHI) and local health care providers.

## **INFORMATION SHARING AND LINES OF COMMUNICATION**

**Situation analysis for remote FN communities:** Weekly teleconferences will take place with participation between the key stakeholders to provide up-to-date information about influenza surveillance, the implementation of the H1N1 Action Plan, and any changes that may be needed with the plan and guidelines.

**Lines of communication:** Appendix 13 provides the recommended contact information for each participating organization that assisted with the development of the plan.

- **CONTACTS:** There will be a designated primary contact nurse or other health care worker and/or provider, and if possible a secondary contact as well as the local Health Director. A contact list will be shared with FNIH-BC Region, MHOs in the RHAs, the Aboriginal Health Physician Advisor in the Provincial Health Office and the FNHC.
- **INFORMING FN COMMUNITIES ABOUT INFLUENZA:** Updated information about the occurrence of influenza within a region and general guidelines will be provided by the MHOs to the FN Health Directors within their region.
- **PREPOSITIONING HYGIENE SUPPLIES AND PERSONAL PROTECTIVE EQUIPMENT FOR FN REMOTE COMMUNITIES:** Supplies will be provided to nursing stations and/or health centres from FNIH stockpiles, and with the support of BCCDC, basic hygienic supplies will be pre-positioned as needed. Decisions on quantities and adequate storage, taking into consideration accessibility, are to be determined locally with input from FNIH, HCWs, MHOs and FN Health Directors. This process will take into consideration the specific circumstances of the FN community.
- **PREPOSITIONING ANTIVIRALS AND ESTABLISHING THE SYSTEM FOR THEIR USE:** With the support of BCCDC, local stocks of antivirals from the Provincial Pandemic supply, normally to permit treatment of 25% of residents in each remote FN community, will be stockpiled where they are secure yet accessible at short notice when needed. The supplies provided initially contained adult dosages (75 mg). These stocks are to be updated with paediatric dosages (30 and 45mg capsules). Limited supplies of pre-mixed suspension are available from BCCDC. More information is provided in Appendix 6 on administering antivirals. Every remote FN community must have a health care provider (HCP) available if an outbreak occurs who would be authorized to prescribe or supply the approved antivirals. When necessary, a pre-printed authorization form (see Appendix 8) may be used by an authorized Community Health Nurse to promptly provide the prescription antiviral medication. The FN Health Director of participating communities should ensure a framework for this process is outlined as soon as possible. Special arrangements should be developed in advance by the MHO for remote FN communities with no accessible HCP, to outline a process to respond to the occurrence of ILI for a prompt authorization and supply of prescription antiviral medicines.

- **SURVEILLANCE FOR INFLUENZA:** The HCP will communicate about surveillance, uncommon cases or health care needs, and positive diagnostic test results, to the MHO, regardless if the HCP is supported by FNIH. **If the HCP visits infrequently and an ILI requires medical attention, the HD or other responsible person should contact their local HCP or HealthLink Line 8-1-1 to determine whether further actions are needed and how to obtain acute health care from the BC Health Care system.** Where the HCP is provided by FNIH, the HCP will communicate to FNIH's Health Protection Communicable Disease Unit about important influenza-related events, including increases in ILI rates or positive diagnostic tests, or hospitalizations of residents due to an ILI, using the report form provided.
- **LOCAL DIAGNOSIS OF INFLUENZA:** BCCDC will provide Point of Care (POC) diagnostic test kits to each RHA that has remote FN communities and a sample of up to 20 FN communities will be identified by First Nations representatives in consultation with MHOs and FNIH. BCCDC will provide training materials and technical consultation to HCPs who will use the kits.
- **REPORTING AND CONFIRMATION OF INFLUENZA DIAGNOSIS:** HCP's will send influenza positive specimens identified with POC diagnostic tests directly to BCCDC for confirmation. The HCP will receive reports directly back from BCCDC of the results. BCCDC will also report the confirmed diagnosis to the MHO. BCCDC will include information from FN communities in public summary reports of diagnostic tests but WILL NOT disclose individual FNs and/or community names unless first approved by the Aboriginal Health Physician Advisor and in consultation with the FNs. BCCDC will share important or unique findings with the Aboriginal Health Physician Advisor when it relates to FNs individuals and/or community. Information will be shared with RHAs and FNIH as necessary.
- **OBTAINING NEEDED ACUTE HEALTH CARE BEYOND THAT AVAILABLE ON SITE:** Health-guidance or Health Care may be needed at times that are outside of existing community capacity, or are locally unavailable. Assistance will be obtained by calling the HealthLink BC Line 8-1-1 (or visiting the website <http://www.healthlinkbc.ca>), their Medical Practitioner, or 9-1-1 to arrange for an ambulance or medical evacuation in case of emergency. In some communities there are designated people who contact 911 to arrange medical evacuation. It is important to ensure rapid treatment of patients developing warning signs such as shortness of breath or pain breathing, or who have existing medical conditions affecting their ability to cope with influenza. People with uncomplicated ILI and without such existing medical conditions should NOT overload their Health Care provider, but stay home where the family can take care of itself.
- **REPORTING HOSPITALIZATIONS BELIEVED TO RESULT FROM INFLUENZA:** The MHO should be contacted directly by the responsible HCP as soon as possible. At an FNIH-supported location, FNIH staff should be informed and they will assist to ensure information is shared with the MHO. For example, the MHO should be made aware of all hospitalizations of FN residents who live in their jurisdictions, and the outcomes.

- **OTHER PUBLIC HEALTH RESPONSES TO INFLUENZA OUTBREAKS:**  
Information and guidance about responding to an outbreak in a remote FN community (e.g. cancelling community events, school closings etc.) will be provided by the MHOs to the Health Directors of FN communities within their region. This information would be shared with the FNIH and the Aboriginal Health Physician Advisor in a consultative process. There may be differences between Federal and BC approaches to an issue. Information distributed in BC (including in this Action Plan) will conform to BC policies, modified if necessary to meet the special needs of remote FN communities.

## **SECTIONS OF FIRST NATION ACTION PLAN**

### **1. Remote Communities**

The definition of a Remote Community for the purpose of this public health effort is any First Nations community sufficiently isolated from an urban health care service that would benefit from efforts to prepare for and respond to the introduction of a new influenza variant. The needs of these communities are considered to be paramount, as they may contain people with high risk medical conditions, and often above average incidence of respiratory infections, while frequently being located in hard to access locations. These communities are the primary target of the actions described.

Clusters of geographically close communities may be considered as being collective and community hubs should be considered as an appropriate delivery mechanism. The decisions on which communities to focus on under this Action Plan included FN participation, and a consultative process between MHOs, the Aboriginal Health Physician Advisor, the FNHC and FNIH.

Every BC Regional Health Authority, except Fraser Health Authority, contains communities considered remote under this Action Plan.

Appendix 1 contains information regarding the communities covered by this Action Plan. A more comprehensive data base on FN communities in BC has also been compiled, with information about:

- The name and approximate location of the community (with a map to illustrate the location of the community)
- approximate number of residents
- the basic health care system they use (e.g. FNIH or non-FNIH)
- the scope of practice of the HCP if a CHN
- the contact person and contact information
- media available and preference (e.g. internet, telephone, fax, etc) for training, communications
- methods for transport of supplies, and mail in and out, including the nearest major road, port or town
- the frequency of health care services (i.e. daily, weekly, or bi-weekly nursing visit)
- other information relevant to the issue arising in this Action Plan,

The data base may lack some of these data fields but efforts will be made to add missing data as soon as it can be obtained. The database will be shared between FNIH, MHO's, the Aboriginal Physician Advisor, the participating FNs, and the FNHC in accordance to the Tripartite Data and Quality Sharing Agreement (Tripartite First Nations Health Plan).

## 2. Illness Surveillance

The objectives of influenza-like illness (ILI) surveillance reporting for the current season is primarily to learn as early as possible when influenza A virus begins to spread among Remote FN communities. This will better enable timely and effective prevention and treatment activities.

FNs have not been involved in routine, ongoing surveillance of ILI in BC. The Northern Health Authority has begun weekly teleconferences with select communities and Vancouver Island Health Authority has begun enhanced surveillance for select FN communities. FNIH also initiated routine reporting from communities in BC for which it is responsible in July 2009.

The Co-Chairs of the BC FN H1N1 Working Group have initiated discussions and meetings with the FNHC to seek input on the Action Plan for remote FN communities. It is necessary to have a point of contact for each participating community so that regular (weekly) recording and reporting of ILI cases can take place. The reporting process will protect the privacy of an individual and community, and sharing information so that effective ILI prevention and treatment programs can be developed for remote FN communities. Reporting and communication guidance is provided in the opening section of the plan.

### Symptoms and case-definition

The case-definition of influenza like illness (ILI) is as follows:

Acute onset of respiratory symptoms (which could be due to influenza virus) with fever  $>38$  deg C. *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 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 with no other obvious causes. Gastrointestinal symptoms 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

Parents should be encouraged to bring infants with unusual behaviour or poor responsiveness indicating probable illness to the clinic for evaluation early after these symptoms are observed.

### Active recording and reporting

Where a HCP is present at least two days a week, an ILI "diary" or record system should be kept to record each person seen meeting the case definition of ILI. Data to be recorded forms the basis for weekly reports (see sample surveillance form in the Appendix 2). It is understood that HCPs

may have limited time and resources, and so surveillance reporting may be limited to its “basic data collection fields”. Additional data is desirable if possible and is listed as “recommended data collection fields”:

“Basic data collection fields”

Date of the record

Patient’s name

Patient’s date of birth

Illness onset date

Primary symptoms

Relevant underlying medical conditions (e.g. pregnancy or chronic disease)

Diagnostic specimen collection and result if done

“Recommended data collection fields”

Patient’s influenza (2009/10) vaccination status

Patient’s Pneumococcal vaccination status

Prescribed treatment provided, if any

Follow-up information such as for illness progression, treatment side-effects, hospitalization (admitted to a ward) / in an ICU / requires a ventilator

Epidemiological information relevant to the illness may also be recorded and reported, such as potential source of exposure. The report will be sent by the HCP (or any other person helping the HCP) to the influenza surveillance coordinator in the RHA. FNIH may also be informed where they provide the basic health care.

In the event of a severe case, the HCP should seek further advice from a local physician, or emergency health services about case management. FNIH should also be informed if they provide the basic health clinics. Severe outcomes such as evacuation for treatment, etc, should also be recorded and reported. Any time there is an apparent increase in cases, the MHO should be consulted, about beginning routine use of antiviral medications for treatment of cases seen within 48 hours of onset, as well as to discuss issue such as postponing community gatherings.

### **3. Laboratory Testing**

#### **Point of Care (POC) Testing**

It is desirable to determine the type and subtype of the influenza virus, and whether it is a variant strain. However, because of delays in transport of samples from remote FN communities, and the anticipated heavy workload in the diagnostic laboratory in BCCDC, this process could take too long to confirm influenza in a timely way. Accordingly, BCCDC, on behalf of the FNIH, will this year support use of POC test kits in about 20 selected remote FN communities. Local HCPs who can collect nasopharyngeal or nasal swabs should be able to perform these rapid influenza tests to support confirmation the presence of influenza virus.

#### **Training Community Health Nurses to Perform Point of Care Tests**

BCCDC will arrange shipping of test kits to each RHA and to the HCPs in the selected “Sentinel FN remote communities”. RHA’s will also receive kits, and have 2-3 nurses or other HCPs trained to be able to take test kits to communities where there are no other diagnostic capabilities to do on-site confirmation of the influenza virus. Training will include written materials (see Appendix 3), a training video made by BCCDC, in consultation with the FNHC and technical support by telephone or email by BCCDC.

#### **Outbreak Detection with Point of Care Tests**

It is critically important to understand that POC influenza tests have limitations and are not used extensively in BC. They are very poor at detecting an influenza infection when there is only one person who is ill. Based on published literature even if an adequate sample (e.g. nasopharyngeal swab) is obtained during the symptomatic period the expected sensitivity of these tests are around 70% to 80% relative to typical laboratory tests (i.e. only 7 or 8 out of 10 infected people will test positive). Influenza POC sensitivity can be even lower (50% or less) if a good sample is not obtained! Also the test often works better with samples obtained from children because they generally normally shed more virus than adults.

Although POC test kits for influenza are less sensitive than traditional laboratory tests, they are fast (15-30 min.), simple to perform and interpret and rarely produce a false positive test result (about 1%). The usefulness of influenza POC tests is when there is a cluster of people with ILI. For example, if three to five ill people from one community are tested over a few days and even one person is influenza positive, this confirms the presence of influenza in the community. When testing clusters of ill people the POC is 95% to 99% sensitive. So these tests are good for “ruling in” influenza quickly when multiple people are ill. Similarly if all three to five people are influenza negative in the POC test, then an outbreak of ILI due to influenza is very unlikely. This should prevent the inappropriate use of an antiviral drug before or after the period of virus circulation.

#### **The POC Test Procedure**

The test involves collecting a respiratory swab, and placing it in transport medium. Part of the sample will be placed into a plastic test kit that in 15-30 minutes will develop either one or two visible bands. If there are two bands, their location will indicate if influenza A or B virus is

present. If there is only one band the result is negative. When positive results are obtained, the remaining sample will also be sent to the BCCDC to confirm the test result and the influenza subtype. Reports will be sent back from BCCDC to the contact HCP for the community as soon as possible. In cases of a major epidemic where workload is high, it may take a week after receipt to obtain a result.

POC influenza tests do NOT detect other agents that cause symptoms similar to influenza.

### **When to Use Point of Care Testing**

When clusters of patients with ILI are seen, a “weekly sample” of about three to five patients should be tested using the kits, depending on how much ILI activity is seen. If an occurrence of influenza A virus is detected, that will determine it is time to begin response measures including use of prescription antiviral medications that inhibit the influenza A viruses of special concern in 2009/2010. Likewise, determining that the virus is ceasing to occur, will justify stopping use of the anti-influenza prescription drug. It should be noted that when testing is not possible, anti-influenza prescription medications may also be appropriately prescribed based on general information about influenza spread in the region – however the diagnosis by a specific test decreases the possibility a virus other than influenza is responsible for the ILIs.

The criteria for patients to be tested by a POC test include:

- The sample can be collected within 72 hours of onset of influenza-like symptoms
- The patient is part of an ILI cluster or a suspected ILI outbreak
- The patient meets the case definition for ILI

### **Specimen Collection**

Each participating FN Clinic or HCP will receive one kit containing materials for 20 POC tests per month. One test each should be done with the positive influenza A and B controls in the kit per month for quality assurance (i.e. 18 tests are available per month for patients involved in this the Action Plan).

Usually, about three to five specimens per week should be collected from patients meeting the ILI case definition and tested with the POC kit. The patients may come from one community or from a cluster of nearby communities served by the same HCP performing the test. If ILI occurs in several patients or communities, then up to ten persons per week may be tested. Once an occurrence of ILI has been detected by the positive diagnosis of influenza A in several patients or communities, the HCP may reduce the amount of testing to ensure there are enough kits for all participating sites. When in doubt about supplies and the frequency of use please contact the coordinator at BCCDC who will be monitoring the project. More kits should be available in an epidemic if needed.

HCPs should use gloves and a mask when collecting respiratory specimens from the acutely ill person, especially as the patients may be expected to be coughing or sneezing. Patients presenting with ILI should be asked to wear a mask as they enter a clinic. Masks should be

available at the clinic entrance area or reception, with a visible sign indicating the need to use a mask upon entry if seeking medical attention for ILI symptoms.

### **Acceptable Specimens**

Laboratory testing for influenza is only reliable when the sample is collected from a person within the first two to three days of onset of respiratory symptoms. It is also critical to obtain a proper sample so that the influenza virus can be detected by the test. The preferred specimen for virus detection is a nasopharyngeal swab (NPS). The NPS can be more complicated to do than less invasive nasal swab (NS). In general, when there are many ill persons seeking attention, those who are within the first two to three days of illness and displaying acute ILI symptoms should be a first priority for testing. They must be willing to have an NPS or NS collected and their preference for NPS or NS swab test must be taken into consideration (see Appendix 3).

### **Reporting Diagnoses**

Positive results should be immediately reported to the RHA. If the HCP is provided through FNIH, they also should be advised. The Aboriginal Health Physician Advisor of the Provincial Health Office will be informed by the RHA and is available to participate in recommendations about follow up actions.

### **Ordering Diagnostic Kits**

It is expected that one kit of 20 tests will be provided per month per participating community. If there is intense activity a limited supply of more POC test kits can be ordered from BCCDC Shipping & Receiving department using the *Specimen Container Order Form* and faxed to (604) 660-3122. Use the space provided at the bottom of the form to request quantities of **POC Influenza Test Kits** (Remel Xpect® Flu A & B kit and a corresponding number of Influenza Like Illness Outbreak kits). These kits will include the appropriate requisition forms that will need to be submitted with any positive specimens as well as specimen transport packaging with appropriate UN 3373 labels for submission of positive specimens to the BCCDC Public Health Microbiology and Reference Laboratory. Flocculated swabs will also be needed.

The *Specimen Container Order Form* can be found on the following website:

[http://www.phsa.ca/AgenciesServices/Services/PHSALabServices/LaboratoryServices/BCCDC\\_Public\\_Health\\_Microbiology\\_Lab/Forms.htm](http://www.phsa.ca/AgenciesServices/Services/PHSALabServices/LaboratoryServices/BCCDC_Public_Health_Microbiology_Lab/Forms.htm)

## **4. Public Health Guidance for Responding to Cases or Outbreaks**

### **Health Education**

The first line of defense against influenza (and many other infections) is good hand washing with soap and water. Use of hand sanitizers can substitute for hand washing in the absence of hand-washing facilities or may be used in addition. Ill persons should normally stay home, where the family members can take care of each other. Care when sneezing and coughing not to spread

virus through the air or onto hands and fingers is also helpful. More information is provided in Appendix 12, an information sheet that can be shared throughout FN communities.

### **Planning Community Events and Meetings, and School Closing Issues**

Influenza can be spread within a community during cultural and sporting events. These often bring large numbers of people in close contact with each other and with people from outside the community, or with residents who have just returned from travel. Each FN community may wish to consider whether, in the event of an outbreak of influenza, there are community events planned that should be rescheduled. Changes might be made in timing of events or holding them at all this fall/winter season if the new pandemic virus appears to be spreading to their region at the time the event is planned.

School closures are often considered as a way to slow the spread of influenza. Negative impacts associated with school closures include: interfering with education, after school activities, and disrupting arrangements for families when there is no one to care for a child during school hours. School closings should be considered unlikely to provide a major public health benefit if children continue to mingle with one another. When many teachers are ill or needed at home to take care of their own families, it may be necessary to close a school.

***Specific discussions about the possible impact of influenza on planning or holding events in a community should be initiated by the MHO in the RHA, and will normally involve the Health Director(s) of the affected FN Community (or group of communities), and the Aboriginal Health Physician Advisor of the Provincial Health Office. If an FNIH supported community, FNIH should be involved in the discussion whenever possible.***

### **Stocking Pharmaceuticals and Other Supplies**

Supplies such as cleansers, hand sanitizers, gloves and masks etc. for use by HCPs, home care nurses, and community health representatives, will be sent to two regional stockpiles by FNIH (i.e. for a community with a FNIH clinic), and redistributed by FNIH as needed to FN community clinics. POC kits and collection and shipping materials for diagnostic swabs will be sent by BCCDC to prepositioned sites in agreement with FNIH and RHAs. FNIH will take the lead in coordinating these processes.

BCCDC will also, in cooperation with RHAs and FNIH, ensure that supplies of personal hygiene materials such as surface cleansers/sanitizers will be available in remote FN communities in the time of an epidemic. The RHAs will decide on a case by case basis, in consultation with FNIH when appropriate (i.e. for a community with an FNIH clinic), when it is best to move these supplies, and the quantity, to each FN remote community. The amounts and locations for prepositioning of pharmaceutical and other supplies will be discussed with the RHAs and HCP's for each participating FN community. Each HCP, home care nurse and community health representative should become familiar with the joint community-public health plan, it may be possible that local HCP could be ill with influenza or caring for ill family at the height of a pandemic. Flexibility in using alternate HCPs and advance training and education could be helpful in coping with anticipated high influenza rates. Forms (see appendices) will be used to record use of prescribed antiviral medication and POC kits.

## **Initiating Antiviral Treatment of Influenza**

While it is never mandatory to have a laboratory diagnosis of influenza to initiate control measures, the most reliable “trigger” for beginning to use prescription antiviral medication in a remote FN community will be an increase in the number of ILI cases, **and** confirmation by a laboratory test of the spread of influenza A virus in the community or in a nearby community. Detection of influenza A virus among a cluster of cases in that community (or a nearby community) will confirm the role of influenza in the suspected outbreak. A collection of several ILI cases is required before declaring there is an epidemic, whether confirmed by a diagnostic test or not. Rapid treatment of a few early cases that meet the ILI case definition may also be helpful in delaying the occurrence of an outbreak. In general, it is assumed that until widespread vaccination has occurred with the Pandemic vaccine, the susceptibility is such that outbreaks cannot be prevented by treatment of cases. However it is also accepted that aggressive early use of antiviral medications should reduce the number of cases advancing to the stage that medical care is needed outside the community. For remote communities the winter weather poses a challenge with transportation routes/methods which can prevent emergency medical evacuation. This is another important reason for early detection and treatment of cases.

The MHO has the authority to take into account a variety of circumstances, including the difficulty or infrequency of health care access, or knowledge of the recent spread of the virus elsewhere, and decide to initiate antiviral use without any viral diagnosis. However early diagnosis will be valuable when possible to know that measures being used are appropriate.

***Multi-party consultations may be particularly helpful at the beginning of an outbreak in a new community or geographic area. They will also be particularly important in deciding when to STOP actions to combat the outbreak. Whether involved in discussions before decisions are made or not, all parties (FN, Provincial and Federal) do need to be fully aware of the extent to which influenza is being documented in each affected community and of trends that are occurring.***

When POC tests are used to help support the initiation of prescription treatment, it will NOT be necessary to wait till the BCCDC has confirmed the virus is Swine-H1N1 influenza before starting to use the antiviral medications.

In the case that BCCDC knows through regular surveillance in BC that the strain of influenza circulating is NOT treatable by the prescription drugs available, then that information will be shared with the RHA whose MHO will communicate with the HA and HCP and discuss the recommendations to be followed.

## **Process for Prescribing Antiviral Medicines in Remote First Nation Communities**

Each FN community and HCP should be certain of the process for prescribing and dispensing antiviral medications. A registered nurse (RN) or Health Care provider with higher credentials is required to dispense prescription medications. Some remote FN communities are served by RN's with Remote Area Certification to dispense certain medications without needing a physicians order. These nurses should have stocks of prescription antiviral medications already pre-positioned there or nearby. When prescription antiviral medications are anticipated to be needed

to manage an outbreak in a remote FN community where they are not already on site, it will be necessary for an RN, Nurse Practitioner, or MD to visit the community, probably bringing an adequate supply of prescription medicines with them, if early antiviral treatment is to begin.

In order to facilitate obtaining a physician's order for dispensing prescription antiviral medications, Community Health Nurses in FN Communities may call an MD for a telephone consultation. Fee-for-service physicians may be legitimately reimbursed \$14.74 under billing code 13000 for such a consultation, which has been agreed can include authorizing a pre-printed order (see below) or prescription. Consultation provides a good way to verify whether steps other than use of prescription antiviral medication are indicated. In due course a Province-wide billing code for telephone consultations will be announced that could be used for the purpose of authorizing a pre-printed order.

Primary care contracts exist that also cover telephone consultations as a required service. A list of such contracts is provided in Appendix 9. No special billing applies if physicians in these sites are utilized.

To assist in prescribing and recording use of prescription antiviral medicines appropriately, the following are provided in the appendixes:

- 1) A pre-printed authorization for prescribing Oseltamivir (Tamiflu). At time of use the form must have the patient's name added, and may be sent by fax to someone with prescribing authority for their signature. In most cases the physician who normally cares for residents of the community may be the best person to do this. As an alternate, the MHO or a physician at FNIH should be considered. If it is anticipated that there will be difficulties in obtaining a signature at the time of need, physicians may pre-sign forms with resident's names, attached to or referring to an algorithm (see below) for decision-making after an ILI occurs in that patient. Then the telephone consultation process described above can be used to activate the order.
- 2) An algorithm for making the decision if prescription antiviral medicine is needed.
- 3) A form for recording cases of ILI, whether prescription antiviral medication was provided, and the lot number of the dose supplied. NOTE: ACCOUNTABILITY FOR STOCKS OF PRESCRIBED ANTIVIRAL MEDICINE IS NEEDED BY USING THE FORM IN APPENDIX 2 OR ANOTHER METHOD FOR RECORDING AND REPORTING WHEN THEY ARE USED.

In planning the interventions described, allowance should be made for the possibility that many of the normally responsible HCPs or RHA staff could be ill with influenza or caring for ill.

### **Antiviral Treatment Algorithm and Prescribing Information**

Guidance for HCPs to use in deciding how to manage cases of ILI is shown in Appendixes, including dosage information and an algorithm for making treatment decisions. Although it is generally recommended that antiviral treatment be reserved for moderate to severe cases, historical and current influenza pandemic experience in FN communities in Canada this year is consistent that early treatment of all cases meeting the ILI case definition may reduce the number of severe cases of disease needing hospitalization as well as helping reduce the spread of virus.

Although these observations are not scientifically proven, the safety of the regularly used antiviral medication appears high and so the risks of use (mainly occasional stomach upset) is low enough that in remote FN communities ALL cases of ILI seen within 48 hours of onset should be offered treatment. There should be reasonable evidence that influenza is present and the most likely cause of the respiratory illnesses prior to dispensing antiviral medications. Recipients should include ill pregnant women in the second or third trimester and infants below 1 year of age.

Guidelines provided here about initiating antiviral treatment without high risk medical conditions or symptoms that are more than simple ILI, may be modified on a community-by-community wide basis by MHOs, taking account of the local situation. The best knowledge at present about reducing the number of influenza patients requiring prolonged intensive care among Indigenous populations appears to be early recognition and treatment of ILI cases that may progress beyond simple ILI.

### **Monitoring disease progression**

**Even when antiviral treatment is initiated, it is very important to monitor for disease progression and to take immediate steps to seek a higher level of medical care if a patient's condition worsens. According to the Intensive Care physician involved in treating many severe cases this year, early detection and referral of patients with pneumonitis is one of the most effective ways to prevent severe consequences.**

### **Outbreak Management - Treatment or Prevention of Influenza in Household Contacts**

Policies to use prescription antiviral medications in household contacts are not presently recommended for general use. Because of the potential for higher than usual risk of transmission, severe illness and complications of influenza in remote First Nations communities, and the possible difficulties of obtaining medical care if needed, special consideration should however be given to the benefit of providing household members with a supply of antiviral medications for early treatment of further cases **if infection appears to be spreading within a household**. In such a situation, clear instructions should be provided by the HCP to the head of the household as to which criteria should be met before people in the household start to take the antivirals.

There may also be special reasons to consider post-exposure prophylaxis. For example, there could be an outbreak in a remote community lacking a regular HCP, including at the exact time of the outbreak (due to illness among HCPs). This would make outbreak control through detection and early treatment of future cases rather difficult. In contrast, an "emergency visit" by a HCW trying to assist with the situation could be more effective if the visit was used to establish a period of post-exposure prophylaxis (PEP) for the community. This could be also important at a time of great stress on the Health Care system due to widespread influenza in many locations, and lack of enough HCP's to adequately staff multiple clinics in remote FN communities.

PEP is an approved use of antiviral medications, and may also be considered during a serious outbreak of Pandemic influenza. While it is in some respects similar to early treatment, there are differences including the daily dose and duration of treatment. Therefore MHO's should be aware they are authorized to implement PEP if the circumstances indicate it may be the best solution at the time. Discussion with FNIH and Aboriginal Health Physician Advisor is suggested to bring in further opinions and identify any extra education or conditions that should apply.

If undertaken, an agreed plan is needed to define the criteria for starting and stopping PEP in the affected community, and which residents of the community should receive the medication. For example persons at highest risk of contracting, and having complications from, the specific virus of concern might be deemed eligible for PEP, whereas others in the affected community would not (but would be expected to have a mild illness if ill, recover quickly and be immune to this virus strain in the future).

While there is no conclusive evidence that PEP is as effective at reducing the overall impact of influenza in isolated communities as in residential institutions of high risk persons, it would often be expected to slow or stop an outbreak. One isolated Inuit community undergoing an explosive outbreak of influenza A virus did implement a combined early treatment and post-exposure prophylaxis program with a neuraminidase inhibitor similar in effect to that made available now. There was an associated rapid reduction in further cases of ILI, although this might have occurred anyway.

Patients who are symptomatic and are treated continue to shed virus, whereas prophylaxis reduces infection rates by 30% (reducing transmission) and reduces symptomatic disease by 70% (reducing morbidity) in long term care facilities. In either case, most people taking an antiviral medication and who are infected with influenza develop immunity to the virus that would protect them against illness from the same virus.

In considering implementing PEP the following should be taken into account:

- Health Care Providers should use good judgement in each community whether this is justified because of the circumstances in the community and whether individuals who are not ill will comply with taking the medication. **The decision to adopt PEP should only be made after adequate discussion with the MHO and if possible, the Provincial Aboriginal Health Physician Advisor.**
- PEP should only be considered when diagnosis has confirmed influenza A in the community or a nearby community in a cluster of cases, and there is evidence of a sustained increase in ILI in the community.
- If used for PEP in a household, supplies of antivirals should be initially for 10 days, and instructions about the importance of compliance in taking the medication should be given to those household members for whom the drug has been provided. Special consideration may be needed to have appropriate drug to dispense for use in children <1yr.

- A determination will be needed whether to repeat the prophylaxis after 10 days depending on the epidemiological situation.
- It is recognized that there may be a higher risk of viral resistance and depletion of stockpiles if PEP is done in too many locations.

Treatment and outbreak management within recommended time frames in understaffed and isolated communities may not be feasible unless antivirals are prepositioned. This also needs to be planned with clear guidelines as to how the use of the local stocks will be authorised and distributed. As described earlier in this document, the MHOs, remote community Health Directors and, if available, HCPs, should agree on the system to be used for accessing and distributing antiviral medications without delay when needed.

### **Accessing Advice and Medical Care for Severe Illnesses (including assessments via phone)**

While it is hoped that the combination of efforts will prevent serious complications from influenza this winter, no prevention strategy is 100% effective. As described above, Community Health Nurses may seek telephone consultations from fee-for-service physicians who will be remunerated under billing code 13000, or Primary Care contracting physicians who are required to provide such service as an included part of their contract. They can also use the 8-1-1 HealthLink BC number.

In the event of serious situations and inability to contact a physician, each FN community is expected to ensure its residents know how and when to access the HealthLink BC 8-1-1 number by telephone, email, or online. Likewise they need to know how to reach emergency services at 9-1-1. Community residents should be educated about how to reach emergency services at any time of day or night, “24/7”. This may involve using a designated person in the community to place the call in some locations.

**NOTE: One of the warning signs of possible development of more severe disease is difficulty breathing or unusual shortness of breath. Chest pain when breathing is a clear warning sign.**

When it is anticipated that transport to a hospital may require special arrangements and could be delayed, residents, Community Health Nurses and FN Health Directors should be pro-active in discussing the situation with a physician or emergency medical services as early as possible, including use of the HealthLink BC communication channels, or 9-1-1 for emergency ambulance service. Residents with minor ILI, should NOT seek emergency medical attention as this may cause an overload for the local clinic or emergency services. Each Remote FN community is advised to establish community support for families who might have difficulty coping with essential daily tasks if one or more household members are ill, such as a food preparer or care giving of young children.

Communities should also be prepared and plan for communication with family members if a person may need to be transferred for care out of the local area. Also important to discuss is how community residents can support families when someone needs secondary or tertiary health care, possibly in a different location, and have such plans in place before outbreaks of influenza (or other diseases) occur.

Access to health care outside the FN community can be delayed if the person is not registered with the Provincial Health Care system at the age of 19. All First Nations who are *Registered Indian* in accordance with the *Indian Act* are encouraged to ensure that they ARE registered as BC residents, including newborn infants and children who might not have been added to the BC system.

### **Immunizations: Pneumococcal Pneumonia, Seasonal and Pandemic Influenza Vaccines**

During the late summer, fall and early winter of 2009 the BC Public Health Immunization Program anticipates offering three types of vaccines against: Pneumococcal Pneumonia, three seasonal strains of influenza, and the new Pandemic H1N1 variant influenza. It is recognized as very important that remote First Nations Communities are included in plans for distribution and administration of each vaccine to the recommended target groups to better protect residents against serious illness. The Pneumococcal Pneumonia vaccine, for example, will be offered to older residents and those with medical risk factors who have not previously received it. The seasonal flu vaccine will be offered to those over 64 years old and others included in recommendations who are at special risk. The timing of these vaccination programs is presently under consideration.

The date when the Pandemic H1N1 vaccine will be available is not yet known for sure, and it is possible it will be administered at a later date than regular seasonal “flu vaccine”. Unlike seasonal flu vaccine, which is offered free of charge to all persons older than 64 years and others who have medical risk factors, the Swine H1N1 flu vaccine may be offered first to younger persons who are most at risk of severe illness. Pregnant women who will be in the third trimester during the fall or winter may also be strongly encouraged to take this vaccine as they appear to be at somewhat higher risk than usual of complications from influenza. More specific information will be provided when policies for the supply and use of this vaccine have been made for Canada as a whole (refer to Appendix 10).

## **5. Epidemiological and Laboratory Evaluation of Possible Unusual Susceptibility to Infection in Remote Communities and Verification of Immune Response to Vaccine**

### **Scope and Purpose**

Historically, remote communities have been, on occasion, more affected than urban communities by outbreaks of infectious diseases, including influenza. One hypothesis is that this relates to less frequent introductions of infectious agents, and accordingly an increase over time of a population lacking immunity to certain infections. Other factors might apply. To help understand if remote FN communities might be more susceptible immunologically than average to the new influenza variant, it is proposed, if possible, to collect sets of sera from people of different ages in various locations. The sera would then be tested for the presence of antibodies to influenza viruses from different times in the past, and compared to the levels of antibodies to these viruses in sera from urban communities. Results would be affected by vaccination history. In BC vaccines against influenza have only been provided to persons at higher than average risk of severe influenza if infected. That includes people older than 64 years, or younger persons with chronic medical conditions.

Work to be done under this Action Plan would mainly look at antibodies to the same subtype of viruses that includes “swine H1N1 influenza, as well as some work with other subtypes.

In order to perform this work, a formal protocol would be developed by the FN working group in conjunction with colleagues in FNIH and BCCDC or research experts from elsewhere, and approval sought from FN representatives. Any FN person volunteering to participate would first have to give written consent, and know that the information shared with others would never allow them to be identified. The study will adhere to local research ethics and the Tripartite Data and Quality Sharing Agreement.

### **Sample Size and Age Group-Birth Cohorts for Inclusion**

The numbers involved and tests likely are preliminarily estimated for discussion purposes as follows:

- 33 samples for each of 3 age cohorts per community a: 18 – 29 yrs, (born 1980 – 1991, during current human H1 era); b: 40-52 years (born 1957-1969, between human H1 eras), and  $\geq 60$  years (born during earlier H1 era). At 100 sera per community or “cluster” of isolated communities, for 15 communities = 1500 sera. It may be quite unusual to find 33 people over 60 years in most of the isolated communities. If so pooling of data from different communities would be evaluated.

### **Viruses for Testing**

Tests of sera would be done to measure specific antibodies against human H1 influenza viruses from approximately 1918, 1933, 1947, 1956, 1977 and 2008; also testing could be done for antibodies to H2N2 influenza from about 1957, and H3N2 from the early 2000s.

### **Vaccine Immunogenicity**

To document vaccine immunogenicity, some of the same persons volunteering to provide serum for antibody prevalence would be invited to participate in a vaccine immunogenicity study. After providing the first blood sample, they would receive a vaccine containing the important immunizing antigen of the new Pandemic Virus, manufactured in a facility approved by Canadian Federal regulatory authorities. About three weeks later a further blood sample would be taken from these volunteers and used to test for antibodies to the new virus. All volunteers in this part of the study would receive the vaccine. Depending on the availability of vaccine for public use in Canada, the volunteers might or might not be vaccinated in advance of people who did not participate. It is not presently known if either of the above will be possible to do in 2009. The study will adhere to local research ethics and the Tripartite Data and Quality Sharing Agreement.

## **6. Recording First Nation History about Historical Experiences of Influenza**

The 1918 influenza pandemic had very serious impact on First Nations communities. Many communities retain oral and written accounts of this tragedy when so many people were ill and died. Since then there have been several other pandemics of influenza, such as in 1957 and 1968 in particular. In order to inform future responses to influenza, it is critical that the Health Partners Group understand the historical context which informs First Nations attitudes and conceptions about influenza.

The regular occurrence of severe epidemics of ILI would be one argument that despite their remoteness, new influenza viruses do reach all parts of the population, making it less likely that remote communities are especially vulnerable to new influenza viruses that evolve.

Therefore, if funding can be found, a local university student, or faculty, may be recruited and supported (e.g. from UNBC) who is, if possible, a FN member, to obtain through FN elders and leadership any verbal or written records about past experiences with influenza pandemics or major outbreaks of ILI. Such information could be used to make a map of the locations of communities for which reports were obtained, and add to our overall knowledge base about infectious diseases in FN communities. Further, this study will adhere to local research ethics and the Tripartite Data and Quality Sharing Agreement.

## **APPENDIX 1**

### **List of First Nations Communities in BC**

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This information is being provided to the Work Group and FN HCWs and health representatives.

## APPENDIX 2

### Remote First Nations Communities: Influenza-Like Illness Surveillance and Antiviral Use Reporting

#### Weekly record and reporting forms for 2009-2010

Use this form, or a similar form provided by FNIH, to help provide timely information about the spread of Pandemic influenza virus among Remote FN communities. This will help start prevention and treatment activities quickly. The same form can be used to report distribution of prescription Antiviral medicine to any of the ILI patients. Follow instructions provided by your FNIH contact or Medical Health Officer (or staff) on how to report summary information each week, and where to send the completed forms.

#### Symptoms and case-definition to be reported

The case-definition of influenza like illness (ILI) for surveillance purposes is as follows:

- **Acute onset of respiratory symptoms with fever >38 deg 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 OTC medications. Fever may not be present in infants < 1 yr. or the elderly.*

**AND Cough**

**AND one or more of the following:**

- **sore throat, muscle aches, joint pain or weakness** with no other obvious causes. Gastrointestinal symptoms 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

Parents should be encouraged to bring infants with unusual behaviour or poor responsiveness indicating probable illness to the clinic for evaluation early after they are observed. Look for the following warning signs.

#### WARNING SIGNS OR CONDITIONS FOR THOSE WITH FLU

**If seen, immediately follow up with a physician or call 811 to discuss what further action may be needed.**

**Difficulty or pain breathing ----- Being short of breath ----- Coughing up yellow or green sputum**

**----- Being in the last few months of pregnancy -----**

**----- Seeing a doctor regularly for another condition, like heart disease, diabetes, kidney disease, etc. -----**

## Weekly Influenza Activity Report – 2009

**Purpose:** FNIH and Regional Health Authorities are tracking Influenza in First Nations communities due to concerns that they might be at higher risk for H1N1. Monitoring for influenza will allow for a rapid response.

**Community/ies:**

**Dates of Week Captured (Monday – Sunday):** August 3 - August 9

**Name of Person Completing Form:**

**Contact Phone number:**

**Date form completed (y-m-d):**

**Instructions:** Please e-mail a completed copy of this form every Monday, describing all confirmed activity for the previous week to **both** FNIH & the Health Authority for your region:

**1) FNIH Health Protection:** [BC\\_FNIHP\\_CDC@hc-sc.gc.ca](mailto:BC_FNIHP_CDC@hc-sc.gc.ca)

**2) Health Authority:** VIHA [phsu01@viha.ca](mailto:phsu01@viha.ca), NHA [MaryMargaret.Proudfoot@northernhealth.ca](mailto:MaryMargaret.Proudfoot@northernhealth.ca), VCH (FAX) 604-731-2756, IHA [cdunit@interiorhealth.ca](mailto:cdunit@interiorhealth.ca), FHA [Cecelia.Holling@fraserhealth.ca](mailto:Cecelia.Holling@fraserhealth.ca)

**Definition for Influenza-Like Illness:** acute onset of respiratory illness with fever and cough and with one or more of the following: sore throat, joint pain, muscle-pain, exhaustion or weakness; collapse which *could* be due to influenza virus. In children under 5, gastrointestinal symptoms may also be present. In people under 5 and 65 and older, fever may not be prominent.

Nil Report for all categories for this week (click box):

Report of ALL Cases with:

	Respiratory symptoms only (e.g. cough, SOB)	Influenza-Like Illness (suspected but not confirmed H1N1)	New Laboratory Confirmed H1N1	TOTAL of Confirmed H1N1 Cases since June 30
Number of New Cases for week				
Number hospitalized				
Number of related medivacs				

Outcomes of **previously** reported hospitalized H1N1 cases:

Number discharged this report week	Number currently in hospital	Number deceased this report week

**Comments:** (i.e. if a significant portion of Health Care Workers are sick and unable to work, or > 10% of students or staff are absent from school or work on any day, most likely due to ILI)

If you have any questions about this form, please call the FNIH Health Protection team at (604) 666-1300  
Revised August 7/09

## WEEKLY RECORD FORM

FN Community name: \_\_\_\_\_ Nearest town: \_\_\_\_\_ Week beginning Monday \_\_\_/\_\_\_

Health Care Provider \_\_\_\_\_ Contact phone number(s) (fixed) \_\_\_ \_\_\_ \_\_\_ (mobile) \_\_\_ \_\_\_ \_\_\_

PLEASE COMPLETE FOR EVERY ILI PATIENT SEEN. (Use Dy/Mo/Yr for dates). Prescription (Rx) A/V is assumed to be Tamiflu unless a comment in the notes indicates another medicine

Date Seen	Last Name	First Name	DOB	Gender	days ill	Symptoms (D = dry cough, Sp = sputum)	Rx A/V*
_/_/___	_____	_____	_/_/___	M / F	_____	Temp __ Cough D __ Sp __ other _____	Y / N
_/_/___	_____	_____	_/_/___	M / F	_____	Temp __ Cough D __ Sp __ other _____	Y / N
_/_/___	_____	_____	_/_/___	M / F	_____	Temp __ Cough D __ Sp __ other _____	Y / N
_/_/___	_____	_____	_/_/___	M / F	_____	Temp __ Cough D __ Sp __ other _____	Y / N
_/_/___	_____	_____	_/_/___	M / F	_____	Temp __ Cough D __ Sp __ other _____	Y / N
_/_/___	_____	_____	_/_/___	M / F	_____	Temp __ Cough D __ Sp __ other _____	Y / N
_/_/___	_____	_____	_/_/___	M / F	_____	Temp __ Cough D __ Sp __ other _____	Y / N
_/_/___	_____	_____	_/_/___	M / F	_____	Temp __ Cough D __ Sp __ other _____	Y / N
_/_/___	_____	_____	_/_/___	M / F	_____	Temp __ Cough D __ Sp __ other _____	Y / N

NOTES: Record here (or back of this form) any diagnostic tests that were done, and the results. Also record lot numbers or the number of prescribed antiviral medications administered this week: \_\_\_\_\_

Use the FNIH “Weekly Influenza Activity Report” to send the summary total of the above information to FNIH and your Health Authority. That form can also be used to describe other helpful epidemiological information, like visitors or travel that may have been the source of the illness, school outbreaks, or to report if anyone was sent to a doctor or hospital.

## APPENDIX 3

### Specimen Collection, Testing and Shipping for Virus Confirmation

#### POC Kit

Point-of-Care (POC) kits ordered from the BCCDC Public Health Microbiology and Reference Laboratory consist of the following:

- Remel Xpect<sup>®</sup> Flu A & B test kit
- COPAN flocked swabs with transport media
- Influenza Like Illness Outbreak requisition forms
- Virology Services Requisition forms
- Biohazard bags

#### When to Use POC Testing

Rapid diagnostic testing for influenza should be carried out when symptoms are consistent with influenza and when the results will influence a clinical decision.

POC test results are significantly less sensitive than routine virological tests for influenza and have limited clinical utility when a single individual is tested unless the test is positive (i.e. influenza A or B is “ruled-in”). The major value of the POC test relates to the ability to quickly identify influenza in a cluster of individuals with clinical influenza-like illness (ILI). This provides rapid confirmation of an influenza outbreak, enabling timely diagnosis and justifies targeted use of antiviral therapies and other public health interventions.

Criteria for using a POC test:

- Within 72 hours of onset of the following influenza-like symptoms:

- Fever >38 deg OR chills and “feverishness” when temperature has not been recorded, or is being treated by acetaminophen or similar OTC medications. Fever may not be present in infants < 1 yr.
- Cough OR sore throat
- Weakness OR myalgia with no other obvious causes.
- Patient is part of a cluster or suspected outbreak

#### Specimen Collection

Each participating site will be provided with one kit containing materials for 20 (POC) tests per month. One test each should be done with the positive influenza A and B controls each month for quality assurance (QA). A few designated individuals in each community should participate in this QA process so they are comfortable performing the test.

The recommendation is that these kits be used wisely when members of the community display influenza-like illness. The number of supplied tests is limited mostly because the purpose is to be able to rapidly identify if influenza is in the community and not to guide individual care. Based on the sensitivity of POC tests it is ideal to test a few individuals with clinical illness to help rule in influenza. Not everyone needs to be tested and a negative test in any single individual does not definitively rule out influenza.

In general, testing 4-6 individuals meeting the ILI case definition with the POC kit will rule in the possibility of influenza in a cluster of persons with ILI. The Health Care Worker (HCW) performing the test should take note of the community the patient resides in and whether the patient has been

exposed in another community that has known ILI. Once an outbreak has been confirmed in one community the frequency of testing may be scaled back to ensure there are enough kits for all participating sites. When in doubt about supplies and the rate they can be used please contact the coordinator at BCCDC who will be monitoring the project.

### Acceptable Specimens

Acceptable specimens using the X/pect® Flu A & B kit includes nasopharyngeal swabs and nasal swabs. Only rayon or polyester-tipped swabs with plastic shafts should be used (e.g. COPAN flocked swabs supplied). The kit also contains swabs appropriate for performing quality control testing.

### Procedure:

Collect specimens from patients presenting with ILI within **72 hours of onset** of symptoms.

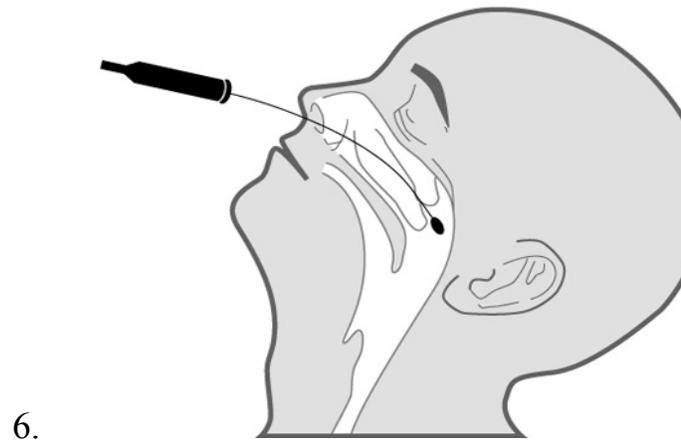
**Personal protection during specimen collection:** Minimize self exposure by minimizing the amount of time spent to taking a sample, wearing personal protection and following infection control practices. It is recommended that gloves and a facemask be worn by the HCW collecting specimens. Hands should be washed and fresh gloves used for each new patient.

Patients with copious discharge should be requested to gently clean their nose by washing or with tissue.

#### 1<sup>st</sup> Choice: Nasopharyngeal specimens

These specimens are ideal. Use the provided flocked swab with nylon tip.

1. **Label** the container with the patient's **full name** and **date of birth**.
2. Incline the patient's head. Bend the shaft of the swab to follow the curve of the nasopharynx
3. Gently insert swab into one nostril to base of nasal cavity (this will be approximately half the distance from the nose to the ear) (see image below)
4. **Rotate swab a few times, loosening the cells in the mucus cavity and remove.**
5. **Place the swab into the accompanying vial of transport media, bending or cutting at the mark on the swab, and prepare to pipette material for the POC test (see Test Procedure).**



#### 2<sup>nd</sup> Choice: Nasal specimens

These specimens are acceptable but less sensitive. Use the provided flocked swab with nylon tip.

1. **Incline the patient's head as required and insert the cotton swab along the base of the nasal cavity to a depth of 2-4 cm into the nostril. Swab around the inside of the nostril and along the nasal septum, a**

- minimum of six (6) times.
- Place the swab into the accompanying vial of transport media, bending or cutting at the mark on the swab, and prepare to pipette material for the POC test (see. Test Procedure).
- Label the container with the patient's full name and date of birth.

**It is essential that the nasal passage be swabbed sufficiently firmly to collect infected cells rich in virus. Mucous discharge and throat swabs contain less virus and are discouraged.**

**Test procedure.** The package insert with each kit provides further technical information, and is included here for reference. Quality assurance using the provided control swab must be performed before the contents of the POC test kit (20 test devices) are used for clinical testing. See package insert for procedures.

**If the kit has been refrigerated, allow the components of the kit to come to room temperature. Remove the device from the foil pouch and lay on a flat surface for testing. See Figure 1. Protocol for POC Testing for Influenza Using the Xpect® Flu A & B Test for instructions on using the POC test kit and submitting samples to the BCCDC.**

- Label the tube and a test device with the patient's ID (or control ID if doing quality control).
- Dispense 5 drops of Specimen Diluent provided with the kit into a dilution tube for each sample to be collected
- Using gloves, collect the swab sample using the above

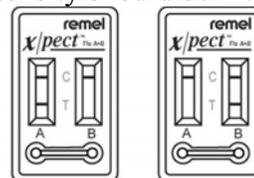
procedures and insert tip into the transport medium.

- Using the transfer pipette provided in the POC test kit, squeeze the pipette and mix the sample by drawing up the transport medium and dispensing several times. This should capture material released from the swab. Seal tightly and retain for submission to the BCCDC Public Health Microbiology & Reference Laboratory.
- From the transfer pipette containing transport medium and sample, dispense 0.1 ml into the dilution tube. Transfer 0.1 ml of this mixture into **each** of the Flu A and Flu B sample wells of the test device. Dispose of the transfer pipette and dilution tube to avoid contaminating a new sample.
- Record results between 15-30 minutes after adding specimen. Note there should be at least one line in the A and in the B strip. This is the control that shows the test worked.

## POC Test Interpretation

### Positive Test

A positive test is indicated by two blue-coloured bands, one in the test region (T) **and** one in the control region (C). A complete, blue, clearly visible band of any intensity should be interpreted as positive.



Flu A positive

Flu B positive

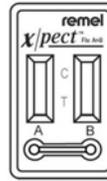
## **Negative Test**

A negative test is indicated by only one complete, blue-coloured band in the control region (C). This (C) band must be present to conclude that the test worked.

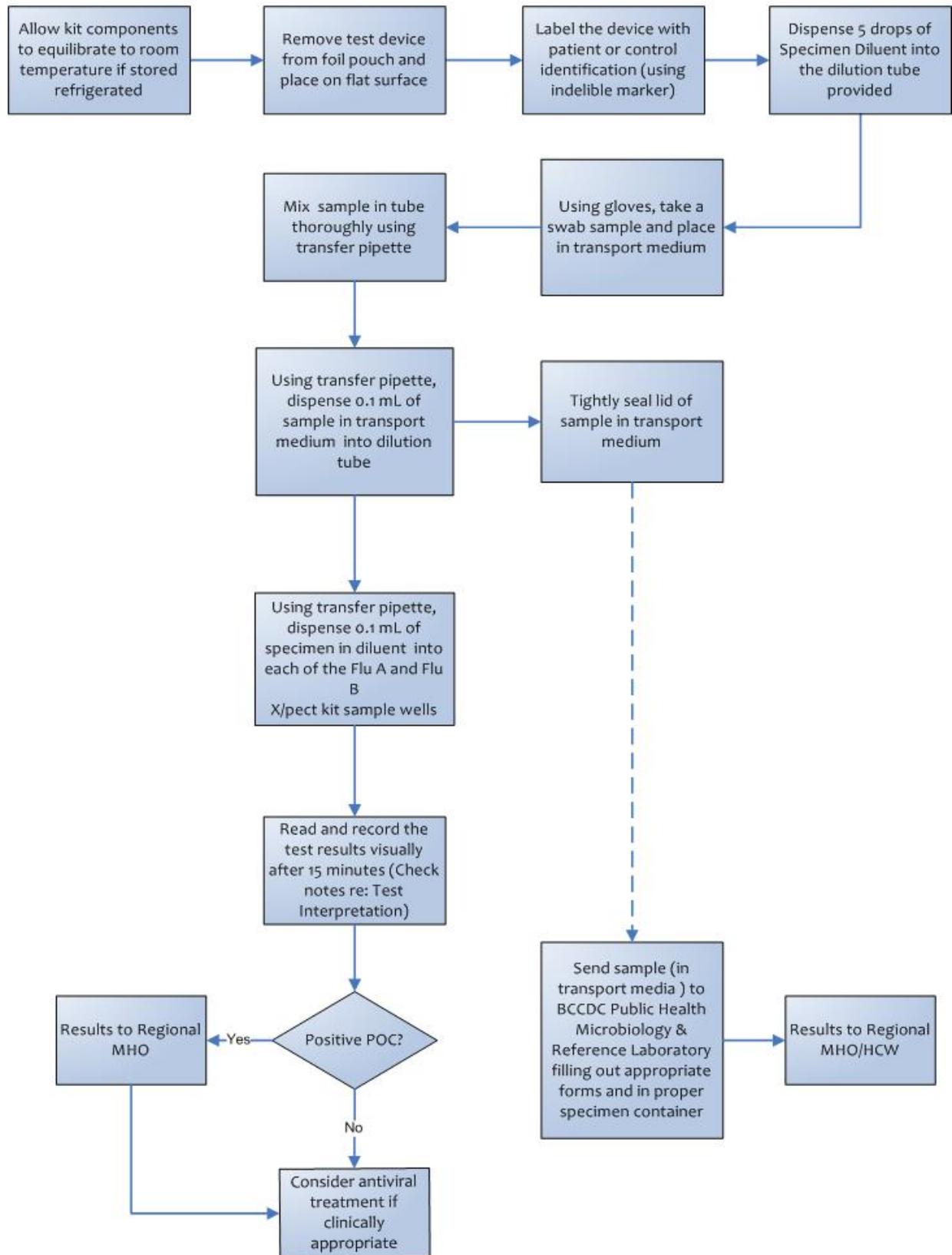


## **Invalid Test**

An invalid test occurs when the test band is partial or incomplete and/or the control (C) band is absent or incomplete. Invalid results due to excessively mucoid specimens may be repeated using twice the normal volume of Specimen Diluent during the dilution step.



Uninterpretable



**Figure 1. Protocol for POC Testing for Influenza Using the Xpect® Flu A & B Test Submitting follow-up specimens to BCCDC**

PLEASE ENSURE THE SPECIMENS AND REQUISITION FORMS ARE CLEARLY LABELLED AS COMING FROM A FIRST NATIONS COMMUNITY to help the laboratory give them priority (Note: the public health laboratory may not test all specimens immediately and will triage specimens received, based on the information on the requisition form).

Confirmation of all results is required and subtyping will be performed.

Submit **original** swab specimens in transport medium, maintained at 2-8°C, to the BCCDC Public Health Microbiology and Reference Laboratory.

1. Complete the *Virology Requisition* form for each patient's swab to be submitted, providing:

- Accurate patient and health care provider information
- Patient Status
- Relevant clinical signs and symptoms and travel history
- Date and time of specimen collection
- Specimen type
- Indicate the POC test result for Influenza A or Influenza B
- Travel history if present.
- If the person is being treated with anti-virals, include this information on the requisition form in the Signs/Symptoms area. Specimens will not be routinely tested for resistance to antiviral drugs, but may be if there is evidence to suggest this is important.

See Figure 2 for sample form.

**Reporting diagnoses:** Communities with no previous influenza A activity that receive a positive influenza A result should report the result immediately to their RHA point of contact.



## APPENDIX 4

### Influenza Point of Care Diagnostic Kit Distribution Record Form

FOR USE IN REMOTE FIRST NATION COMMUNITIES 2009/2009

Send forms to BCCDC – Attention Influenza Testing Coordinator

1: Kits of 20 tests will be supplied from BCCDC for outbreak detection in remote FN locations. For best proficiency, the Health Care Worker (HCW) should use two tests per kit with positive control samples. The rest are for use in outbreak detection, approximately 4-5 tests per week (i.e. 1 kit/month on average). Positive specimens should be sent to BCCDC for confirmation.

2: Kits may be stored in a FN clinic, in a local clinic from where tests are taken to any one of several nearby communities, or at a Regional Health Authority (RHA) from where they are taken to a community for use during a visit. The HCW responsible for using the tests should keep this form with or near the test kits and add information each time tests are removed and used.

3: Use a new form for each package with 20 tests. Please circle the kit storage site: (**CC = in community clinic, HA = kept in Health Authority, OT = other**). If tests from one kit are used in more than one location, please enter each community and describe how the kits were distributed among communities on the back of the form. Circle results as obtained.

-----  
 This form is for kit LOT NUMBER: \_\_\_\_\_ **STORAGE: CC / HA / OT**

Responsible HCW: \_\_\_\_\_ Alternate HCW: \_\_\_\_\_

COMMUNITY USED: \_\_\_\_\_ LOCATION (nearest town) \_\_\_\_\_

COMMUNITY USED: \_\_\_\_\_ LOCATION (nearest town) \_\_\_\_\_

COMMUNITY USED: \_\_\_\_\_ LOCATION (nearest town) \_\_\_\_\_

	DATE	INITIAL		DATE	INITIAL
Test 1: <b>Proficiency:</b>	d__m__	_____	Test 2: <b>Proficiency</b>	d__m__	_____
Test 3: A B Neg	d__m__	_____	Test 4: A B Neg	d__m__	_____
Test 5: A B Neg	d__m__	_____	Test 6: A B Neg	d__m__	_____
Test 7: A B Neg	d__m__	_____	Test 8: A B Neg	d__m__	_____
Test 9: A B Neg	d__m__	_____	Test 10: A B Neg	d__m__	_____
Test 11: A B Neg	d__m__	_____	Test 12: A B Neg	d__m__	_____
Test 13: A B Neg	d__m__	_____	Test 14: A B Neg	d__m__	_____
Test 15: A B Neg	d__m__	_____	Test 16: A B Neg	d__m__	_____
Test 17: A B Neg	d__m__	_____	Test 18: A B Neg	d__m__	_____
Test 19: A B Neg	d__m__	_____	Test 20: A B Neg	d__m__	_____

## **APPENDIX 5**

### **Guidelines for Maintaining Confidentiality**

Staff at the BCCDC and PHSA Laboratories all sign documents requiring them to maintain all information as confidential. Specimens provided for confirmation of infection with influenza may be tested for a variety of agents that cause ILI as well as for influenza to help obtain an accurate result. They will not be tested for other types of agents or materials.

Results of influenza diagnoses are under BC law reported to the Medical Health Officer for the patient's region. This does not require any further action to be taken.

It is very important that FN communities are aware of ILI cases in adjacent communities so that prevention and care planning can take place. Therefore positive diagnoses of influenza virus made at the Point of Care or confirmed at the BCCDC will be communicated to the Aboriginal Physician Medical Advisor in the Office of the Provincial Health Officer, the FNIH-BC Region Health Protection Communicable Disease Unit, and to the appropriate BC Regional Medical Health Officer. Health Care workers for the First Nations communities will be kept up to date of the information.

Information will not be shared with the Public without the involvement of the BC Aboriginal Health Physician Advisor, to ensure the wishes of First Nations Communities are respected, while also ensuring effective Public Health Actions for residents of BC as a whole.

## APPENDIX 6

### Provisions for Use, And Dosage, of Antiviral Drugs

#### *Early treatment of ill children and adults*

In general, the following should apply:

- **Decision to begin use of prescription antiviral medications:** Treatment will be offered after the Medical Health Officer has determined it is appropriate. Information available to support such a decision will include surveillance data, clinic reports, and in some cases either rapid diagnosis on site with Point of Care (POC) testing of a group of cases confirming influenza virus is present in or near the community, or diagnostic results from specimens sent directly to BCCDC; individuals DO NOT need testing before getting treatment.
- **Time in illness when prescription antiviral treatment is appropriate:** To be effective, treatment with an antiviral medication normally must begin within the first 2 days of illness. Discretion may be used to give the medication at a later time for persons with more severe illness. Patients who have been ill for one or more days and are improving to the point where they no longer have a high temperature, do not need treatment.
- **Treatment of adults with prescription antiviral medications:** Treatment is particularly recommended for ill patients who have chronic conditions that increase the medical problems and complications that can occur with influenza. This includes ILI patients >64yrs, and those who have heart or lung disease, diabetes, kidney disease, asthma, etc. Being pregnant, particularly after the first trimester, may also complicate the course of influenza. Risks of complications are greatest in the final few weeks of pregnancy due to immunological changes in the mother and the greater overall physiological burden, and probably also the first few weeks post-partum (refer to section below for more information concerning prophylaxis for pregnant women late in pregnancy or early post-partum). Even if only mildly ill at the time seen, treatment may be offered to pregnant women because of the risk of progression to moderate or severe illness. Another probable risk factor for the virus of current concern is obesity.

- **Treatment of children with prescription antiviral medications:** Younger children may be very susceptible to infection because of lack of prior immunity. As with other infections, influenza in the youngest age groups, up to about 4 years old, can require advanced medical support in a hospital more frequently than is needed for older children or most adults. Oseltamivir is licensed for use in children >1 yr, and by emergency order for the 2009/2010 season may also be used for children up to 12 months old. Dosages are reduced for children based on age or weight. It may be necessary to cut open capsules and mix powder in a chocolate milk or syrup for children. Zanamivir, normally reserved for special situations, is not approved for use in children below 7yrs old.

- **Treatment of person without risk conditions or serious illness:** Patients who usually are healthy and active, and do not have chronic medical conditions, do not normally require treatment if they are seen with only mild illness. However, one reason for the enhanced efforts for remote FN communities is that living in a remote community can increase the risks if disease suddenly worsens and further medical care cannot be promptly obtained. In

remote communities, previous exposures to influenza might be less, and protection from earlier infections may be poor. It is also possible that there are genetic factors that increase risk of severe influenza in Indigenous people. There could be parallels with the often higher rates of illness with other respiratory pathogens. Therefore, it is considered reasonable medical practise to provide an antiviral medication to acutely ill persons with uncomplicated ILI and no medical risk factors in the setting of a remote FN community, even though this is NOT the normal decision in an urban community. In urban FN communities Medical Health Officers may still make decisions on a community-by-community basis if they believe that there is a situation justifying use of prescription antiviral medication in persons without medical risk factors or evidence of progression to more severe disease. As antivirals work best when given early after illness begins, delaying treatment until symptoms progress may reduce the ultimate value of treatment. Medical Health Officers will need to use their best personal medical judgement about these decisions, for which no clear data presently exists.

- **Treatment of older persons (>65 yrs).** Although older persons (above about 50 yrs) have in most places NOT been affected by the new virus, about 5% (1 in 20) cases HAVE occurred in this age group. Thus it is assumed that when an older person does fall ill in the midst of an outbreak of the new H1N1 virus, they must also be assumed to have been infected by the same virus, and because of their age be at greater risk than younger persons. Fever may be less frequent in the elderly. In remote communities, treatment with Oseltamivir (Tamiflu) is likely to be a wise precaution in older persons showing ILI symptoms. If necessary a suspended form of Oseltamivir may need to be prepared when capsules cannot be safely swallowed.
- **Intolerance to prescription antivirals.** Rarely, patients cannot tolerate Oseltamivir. As with many prescribed medications, it may be best to take the medication with food. When kidneys are not functioning well, such as in patients needing dialysis, the dose of Oseltamivir must be reduced substantially. It should also be reduced for patients with known kidney disease at a certain level (see below). However, in persons who do not know they have kidney disease, it is not necessary to delay treatment until a test has been performed. If Oseltamivir is not tolerated, Zanamivir may be an alternative for persons 7 years and older who are at very high risk of complications from their ILI. It is more difficult for the patient to use. Zanamivir stocks in limited amounts are kept by BCCDC.

## DOSAGE OF OSELTAMIVIR AND ZANAMIVIR

**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](http://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](http://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 milk. 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 7**  
**Algorithm for Use of Prescription Antiviral Medication in Remote FN  
Communities**

**A: Treatment of Patient**

**IF**

1: An outbreak of influenza A has been confirmed by a Medical Health Officer

**AND**

2: Patient meets case definition of influenza like illness that includes the following:

- Acute onset of respiratory symptoms (which could be due to influenza virus) with fever >38 deg C. *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 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 with no other obvious causes. Gastrointestinal symptoms 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. For children, poor responsiveness may also be used.

**AND**

3: Patient is within 48 hours of illness onset:

**THEN TREAT WITH OSELTAMIVIR** (NOTE: for anyone with a known intolerance for Oseltamivir who is >12 years, consider Zanamivir as an alternative if compliance with its use by nasal applicator is realistic).

**OR IF**

Patient has more severe symptoms than mild ILI, even though time after illness onset is > 48 hrs.

**THEN TREAT WITH OSELTAMIVIR and seek guidance from Physician or BC Emergency services. Be especially alert for patients with unusual difficulty or pain breathing, or short of breath, which are signs of potential spread of infection to the lungs.**

**APPENDIX 7 (continued)**  
**Algorithm for Use of Rx Antiviral Medicine in Remote FN Communities**

**B: Treatment of Contacts or (rarely) post exposure prophylaxis**

**IF**

Any patient with ILI has regular close contact for several hours a day (through for example living in the same household) with others who have medical risk conditions such as chronic heart or respiratory disease, chronic metabolic disease, are >64 yrs old or are in the third trimester of pregnancy, but who are not yet ill:

**THEN** evaluate risk to the high risk contact. Consider providing extra antiviral medication for use in early treatment or post-exposure prophylaxis of the household member(s) with or exposed to ILI.

Depending on the local situation, high risk household member(s) should come in to the health clinic to receive medications or the medication should be sent home with the ill patient.

Prophylaxis is done with half the therapeutic does, for 10 days. A new order will be needed if the situation requires extension of the period of prophylaxis.

If possible take oral medicine with food. The main contraindication is intolerance such as severe GI symptoms. Severe renal disease requires a dose reduction (See Appendix 6).

**APPENDIX 8**  
**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).

- Acute onset of respiratory symptoms (which could be due to influenza virus), & fever >38 deg C. *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 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 with no other obvious causes. Gastrointestinal symptoms may also be present, more frequently in children <5 years, and these do not EXCLUDE ILI. However they are NOT a recognized symptom qualifying a patient as HAVING ILI. For children, poor responsiveness may also be used.

**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  $\geq$  13 years of age:** Oseltamivir (Tamiflu) 75 mg orally twice daily for 5 days.

**Children  $\leq$ 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](http://www.idsociety.org/content.aspx?id=9202#flu) )

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## APPENDIX 9

### Primary Care Clinics under contract to Health Authority Regions in BC

#### Primary Care APP Contracts in Northern Health: FTEs

Northwest	Dease Lake	Primary Care	2.19
Northwest	Stewart	Primary Care	2.00
Northwest	Queen Charlotte Islands	Primary Care	6.27
Northwest	Hazelton	Primary Care	7.00
Northern Interior	Fraser Lake	Primary Care	4.40
Northern Interior	Robson Valley (McBride)	Primary Care	2.00
Northern Interior	Robson Valley (Valemount)	Primary Care	3.00

#### Primary Care APP Contracts in Interior Health:

Elkford	Primary Care	2.00
Sparwood	Primary Care	3.00
Kaslo	Primary Care	2.00
Salmo	Primary Care	2.15
Thompson River University	Primary Care	1.00

#### Primary Care APP Contracts in VIHA

Islands	Islands	Primary Care	6.00
South	COOL AID	Primary Care	3.82
South	University of Victoria	Primary Care	4.89
North	Gold River / Tahsis	Primary Care	2.00
North	Port Alice	Primary Care	1.00

#### Primary Care Contracts for Nisga'a

Nisga'a Valley	Nisga'a Valley	Primary Care	3.33
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#### Primary Care Contracts for Fraser HA:

BCIT	Primary Care - Student Health GP	1.93
BCIT	Primary Care - Student Health SP	0.16
SFU	Primary Care - Student Health GP	4.30
TWU	Primary Care - Student Health GP	0.80

#### Primary Care Contracts for Vancouver Coastal HA:

Vancouver (Community)	Evergreen Community Health Centre	Primary Care	2.050
Vancouver (Community)	Pacific Spirit Community Health Centre	Primary Care	1.700
Vancouver (Community)	Raven Song Community Health Centre	Primary Care	2.100
Vancouver (Community)	South Community Health Centre	Primary Care	1.000
Vancouver (Community)	UBC Student Health	Primary Care	6.544
Vancouver (Community)	Langara College	Primary Care <sup>3</sup>	1.144
Vancouver (Community)	Van Comm College	Primary Care	1.000

## **APPENDIX 10**

### **Immunizations Logistics and Priorities**

Most First Nations members resident in their community prefer to receive immunizations from their regular local Health Care Provider. Immunization program plans should respect this desire of FN members. Likewise, First Nations members wishing to be vaccinated while away from their community and who are NOT enrolled in the BC Health Plan are recommended to ensure their Indian Status number is registered so that eligibility for health services without fees is easily verified. This also applies to newborn infants and young children.

#### **1: Vaccine to prevent Pneumococcal pneumonia**

Persons who are high risk of complications from pneumonia and are not yet vaccinated with Pneumococcal pneumonia vaccine will be offered this vaccine during the fall/early winter.

#### **2: Vaccine to prevent seasonal Influenza**

Persons who are high risk of complications from seasonal influenza will, at the time offered to others in BC, be 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.

#### **3: Vaccine to prevent Pandemic influenza**

This vaccine is presently expected to become first available in about November. Priorities who should receive the vaccine first may be set as below:

- High priority: Adults and children over 6 months **with medical risk factors** for severe influenza infection. **FOR THE PANDEMIC VACCINE IT IS PROBABLE THAT PREGNANT WOMEN IN THE 2<sup>nd</sup> or 3<sup>rd</sup> TRIMESTER WILL BE INCLUDED IN THE HIGH PRIORITY GROUP AND ENCOURAGED TO BE VACCINATED.**

People in the HIGH PRIORITY GROUP may be offered vaccine earlier than other people, when it is first available.

- Lower priority: Children and adults **WITHOUT medical risk factors** for severe influenza infection. Vaccination may be delayed for these people.

All residents in remote FN Communities may be offered this vaccine at the same time as soon as it is available. This is being considered.

At least one dose of vaccine will be needed. The advantage of a second dose will be determined in clinical trials this fall. A second dose is most likely to be needed for younger children.

These priorities are for planning guidance only, and are subject to change as Federal and Provincial recommendations are made later in the year.

## **APPENDIX 11**

### **Program Evaluation**

(to be developed by First Nations working group by April 30<sup>th</sup> 2010)

- Perspective of clients (First Nations)
- Perspectives of Providers (Public Health Agencies and staff)
- Summary of problems, needed improvements, and the benefit for continuation

## APPENDIX 12

### **Pandemic Flu - What You Can Do If You Live in a Remote First Nation Community**

#### Keeping you and your family safe

- Washing your hands often, using plenty of soap and water, can help stop 'flu spreading to others. Soap and water are better for cleaning hands than hand sanitizers. "Hand sanitizers" are only needed if there is no soap and water available. However their extra use as well as hand-washing might help in some situations.
- After coughing or sneezing into a hand, the hand should be washed afterwards with soap and water to remove 'flu virus particles.
- Try to keep hands away from the nose, mouth or eye.
- 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.
- When caring for a family member who is sick with 'flu, ensure that you wash your hands and practice good cough hygiene.
- 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 consistently use soapy water or disinfectant liquid to wash things like door handles, water faucets or other places that are often touched with hands.
- Exercise extra precautions when visiting relatives or friends who have underlying medical conditions and are more at risk for complications from the 'flu.
- Take precautionary measures, limit sharing items such as cups, plates, toothbrushes, cigarettes etc. during flu season.

## Letting others know you are ill

People in Remote First Nations Communities who have flu symptoms - fever, **and** cough or sore throat, as well as body aches or fatigue – should stay home as much as possible. In most cases the ‘flu can be managed by the family in the home. In addition, it’s a good idea to contact your nursing station or health centre to see if your ill friend or family member needs to come in for a check-up and possibly obtain some anti- ‘flu medicine. When you call the Health Care Worker, make sure that they 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 pregnant, or who have recently given birth, and have flu like symptoms should check with their health worker.

Community members with underlying medical conditions, such as: weakened hearts or lungs, bad kidneys, diabetes, asthma, etc. are more at risk for complications from the ‘flu

Elderly community members may be more at risk for complications from the ‘flu.

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

- chest pain or being “short of breath”
- coughing yellow or green spew suggests an antibiotic may be needed. If that happens, make sure you get in touch with a health care worker right away.

If there is no health care worker on site, and it is a non-emergency situation, 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](http://www.fightflu.ca)**

**APPENDIX 13**  
**BC Emergency Contact List for Involved Organizations**

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This information is being provided to the Work Group, First Nation HCWs and health representatives.