

PANDEMIC INFLUENZA RESPONSE PLAN

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CLINICAL MANAGEMENT

Target

Physicians, Nurses (Including Facility Based, Primary Care, Registered Nurse Extended Practice (RNEP), Home Care, Public Health, Mental Health, and Registered Nurses (RN's) at the Assiniboine Regional Health Authority (ARHA) Influenza Call Centre) and Diagnostic Staff.

Introduction

Hospital management of influenza, given a pandemic situation, will need to address potential bed shortages, human resource management and supply and demand. During an outbreak many people will be seeking medical advice and health care workers (HCW's) could become ill when there is increased demand for their services.

Telephone nursing care will be utilized to interact with infected persons phoning for advice, thus preventing the spread of germs. This will assist HCW's to provide essential services to the ill and help family to care for themselves and others at home.

When self care isn't possible, hospital management will be based on individual clinical assessment of each case. This will include diagnosis, fluid and O₂ therapy as well as management of cardiovascular complications, bacterial complications or antiviral therapy.

The shortage of beds may result in early discharge and criteria have been developed as well as self care instructions for those individuals.

Objectives

- Support the management of the population while preventing the spread of infection.
- Prevent significant illness and death in high risk groups.
- Provide direction to HCW's and the public so people can then help themselves and neighbors.
- Effective and accurate diagnosis, fluid therapy, O₂ therapy and management of complications.
- Accurate detection, reporting and treatment of influenza-like illness (ILI).
- Provide tools for HCW's to assist with assessment and treatment decisions.

Clinical Presentation - Case Definitions

The spectrum of illness associated with influenza virus infections is wide and ranges from asymptomatic infection to fatal disease, frequently due to viral pneumonia. The previous experience of a population with antigenically related virus variants is a determinant of the severity of disease. Therefore, with a pandemic strain, which will be new to the population, **the clinical disease associated with influenza infection will be more severe.** Age and pre-existing risk factors also influence the outcome of influenza. Young children, the elderly, pregnant women, and individuals with chronic diseases are at greatest risk of complicated influenza.

Clinical Case Definition: When influenza is circulating in the community, the presence of fever and cough of acute onset are good predictors of influenza. The positive predictive value increases when fever is higher than 38°C and when the onset of the clinical illness is acute (less than 48 hours after the prodrome). Other symptoms, such as sore throat, rhinorrhea, malaise, rigors or chills, myalgia and headache, although non-specific, may also be present.

Confirmed cases of influenza are cases with laboratory confirmation (ie. virus isolation from respiratory tract secretions, identification of viral antigens or nucleic acid in the respiratory tract, or a significant rise in serum antibodies) or clinical cases with an epidemiological link to a laboratory confirmed case.

For Surveillance Purposes: The Health Canada definition of influenza like illness (ILI) is as follows: “Acute onset of respiratory illness with fever (>38°C) and cough accompanied by one or more of the following: sore throat, arthralgia, myalgia or prostration, which could be due to an influenza virus.”

Common Clinical Presentations

All Age Groups

The typical clinical presentation of uncomplicated influenza is tracheobronchitis with some small airway involvement. The onset of disease is usually abrupt: headache, chills and dry cough, followed by fever of 38-40°C that may peak as high as 41°C within the first 24 hours, together with myalgia, malaise and anorexia. Physical signs include hot and moist skin, flushed face, infected eyes and clear nasal discharge. Some patients also have nasal obstruction, sneezing, pharyngeal inflammation, excessive tearing and mild cervical adenopathy. Chest x-rays and auscultatory findings are usually normal, with occasional crackles and wheeze. In uncomplicated influenza the airflow in large airways remains relatively normal. There is, however, a transient increase in bronchial reactivity and some temporary alterations in gas exchange in the small, peripheral airways. Bronchial hyperreactivity may continue well beyond the clinical illness, even in subjects without a history of bronchospasm. In uncomplicated influenza, fever usually declines after 2 to 3 days and disappears by the 6th day (median three days). Biphaseic fever patterns are usually associated with secondary bacterial infections, but may be observed in some cases of uncomplicated influenza. While the temperature declines, some respiratory symptoms, like cough and rhinorrhoea, may increase, followed by the production of small amounts of, usually mucoid, sputum. Cough, weakness and fatigue can persist for 1 to 2 weeks and up to 6 weeks.

The disease is more severe in individuals younger than 5 years or older than 65 years. **The risk of lower respiratory tract infection (LRTI) is much higher in young children, smokers, geriatric patients and persons with underlying cardio-respiratory disorders** (most frequently asthma in younger patients and chronic bronchitis and emphysema in older persons). Viral pneumonitis is most frequent in young children, while bacterial superinfection is common in the elderly. *Streptococcus pneumoniae*, *Haemophilus influenzae*, *Moraxella catarrhalis*, and *Staphylococcus aureus* are the most common agents of secondary bacterial pneumonia. Gram-negative bacteria, *Chlamydia pneumoniae* and *Mycoplasma pneumoniae* are also found in some patients.

Different strains of influenza may be associated with different symptoms or severity of disease. Two influenza A subtypes: A (H1N1) and A (H3N2), and one influenza B strain, have been circulating worldwide in the last decade (with minor strain variations) and are associated with yearly epidemics. Influenza A (H3N2) is frequently associated with more severe clinical disease and pneumonia. It affects young and old equally and accounts for up to 28% of acute cardiopulmonary hospitalizations of older persons. A (H3N2) viruses usually cause focal outbreaks in nursing homes. Influenza A (H1N1), on the other hand, infects children every year but has only a minor impact in the elderly, and influenza B preferentially causes disease in children, with frequent gastrointestinal symptoms.

Children

Children have the highest attack rates of influenza and may be the major disseminators of the virus. In a regular “influenza season”, influenza infections are the most important causes of consultation in outpatient clinics and account for one half of lower respiratory tract infections that result in hospitalizations of children. During most influenza epidemics, influenza viruses supplant all other major respiratory viruses as causes for consultation for respiratory infection in children.

The highest rate of influenza-related serious illness in children occurs in the 6 to 12 months old age group, after the waning of maternal antibodies. Although uncomplicated influenza in children may be similar to the disease in adults, there are some age related differences in toddlers and infants:

- Young children usually develop higher temperatures (over 39.5°C) and may have febrile seizures.
- Unexplained fever can be the only manifestation of the disease in neonates and infants.
- Influenza viruses are an important cause of laryngotracheobronchitis (croup), pneumonia, and pharyngitis-bronchitis in young children. Both types, A and B, are significant causes of lower respiratory tract infections.
- Gastrointestinal manifestations, such as nausea, vomiting, diarrhea and abdominal pain, are found in 40-50% of children, with an inverse relation to age (mainly in 3 years old or younger).
- Otitis media and non-purulent conjunctivitis are more frequent in the young.
- A variety of central nervous system findings, including apnea, opisthotonos (Opisthotonos is an abnormal posturing condition characterized by rigidity and severe arching of the back, with the head and the heels touching the supporting surface) and seizures may appear in as many as 20% of the infants. Children may also present with symptoms suggestive of meningitis, e.g., headache, vomiting, irritability and photophobia.
- Myositis (inflammation of skeletal muscles) is a complication in young children, especially after infection with influenza B.

In children over 5 years and adolescents the most frequent symptoms are fever, cough, non-localized throbbing headache, chills, myalgia and sneezing. Fever is usually in the 38-40°C range and a second peak, without bacterial superinfection, may occur around the fourth day of illness. Backaches, sore throat, conjunctival burning with watery eyes and epistaxis may be present, but gastrointestinal symptoms are infrequent. Chest auscultation is usually normal, but occasionally coarse breath sounds and crackles may be heard.

Clinical Services – Overview

Utilization rates for acute care beds in the ARHA are generally in the 50-55% range, therefore, there is capacity to accommodate significant increases in patients. Based on this capacity, alternate sites of care have not been designated. The challenge to provide care will be with human resources.

Regional Bed Capacity by Facility (**Tool 12.13**)

Additional Facility Bed Capacity Information (**Tool 12.14**)

Designated ARHA Non-Influenza sites

Based on the geographical location and physical layout of the sites and the need to carry on normal operations during a pandemic situation, four (4) acute care hospitals in the region have been designated as non-influenza sites. To the extent possible, patients with influenza like illness will not be admitted to these sites, in order to reduce the risk of spreading influenza to maternity, surgery and cardiac, etc. patients. As well, patients requiring these services may be redirected to these non-influenza sites. Note: The decision to move to influenza or non influenza sites will be decided by Incident Commander or designate.

****Non-influenza sites may be revised and/or influenced by other factors***

The non-influenza sites are: Tri Lake Health Centre, Killarney
Viriden Health Centre
Neepawa Health Centre
Russell Health Centre

Outpatients

The point of entry for many clients with influenza like illness will be Assiniboine RHA Emergency Departments. As well, clients will be advised through the ARHA Influenza Call Centre, to present to the nearest open Emergency Department. Whenever it is safe to do so, the preferred route of management will be at-home self care, in order to preserve resources for those whose care cannot be provided at home.

Several tools have been created to assist in managing the anticipated volume of patients. These are:

- Adult Outpatient Influenza Flowsheet (**Tool 12.6**)
- Child and Infant Influenza Flowsheet (**Tool 12.9**)

These tools have been designed as a help guide for the management of outpatients and should be used as a supplement to assist with assessment and treatment decisions. The staff at the ARHA Influenza Call Centre may be utilized to make follow-up telephone calls for outpatients who are not admitted. At the direction of the Incident Commander or designate, copies of the completed Nursing Triage and Assessment Record, Influenza Risk Assessment and ARHA Secondary Clinical Assessment (if applicable) will be faxed to the ARHA Influenza Call Centre.

Client Management

1) Telephone nursing care – Overview

One of the key components of the ARHA Pandemic Response, Clinical Management Plan will be the provision of telephone nursing care. Given the ARHA rural population, the limited potential for facilities to handle outpatient visits and the lack of personnel to staff alternate care settings, telephone nursing care will be the first response for many patients. Telephone nursing care also reduces the need for patients with straightforward symptoms to travel and to potentially interact with other patients or staff who could be carrying the virus. It also takes advantage of established ARHA protocols in providing telephone nursing care.

Telephone nursing care - Protocol

ARHA Policies regarding telephone nursing care and documentation, CL-VI-730, will remain in effect at all ARHA facilities and at the ARHA Influenza Call Centre, **with the following exception:**

“*Telephone nursing care Protocols for Nurses*” by Julie Briggs does not include a protocol for influenza. At the call of the Incident Commander or designate, the following protocols will be used:

- Influenza Telephone Nursing Care – Adult (**Tool 12.1**)
- Influenza Telephone Nursing Care – Child Under 18 years (**Tool 12.3**)

Copies of these protocols will be distributed to facilities at the time of activation and will be kept with the telephone nursing care manual and records at each acute nursing station.

For further information reference Section 7 – Communications

- A) Telephone nursing care Response Stages – Stages of Telephone nursing care will be determined by Incident Commander

Stage 1

Telephone nursing care is managed at each local site.

Required Resources - Normal staffing

- Stage 1 → Stage 2
- a) 75 or more influenza related calls/visits regionally in a 24 period
 - or**
 - b) 2 or more facilities significantly affected by influenza calls/visits
 - or**
 - c) At the discretion of the Incident Commander or designate.

Stage 2

ARHA Influenza Call Centre established and staffed during business hours

Required Resources - ARHA Influenza Call Centre – **Number To Be Determined**

- Two (2) RNs at all times during business hours
 - Two (2) dedicated telephone lines with voice mail capacity of 100
 - Photocopier, fax, computers with email access
- ARHA Staff information line
- One dedicated staff member, preferable with HR background open during business hours

Location & Number To Be Determined

- ARHA Toll-free staff information line established and staffed during business hours

**Location: Souris Corporate Office
1-888-682-2253**

Stage 2 → Stage 3 a) 100 calls or more per day to ARHA Influenza Call Centre

or

b) At the discretion of the Incident Commander or designate.

Stage 3

ARHA Influenza Call Centre, staffed 24 hours per day

Required Resources - ARHA Influenza Call Centre – **Number To Be Determined**

- Minimum three (3) RNs, days and evenings,
 - Two (2) RNs at night (24 hours/day 7 days/week), increase as needed.
 - Administrative Assistant during business hours
 - Four (4) dedicated telephone lines with voice mail capacity
 - Photocopier, fax, computers with email access
- ARHA Staff information line
- One dedicated staff member, preferably with HR background, business hours plus weekend days, increase if required.

Location & Number To Be Determined

- ARHA Toll-free staff information line staffed during business hours and Saturdays and Sundays, days only

**Location: Souris Corporate Office
1-888-682-2253**

The forms to be utilized for telephone nursing care during a Pandemic are to be completed and placement of patient/client determined by utilizing the following forms and flow sheets.

Influenza Telephone nursing care – Adult

<p align="center">ASSINIBOINE REGIONAL HEALTH AUTHORITY</p> <p align="center">Influenza Telephone Nursing Care & Assessment Record - Adult</p>	<p>Date: _____ Time of Call: _____ Ended: _____</p> <p>Name of Caller: _____ Phone No.: _____</p> <p>Name of Client: _____</p> <p>Caller's Relationship to Client: _____</p> <p>Client's Age: _____ Male <input type="checkbox"/> Female <input type="checkbox"/></p> <p>Client's Physician: _____</p> <p>Has the client tried to contact physician? Yes <input type="checkbox"/> No <input type="checkbox"/></p>
<p>Primary Problem: (include history of illness)</p> <p>_____</p> <p>_____</p> <p>_____</p> <p>_____</p> <p>_____</p> <p>_____</p>	<p>Allergies/Reactions: _____</p> <p>_____</p> <p>Medications: _____</p> <p>_____</p> <p>_____</p> <p>Immunization Status: (E.g. Td, pneumo, MMR, influenza, other: _____)</p> <p>Up to date <input type="checkbox"/> (year) ____ Unknown <input type="checkbox"/> N/A <input type="checkbox"/></p> <p>Travel History or Exposure: _____</p>

Key Questions | Name, Age, Onset, Contributing Cause, Allergies

Assessment

Actions

A. Are any of the following present?

- Confusion, delirium, unresponsiveness
- Difficulty breathing
- Blue lips or tongue
- Seizure
- Signs of dehydration in persons who are elderly or immunosuppressed (HIV/AIDS, Chemotherapy)
 - Decreased urine
 - Sunken eyes
 - Pinched skin does not spring back
 - Excessive thirst, dry mouth

YES

“Call Ambulance or seek emergency care”

NO

Go to B

B. Are any of the following present?

- | | | |
|--|-----|------------------------------------|
| <input type="checkbox"/> Rapid breathing, difficulty swallowing, wheezing | YES | "Seek medical care within 2 hours" |
| <input type="checkbox"/> Temperature over 40°C or 104°F and unresponsive to fever reducing methods | | |
| <input type="checkbox"/> Temperature over 38°C or 101°F in elderly or immunosuppressed | NO | Go to C |
| <input type="checkbox"/> Headache, neck stiffness, photophobia | | |
| <input type="checkbox"/> Painful urination and back or flank pain | | |
| <input type="checkbox"/> Purple or blood colored spots on skin | | |
| <input type="checkbox"/> Sudden high fever after starting to feel better | | |

C. Are any of the following present?

- | | | |
|---|-----|---------------------------------------|
| <input type="checkbox"/> Fever has persisted for more than 72 hours | YES | "Seek medical care within 24 hours" |
| <input type="checkbox"/> Cough with colored sputum | | |
| <input type="checkbox"/> Frequent or painful urination | | |
| <input type="checkbox"/> Earache, sore throat, swollen glands | NO | Follow Self Care At Home Instructions |
| <input type="checkbox"/> Vomiting, diarrhea, abdominal pain | | |
| <input type="checkbox"/> Rash | | |
| <input type="checkbox"/> Recent surgery or delivery, pregnant, diabetes, kidney or liver disease, heart problems, chronic medical condition, immune compromised | | |

Call back or contact primary care if no improvement or if health becomes worse.

NOTE:

Call was ended with a statement: ***"I have given you advice on your situation as you have described to me and you are encouraged to follow the advice I have provided."***

Faxed to "on call" facility (if applicable). Time: _____

Signature of Registered Nurse: _____

Date and Time: _____

Reviewing Registered Nurse Initials _____

Date and Time: _____

SELF CARE AT HOME INSTRUCTIONS:

1. Limit activity: rest.
2. Increase fluids (unless person has CHF or fluid restricted diet).
3. Take *acetaminophen* or *ibuprofen*.
4. Take a lukewarm bath, a cup of Epsom salts in the bath may be soothing.
5. Gargle with warm water for sore throat.
6. Use a hot water bottle or heating pad for muscle pain.
7. When coughing, cover your mouth and nose with a tissue and then discard the tissue. You may also cough into your upper sleeve, not your hand. Clean your hands after coughing or sneezing.
8. Use a cough suppressant (*dextromethorpan*) if a cough is keeping you awake.
9. Frequent hand washing (see Section 4-Tool 4.6).
10. Use a decongestant for stuffy nose.
(*note: drops/sprays should be used for 2-3 days only.*)
11. Use lozenges or throat sprays for sore throat.
12. Arrange for child care or other help if necessary.
13. Visit the ARHA website for further information or call Health Links-Info Santé: 1-888-315-9257.

Influenza Telephone Nursing Care – Child under 18 years

<p>ASSINIBOINE REGIONAL HEALTH AUTHORITY</p> <p>Influenza Telephone Nursing Care & Assessment Record – Child Under 18 Years</p>	<p>Date: _____ Time of Call: _____ Ended: _____</p> <p>Name of Caller: _____ Phone No.: _____</p> <p>Name of Client: _____</p> <p>Caller's Relationship to Client: _____</p> <p>Client's Age: _____ Male <input type="checkbox"/> Female <input type="checkbox"/></p> <p>Client's Physician: _____</p> <p>Has the client tried to contact physician? Yes <input type="checkbox"/> No <input type="checkbox"/></p>
<p>Primary Problem: (include history of illness)</p> <p>_____</p> <p>_____</p> <p>_____</p> <p>_____</p> <p>_____</p> <p>_____</p>	<p>Allergies/Reactions: _____</p> <p>_____</p> <p>Medications: _____</p> <p>_____</p> <p>_____</p> <p>Immunization Status: (E.g. Td, pneumo, MMR, influenza, other: _____)</p> <p>Up to date <input type="checkbox"/> (year) ____ Unknown <input type="checkbox"/> N/A <input type="checkbox"/></p> <p>Travel History or Exposure: _____</p>

Key Questions Name, Age, Onset, Contributing Cause, Allergies

Assessment

Actions

A. Are any of the following present?

- Difficulty breathing/wheezing
- Skin or lips turning blue
- Chest caves when breathing
- Crowing sound when breathing that does not clear after 20 minutes of steam
- Purple or blood colored dots on the skin
- Seizure
- Confusion, unusually quiet or unresponsive
- Limp or unable to move
- Stiff neck
- Unable to swallow
- Has not had a wet diaper in 6 hours

YES

“Call Ambulance or seek emergency care”

NO

Go to B

B. Are any of the following present?

- | | | |
|--|------------|--------------------------------------|
| <input type="checkbox"/> Child is under 2 years | YES | "Seek medical care within two hours" |
| <input type="checkbox"/> Temperature over 40°C or 104°F and unresponsive to fever reducing methods | | |
| <input type="checkbox"/> Vomiting for more than 4 hours or has severe diarrhea | NO | Go to C |
| <input type="checkbox"/> Headache, photophobia | | |
| <input type="checkbox"/> Rapid breathing, trouble swallowing | | |
| <input type="checkbox"/> Signs of dehydration | | |
| <input type="checkbox"/> Decreased urine | | |
| <input type="checkbox"/> Sunken eyes | | |
| <input type="checkbox"/> Excessive thirst | | |
| <input type="checkbox"/> Crying without tears | | |
| <input type="checkbox"/> Not drinking adequate amounts of fluids | | |
| <input type="checkbox"/> Solid red rash that is tender to the touch | | |

C. Are any of the following present?

- | | | |
|---|------------|-------------------------------------|
| <input type="checkbox"/> Fever has persisted for more than 72 hours | YES | "Seek medical care within 24 hours" |
| <input type="checkbox"/> Cough with colored sputum | | |
| <input type="checkbox"/> Frequent or painful urination | NO | Follow Care at Home instructions |
| <input type="checkbox"/> Earache, sore throat, swollen glands | | |
| <input type="checkbox"/> Vomiting, diarrhea, abdominal pain | | |
| <input type="checkbox"/> Rash | | |
| <input type="checkbox"/> History of pneumonia, heart disease, cancer, cystic fibrosis, recent surgery | | |
| | | |

NOTE:

Call was ended with a statement: ***"I have given you advice on your situation as you have described to me and you are encouraged to follow the advice I have provided."***

Faxed to "on call" facility (if applicable). Time: _____

Signature of Registered Nurse: _____

Date and Time: _____

Reviewing Registered Nurse Initials _____

Date and Time: _____

CHILD - CARE AT HOME INSTRUCTIONS:

1. Limit activity: rest.
2. Increase fluids (unless person has CHF or fluid restricted diet).
3. Give *acetaminophen* or *ibuprofen*, according to instructions on the bottle. **DO NOT** give aspirin to children under the age of 18.
4. Give a lukewarm bath, or sponge head, neck, underarms and trunk with lukewarm water.
5. Dress child in light clothing.
6. Check temperature every 2-4 hours.
7. Encourage your child when coughing to cover their mouth and nose with a tissue and then discard the tissue or to cough into their upper shirt sleeve, not their hands. Wash hands after coughing or sneezing
8. Use a cough suppressant (*dextromethorpan*) if a cough is keeping child awake.
9. Wash your hands often and teach your child to wash their hands.
10. Keep child home from school/daycare for six (6) days.
11. Visit the ARHA website for further information or call Health Links-Info Santé: 1-888-315-9257.

2) Presentation to open Emergency Room

Primary Assessment

The ARHA Outpatient and Emergency Report Form and Nursing Triage and Assessment Record will be completed, as per ARHA policy CL-VI-192 and will provide comprehensive assessment data in a pandemic situation. As ARHA clinical staff are familiar with these forms, no additional education will be required. In a pandemic situation, ARHA Influenza Risk Assessment (Adults), ARHA Influenza Risk Assessment (Child under 18 Years) and ARHA Secondary Clinical Assessment forms will be used as a supplement to the Nursing Triage and Assessment Record. The Incident Commander or designate will determine when these forms will be implemented.

Tool 12.5 - ARHA Influenza Risk & Primary Assessment (adult) - Supplement to ARHA Nursing Triage and Assessment Record to be used when someone 18 years of age presents themselves at an open ER or designated Triage Station.

Tool 12.6 - Adult Outpatient Triage Flow Sheet

Tool 12.7 – Self Care Instructions (Adults)

Tool 12.8 - ARHA Influenza Risk & Primary Assessment (children <18 years) - Supplement to ARHA Nursing Triage and Assessment Record to be used when some one <18 years of Age is presents themselves at an open ER or designated Triage station.

Tool 12.9 - Children and Infants Outpatient Triage Flow Sheet

Tool 12.10 – Self Care Instructions (Children)

Tool 12.11 - ARHA Secondary Clinical Assessment for Adults and Children to be used when a patient is admitted to Hospital for treatment or Observation, as indicated based on Risk Assessment results or returns for reassessment.

Tool 12.12 - ARHA Follow Up Action Sheet

Identification

Health Care Number:	
Name: _____	
Surname/Family Name	First Name
Age: _____(yrs)	DOB: ____/____/____ DD MM YYYY
DATE OF CONSULTATION: ____/____/____ DD MM YYYY	

Risk Assessment for Complications Of Influenza

For patients 18 years of age and older

High Risk Groups	Tick all Relevant	
	YES	NO
Women in the second or third trimester of pregnancy		
Chronic cardiac disease (hypertension is not enough)		
Chronic pulmonary disease – asthma		
Chronic pulmonary disease – COPD or emphysema		
Chronic pulmonary disease – other than asthma, COPD or emphysema		
Chronic renal disease		
Non insulin dependent diabetes mellitus		
Insulin requiring diabetes mellitus		
Receiving immunosuppressive therapy, AIDS patients		
Neoplastic disease		
Socially unable to cope (no support at home)		
Patients on long-term acetylsalicylic acid therapy		
Haematological abnormalities		
Hepatic disease		
Resident of nursing home		
Travel History or Exposure		
> 65 year old		

Primary Assessment:

Description	Threshold for Indication of Secondary Assessment	Yes	No
Temperature	≤ 35°C or ≥ 39°C		
Respiratory rate	≥ 24/minute (or <9/minute)		
Heart rate	≥ 100/minute		
Blood pressure	≤ 100 mmHg Systolic		
Altered mental status	New confusion		
Function	New inability to function independently		
Chest signs or symptoms	Any abnormality on auscultation or chest pain		
Skin Colour	Cyanosis (bluish colour)		
Oxygen saturation*	≤ 90% on room air		

* a secondary assessment is required for any primary assessment “yes” response

Details of Vaccination	Yes	No	N/A	Lot Number	Date Given DD/MM/YYYY	Tick if given > 14 days ago
INFLUENZA vaccine within the last 12 months					/ /	
PNEUMOCOCCAL vaccine within the last 5 years					/ /	

Details of antivirals within last 3 months	Yes	No	N/A	Date Commenced DD/MM/YYYY	Date Ceased DD/MM/YYYY	Tick if still taking	Dose
Amantadine				/ /	/ /		
Relenza/ Zanamivir				/ /	/ /		
Tamiflu / Oseltamivir				/ /	/ /		

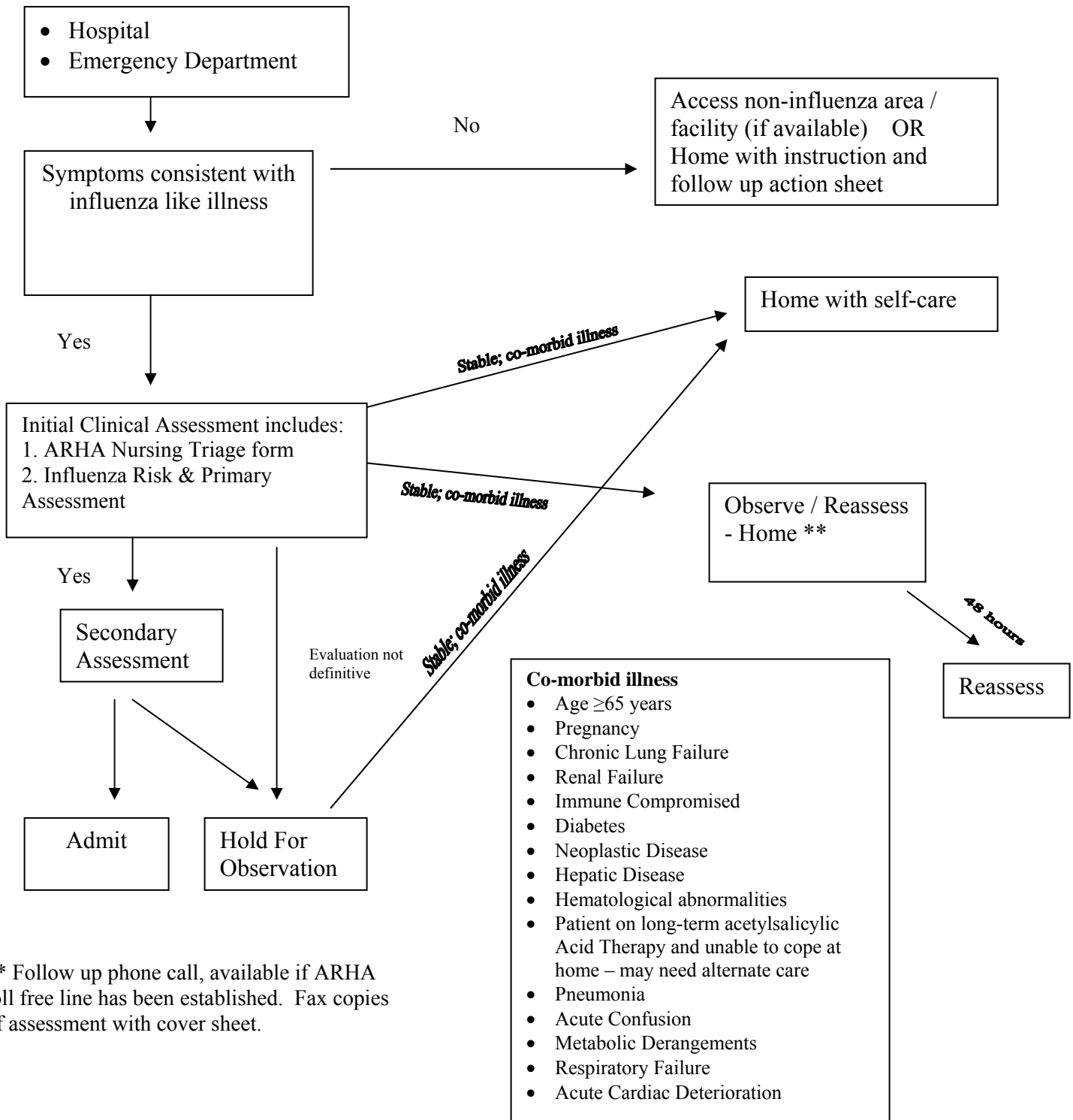
Outpatient Care Guidelines:

- If patient is not in a high risk group and the primary assessment is in the No column, send patient home with **Adult Self Care at Home Instructions (Tool 12.2)** and **Follow up Action Sheet (Tool 12.12)**.
- If patient is in high risk group and the primary assessment is in the No column, send patient home with instructions for Adult Self Care at Home Instructions (**Tool 12.2**) and reassess in 48 hours or admit if warranted. Provide Follow up Action Sheet.
- Secondary Assessment – as indicated above, please record on **ARHA secondary clinical assessment for Adults and Children (Tool 12.11)**
- If client is not admitted, please provide client with a copy of this record, Follow Up Action Sheet and advise to bring with them on subsequent visits.

ARHA Adult Outpatient Triage Flow sheet

Tool 12.6

Algorithm for the initial assessment of outpatients / influenza illness.



** Follow up phone call, available if ARHA toll free line has been established. Fax copies of assessment with cover sheet.

Note: If caller to attend facility – please see Designated ARHA Non-Influenza Sites
If not attending facility – please follow the Self Care at Home Instructions Tool (12.2)

Self Care Instructions (Adult) - If You Are Unwell

A. Is It The Flu?

The most prominent characteristics of the flu are the sudden appearance of a fever (38°C or 100.4°F or more), a dry cough and aching in the body, especially in the head and lower back and legs. Usually the person feels extremely weak and tired and doesn't want to get out of bed. Other symptoms can be chills, aching behind the eyes, loss of appetite, a sore throat and a runny, stuffy nose. After your symptoms first appear you can spread the virus to others for 7 days after the onset of symptoms or until 24 hours after symptoms have resolved or whichever is longer.

B. What Can You Do For Yourself?

- **Rest** -Probably, you will feel very weak and tired until your temperature returns to normal (about three days), and resting will provide comfort and allow your body to use its energy to fight the infection. You should avoid contact with others while the infection is contagious (7 days after the onset of symptoms or until 24 hours after symptoms have resolved or whichever is longer)
- **Drink plenty of fluids** -Extra fluids are needed to replace those lost because of the fever (sweating). If your urine is dark, you need more to drink. Liquids, especially warm ones like chicken soup, help loosen mucus. Try to drink a glass of juice/water or an equal amount of some other fluid every hour while you are awake.
- **Take *acetaminophen* or *ibuprofen*** as recommended on the package to bring down your fever and ease your muscle pain (unless your doctor says otherwise). **CHILDREN UNDER 18 YEARS OF AGE SHOULD NOT TAKE ACETYLSALICYLIC ACID (ASA) OR ANY PRODUCTS CONTAINING ASA.** The combination of influenza and ASA in this age group has been known to cause Reye's syndrome, a very serious condition affecting the nervous system and liver. **ANTIBIOTICS ARE NOT EFFECTIVE AGAINST INFLUENZA** because it is a virus, and antibiotics fight bacteria. A hot water bottle or heating pad may also relieve muscle pain. A cup of Epsom salts in a warm bath may be soothing.
- **Gargle** -with a glass of warm water to ease a sore throat. Sugarless hard candy also helps, as do lozenges.
- **Use saline nose drops or spray** (ones that contain salt water but no medicine) to help soothe or clear a stuffed nose. Try not to blow your nose as this could send infected secretions into your sinuses. Wipe your nose with disposable tissues and put them in the garbage can immediately. Cover your nose and mouth with tissues and discard when you cough or sneeze or cough into your upper sleeve. **Wash your hands often.**
- **Do not smoke** - it is very irritating to the damaged airways.

- **If you are a single parent, or you are responsible for the care of someone who is frail or disabled, you may need to call someone to help you until you are feeling better.**
- If you buy medicine at the drug store to treat your symptoms (“over-the-counter” medications), check with the pharmacist to see if it is the best one for you. Mention if you have a chronic illness or are taking any other medicine. Take into consideration that:
 - It is better to buy a remedy that treats only one symptom. This way you are not taking in substances that are doing nothing, or that may trigger an adverse reaction.
 - Read the label to be sure that the ingredient treats the symptom you have.
 - Extra strength remedies contain a higher dose of the ingredient. Try the standard dose first. It may work fine and not have the same risk of side effects.
 - Long acting medications tend to have more side effects than short acting medications.
 - Read the label and note any possible side effects or interactions with other drugs or health conditions.
 - If you have a chronic condition and are taking prescription medications, it is a good idea to ask the pharmacist to suggest a medication that would be safe for you to take, if you have not already discussed this with your doctor.

Muscle pain and fever - *Acetaminophen* is a good choice because it causes less stomach irritation than other drugs. ***Acetylsalicylic acid* should not be given to children under the age of eighteen.**

A cough can be helpful if it gets rid of mucus. If a dry cough is keeping you awake, a cough suppressant, *dextromethorphan* is safe and effective. If you need help loosening mucus, an expectorant such as *guaifenesin* is good. It is not helpful to take a suppressant and an expectorant together.

A stuffy nose - Decongestants help shrink swollen blood vessels in the nose. There are two kinds, pills and nose drops/sprays. Nose drops/sprays act in minutes. They work better and have fewer side effects than the pills. However, *they only work for 2 or 3 days, and then they make matters worse.* *Oxymetazoline*, *phenylephrine* and *xylometazoline* are nose drops/sprays. If your nose is still stuffy after three days, you may want to switch to the pills. The pills take 1/2 hour to work. They may cause dry mouth, sleep disturbances and other side effects. *Pseudoephedrine* is a decongestant in pill form.

Sore throat - Some medications work by numbing the throat, *dyclonine* works the best. Others are *benzocaine*, *hexylreorcinol*, menthol and phenol. These are lozenges or throat sprays. Other lozenges act by coating the throat. They may contain honey, herbs or pectin.

Ingredients to avoid:

- *phenylpropanolamine (PPA)* has been linked with strokes.

Note: Older people may become much more sensitive to medications in general and may experience more side effects, especially to the nervous system (e.g., confusion). It is best to take no more than three or four medications at a time. This includes both prescription and over the counter drugs.

If you have any questions at all about medications, don't hesitate to talk to your pharmacist.

Generally, people begin to feel better after their temperature returns to normal, in about three days, and are ready to return to their normal activities/work in about a week. It is common for tiredness and a cough to linger on for several more weeks.

C. When To Seek Medical Attention

If you are a normally healthy person **and have been suffering with the flu, it is time to call the doctor, EMS or health help line if:**

- You become short of breath while resting or doing very little.
- Breathing is difficult or painful.
- You are coughing up bloody sputum.
- You are wheezing.
- You have had a fever for three or four days and you are not getting better-or you may be getting worse.
- You have started to feel better, and suddenly you get a high fever and start to feel sick again.
- It is noted by yourself or others that you are extremely drowsy and difficult to wake up or that you are disoriented or confused.
- You have extreme pain in your ear.

Seek medical care as soon as possible, in order to prevent your condition from worsening. Bacteria may have invaded your damaged tissues. At this point your doctor may consider giving you an antibiotic.

If you have heart or lung disease or any other chronic condition that requires regular medical attention, if you are frail, or if you have an illness or are on treatments or medications that affect your immune system and you get the flu, call your doctor. If you are living with a long-term illness, your doctor may suggest changes to your usual management routine and/or provide you with extra help in treating the flu and preventing complications e.g., antiviral drugs. **These medications must be taken within 48 hours of the first symptoms to be effective so call your doctor right away.**

What your Doctor May Prescribe:

Recently, drugs called antivirals have been developed which can fight viruses. ***To treat influenza, they must be started within 48 hours of the first symptoms of the flu*** -the sooner, the better.

At the time of a pandemic, antivirals will likely be in short supply. Health Canada will provide advice as to who should get antivirals as a priority. For example, persons with underlying chronic diseases may be one of the first groups to receive treatment with antivirals. If you are in a priority group and you have symptoms of the flu, you should call your doctor straight away. If you are a healthy person and have not been identified as being in a priority group for antivirals, you do not need to call your doctor unless you have the more severe symptoms listed above.

ARHA Influenza Risk & Primary Assessment for Children < 18 years.
Supplement to ARHA Nursing Triage Assessment Record for patients under 18.

Identification

Health Care Number:	
Name: _____	_____
Surname/Family Name	First Name
Age: _____(months/years)	D.O.B. _____ / _____ / _____
	DD MM YYYY
Date of Consultation _____ / _____ / _____	
	DD MM YYYY

Risk Assessment for Complications of Influenza
for patients under 18 years of age

High Risk Groups	Tick all relevant	
	Yes	No
Travel History or Exposure		
Chronic cardiac disease		
Chronic pulmonary disease – asthma		
Chronic pulmonary disease – other than asthma		
Chronic renal disease		
Diabetes mellitus		
Child with cyanotic congenital heart disease		
Receiving immunosuppressive therapy, AIDS patients		
Neoplastic disease		
Hepatic disease		
< two (2) years old		

Primary Assessment

Description	Results Requiring Secondary Assessment	For this patient	
		Yes	No
Temperature	$\leq 35^{\circ}\text{C}$ or $\geq 39^{\circ}\text{C}$		
Respiratory Rate	< 2 months = >60 breaths per minute 2-12 months = >50 breaths per minute >12 months to 5 years = >40 breaths per minute >5 years + >30 breaths per minute		
Skin colour and temperature (lips, hands)	Cyanosis, sudden pallor, cold legs up to the knee		
Chest symptoms (pain may be difficult to detect in young children)	Chest indrawing, wheezing, grunting, inquire for chest pain, cough		

Description	Results Requiring Secondary Assessment	For this patient	
		Yes	No
Mental Status	Lethargic or unconscious / Irritability, excessive crying or fussiness		
Function	Unable to breastfeed or drink, persistent vomiting (>2-3 times/24 hr.)		
Neurologic symptoms and signs	Seizures, full fontanelle, stiff neck		
Oxygen saturation	<90% room air		

Details of vaccination	Yes	No	N/A	Lot Number	Date Given DD/MM/YYYY	Tick if given > 14 days ago
INFLUENZA vaccine Within last 12 months?						
PNEUMOCOCCAL vaccine within the last 5 years?						

Details of antivirals: within last 3 months	Yes	No	N/A	Date commenced DD/MM/YYYY	Date ceased DD/MM/YYYY	Tick if still taking	Dose
amantadine							
Relenza/ Zanamivir							
Tamiflu / Oseltamivir							

Care Guidelines

- All children in high risk groups or with a yes in primary assessment require physician assessment. Findings to be documented on the **Secondary Clinical Assessment for Adults and Children (Tool 12.11)**
- Children not in high risk group, with the primary assessment in No column, may be sent home with responsible adult with instructions for care at home and Follow Up Action Sheet or admit/reassess if warranted.(Utilizing Secondary Clinical Assessment form
- If client not admitted, provide with **Self Care At Home: When A Child Is Unwell (Tool 12.10)** and **Follow Up Action Sheet (Tool 12.12)**

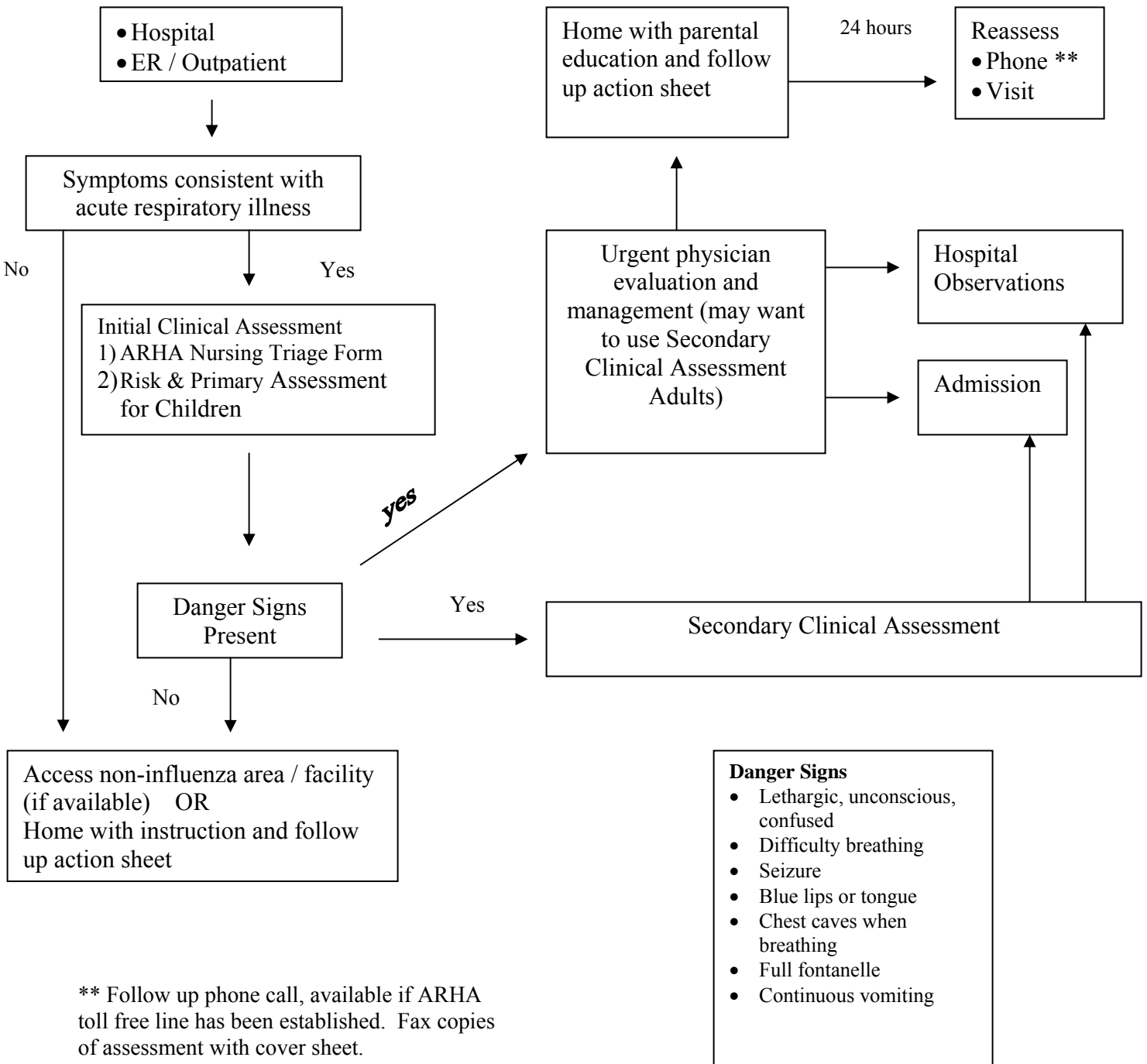
Assessment

- Secondary Assessment – For patients requiring further assessment as indicated by the physician secondary assessment findings will be documented on **ARHA Secondary Clinical Assessment for Adults and Children (Tool 12.11)**

Children and Infants (< 18 years old) Outpatient Triage Flow sheet

Tool 12.9

Algorithm for the initial assessment of children and infants under 18 years of age.



** Follow up phone call, available if ARHA toll free line has been established. Fax copies of assessment with cover sheet.

- Danger Signs**
- Lethargic, unconscious, confused
 - Difficulty breathing
 - Seizure
 - Blue lips or tongue
 - Chest caves when breathing
 - Full fontanelle
 - Continuous vomiting

Note: If caller to attend facility – please see Designated ARHA Non-Influenza Sites
If not attending facility – please follow the Self Care at Home Instructions (Tool 12.4)

Self Care Instructions: When A Child is Unwell

Older children and teens have the same symptoms of the flu as adults. Very young children and infants probably have similar symptoms, but do not know how to tell people that they have sore muscles or a headache. These children may be irritable and eat poorly. They sometimes develop a hoarse cry and barking cough (croup). Younger children may also have diarrhea, vomiting and stomach pain – especially children under six (6) months.

Some of the things you can do for your child are:

- Give *acetaminophen* or *ibuprofen* every four to six hours for the fever in the dose recommended on the package (unless your doctor says otherwise). **DO NOT GIVE ACETYLSALICYLIC ACID CONTAINING MEDICATION (e.g., Aspirin, Bufferin, etc.)** Your pharmacist can provide advice on appropriate over the counter medications for treating fever.
- Do not expect to be prescribed antibiotics for uncomplicated influenza, as they will have no benefit. Antibiotics may be prescribed for complications of influenza such as pneumonia or ear infection.
- Dress the child in lightweight clothing and keep the room temperature at 20°C.
- Offer cool fluids frequently when the child is awake.
- Avoid cool baths.
- Allow the child to rest and stay at home if possible for 7 days or more, so the virus isn't spread to other children.
- Use salt-water nose drops to treat a stuffy nose. Throw away tissues as soon as you have wiped your child's nose. Teach your child to cough or sneeze into their upper sleeve or into a tissue, then to throw the tissue away. Wash your hands often and teach your child to do so after wiping the nose.

Take your child to the doctor if your child:

- Has heart or lung disease or any chronic illness requiring regular medical care.
- Has a disease or is taking drugs or treatments that affect the immune system.
- Takes *acetylsalicylic acid (ASA)* regularly for a medical condition.
- Has trouble breathing.
- Is less than three (3) months old and has a temperature less than 36.0°C or more than 38.0°C rectally.
- Is constantly irritable and will not calm down.
- Is listless and not interested in playing with toys.
- Has a fever that lasts more than five (5) days.
- Drinks so little fluid that they are not urinating at least every six hours when awake.
- Has vomiting for more than four (4) hours, or has severe diarrhea.
- Note: green or yellow nasal discharge does not mean a child has a bacterial infection and needs antibiotics.

Take your child to the hospital emergency department or call 911 if your child:

- Has severe trouble breathing not caused by a stuffy nose.
- Has blue lips.
- Is limp or unable to move.
- Is hard to wake up, unusually quiet or unresponsive.
- Has a stiff neck.
- Seems confused.
- Has a seizure (convulsion/fit).
- Has not had a wet diaper in 6 hours.

How to take a child's temperature

There are four (4) ways to take a child's temperature:

- By the mouth (oral).
- By the bum (rectal).
- Under the armpit (axillary).
- In the ear (tympanic).

The best method to choose depends on your child's age: (*Cdn Pediatric Triage Guidelines*)

- Birth to 2 years: best choice for an exact reading - rectal, second choice – armpit (to check for fever).
- Between 2 and 5 years: best choice – rectal, second – ear, third – armpit.
- Older than 5 years: best choice – oral, second – ear, third – armpit.

There are two types of glass thermometers: one for oral and axillary temperatures (it has a long slender bulb at one end, containing mercury) and one with a short, stubby, larger bulb for rectal temperatures. As the mercury expands, in response to the heat from the child's body, it moves up the column.

A digital thermometer can be used for rectal, oral and armpit temperature taking. It is made of unbreakable plastic, is easy to read and measures temperature faster than glass. Ear thermometers are available but are expensive.

A fever strip is not recommended because it does not give an accurate temperature reading.

Rectal Method: *This method is not recommended for children with illnesses/treatments affecting their immune system.*

- *If you are using a glass thermometer*, be sure it is a rectal thermometer.
- Clean the thermometer with cool, soapy water and rinse (hot water causes the mercury to expand and may burst the thermometer).
- Hold the thermometer at the end away from the mercury and shake it with firm downward flicks of the wrist so that the mercury goes below 36°C (96.8°F).
- Cover the silver tip with petroleum jelly (such as Vaseline)
- Place the baby on his/her back with his knees bent.
- Gently insert the thermometer in the rectum, about 2.5 cm (1 inch), while holding it with your fingers.
- Hold for at least two minutes. Remove the thermometer. Hold it near the light and slowly turn it until the line of mercury is seen. Read the temperature where the line of mercury ends.
- Clean the thermometer with cool soapy water and rinse. Use a cotton swab soaked in alcohol to rub down the thermometer.
- Store the thermometer in a container to prevent breakage.

Armpit Method

- Use an oral glass thermometer.
- Clean the thermometer and shake down the mercury as in “rectal method”.
- Place the silver tip of the thermometer in the center of the armpit.
- Make sure your child’s arm is tucked snugly against his/her body.
- Hold the thermometer in place for at least 4 minutes.
- Remove, read, clean and store the thermometer as in “rectal method”.

To use a digital thermometer:

- Press the button to turn the thermometer “on”.
- Put the thermometer under your child’s armpit. The silver tip must touch the skin.
- Hold the top of the thermometer with one hand and hold down your child’s arm with the other hand.
- Wait for the thermometer to beep.
- Read the temperature on the display.
- To clean a digital thermometer, wash only the tip with soap and warm (not hot) water and wipe off with alcohol after use. Dry well.

Mouth method:

- Clean the thermometer and shake down the mercury as in “rectal method”.
- Do not give the child cold or hot liquids for ½ hour before taking his/her temperature.
- Carefully place the tip of the thermometer under the child’s tongue. Tell him/her to close the mouth but not to bite down. **IMPORTANT**-This method is not recommended for children under 5 years of age.
- With the child’s mouth closed, leave the thermometer in place for 3 to 4 minutes. Stay with child and make sure he/she remains still.
- Remove thermometer, read, clean and store as in “rectal method”.

Ear method: *This method is not recommended for children under one year of age.*

- Use a clean probe tip each time and follow the manufacturer’s instructions carefully.
- Gently tug on the ear, pulling it up and back. This will help straighten the ear canal, and make a clear path inside the ear to the eardrum.
- Gently insert the thermometer until the ear canal is fully sealed off.
- Squeeze and hold down the button for one second.
- Remove the thermometer and read the temperature.

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Ask the pharmacist any questions you may have when you purchase your thermometer. If you are purchasing a glass thermometer, look for one with a mercury column that is easy to see and degree markings that are easy to read.

What is normal temperature?

The normal temperature range varies, depending on the method you use:

Rectum:	36.6°C to 38°C (97.9°F to 100.4°F)
Armpit:	34.7°C to 37.3°C (94.5°F to 99.1°F)
Mouth:	35.5°C to 37.5°C (95.9°F to 99.5°F)
Ear:	35.8°C to 38°C (96.4°F to 100.4°F)

What You Can Do For Your Child

- Allow your child to rest. He/she will probably feel very weak until their temperature returns to normal.
- Offer fluids frequently while awake; extra fluids are needed to replace those lost in sweating. If your child's urine is darker than usual, they need more to drink.
- Give your child *acetaminophen* every 6 hours or *ibuprofen* as recommended on the package for fever and muscle pain. Children under 18 years of age should not take *acetylsalicylic acid (ASA)* or any products containing ASA. Antibiotics won't help.
- Treat your child's symptoms (e.g., cough suppressant, salt water nose drops).
- Teach the child to cover their mouth when they cough and then throw the tissue away.
- Wash your hands often and teach your child to do so as well.
- Keep your child home from school for 7 days after onset of symptoms or until 24 hours after symptoms have resolved or whichever is longer, or until they are feeling better.

What to Expect:

- Day 1-3: Sudden appearance of fever, headache, muscle pain and weakness – also dry cough, sore throat and stuffed nose (but overshadowed by previous symptoms)
- Day 4: Fever and muscle aches decrease. Hoarse, dry or sore throat, cough and possible mild chest discomfort become more noticeable.
- Day 8: Symptoms decrease. Cough and tiredness may last 1-2 weeks or more.

If any of the following happen during the flu, TAKE YOUR CHILD TO SEE A DOCTOR:

Your child:

- Is short of breath even while resting.
- Has pain in the chest when breathing.
- Is coughing up bloody sputum.
- Is wheezing.
- Still has a fever and is not feeling better after 5 days.
- Is feeling better and suddenly develops a fever.
- Is hard to wake up, unusually sleepy or unresponsive.

Referenced from The Canadian Pediatric Triage and Acuity Scale; Implementation Guidelines for Emergency Departments.

Patient's Name: _____

Complementary laboratory studies	Results requiring supervision of patient or admission	Results for this patient
CBC (core battery, if appropriate)	Hgb <80 g/L	Hgb:
	WBC $\leq 2,500$ or $\geq 12,000$ cells/L	WBC:
	Bands $\geq 15\%$	Bands:
	Platelets $<50,000$ /L	Platelets:
Electrolytes	Na ≤ 125 meq/L or ≥ 148 meq/L	Na:
	K ≤ 3 meq/L or ≥ 5.5 meq/L	K:
BUN, Creatinine	BUN ≥ 10.7 mmol/L	BUN:
	Creatinine ≥ 150 mol/L	Creatinine:
Glucose	≤ 3 mmol/L or ≥ 13.9 mmol/L	Glucose:
CPK (only in patients with severe muscle pain)	CKMB $\geq 50\%$	CKMB:
	Total CK $\geq 1,000$ mol/L	Total CK:
EKG		
Blood gases, O ₂ saturation	Blood gases pO ₂ ≤ 60 room air PH < 7.35	P _O ₂ : PH:
	O ₂ saturation $\leq 90\%$ on room air	O ₂ saturation:
Chest x-ray (CXR)	Abnormal consistent with pneumonia	

FURTHER INVESTIGATIONS IN CHILDREN (<18)

- Under optimal circumstances, blood work and CXR should be obtained for all patients before admission. When resources are restricted, priority should be given to patients with co-morbidity or suspected complications (i.e. pneumonia, etc.) Similarly, when the clinical diagnosis of pneumonia is definite and resources are scarce, no CXR is needed, unless there is suspicion of a complication of the pneumonia (i.e. empyema). When antibiotics are limited, CXR may be indicated to confirm pneumonia before prescribing any drug and, if pneumonia is suspected but the resources for CXR are in short supply, antibiotics may be prescribed without radiological confirmation.
- Values of hemoglobin for young children are age related. Normal values for different ages are shown.

Hemoglobin Levels for Children < 18 Years

Age	Hemoglobin g/dl	Reference values (SI) mmol/l
1-3 days	14.5 – 22.5	2.25 – 3.49
2 months	9.0 – 14.0	1.40 – 2.17
6 – 12 years	11.5 – 15.5	1.78 – 2.40
12 – 18 years (M)	13.0 – 16.0	2.02 – 2.48
12 – 18 years (F)	12.0 – 16.0	1.86 – 2.48

- Values of WCB for young children are age related – Normal values for different ages are:

WCB Values for Children < 18 Years

Age	Cells/ u L (limits)	Reference values (SI) 10 ⁸ cells/L
Birth	9,000 – 30,000	9.0 – 30.0
24 h	9,400 – 34,000	9.4 – 34.0
1 month	5,000 – 19,500	5.0 – 19.5
1-3 years	6,000 – 17,500	6.0 – 17.5
4-7 years	5,500 – 15,500	5.5 – 15.5
8-13 years	4,500 – 13,500	4.5 – 13.5
> 13 years	4,500 – 11,000	4.5 – 11.0

- d) In a typical acute bacterial infection, the ration band/segmented neutrophils may increase up to 16-17% 228. Mean values of bands in normal individuals are 12.4% (range 9.5-15.3%).
- e) Normal values for children older than one week are the same as for adults.
- f) Values normal for infants/children:

Normal Values for Children < 18 years

Analyte	Age ranges	Normal Values
Sodium (Na)	Infants	139 – 146 mmol/L
	Children	138 – 145 mmol/L
	Thereafter	136 – 146 mmol/L
Potassium (K)	< 2 months	3.0 – 7.0 mmol/L
	2-12 months	3.5 – 6.0 mmol/L
	> 12 months	3.5 – 5.0 mmol/L
BUN	Infant / Child	1.8 – 6.4 mmol urea/L
	Thereafter	2.5 – 6.4 mmol urea/L
Creatinine	Infant	18 – 35 umol/L
	Child	27 – 62 umol/L
	Adolescent	44 – 88 umol/L
Glucose	Child	3.3 – 5.5 mmol/L

Provisional Diagnosis - Please tick all that apply.

	Yes	No
Influenza Suspected		
Recent contact (could be incubating)		
Unlikely but at risk of complications and not immunized		
Unlikely but at risk and immunized		
Unlikely (recovered from documented influenza)		
Pneumonia, confirmed (C) / suspected (S) / unlikely (U)	C / S / U	
Viral		
Bacterial		
Other		

Outpatient Guidelines

- Admit if pneumonia present and client is in high risk group.

If the patient is not admitted to hospital and sent home, patient should be provided with:

- Copies of ARHA Influenza Risk & Primary Assessment and ARHA Secondary Clinical Assessment
- Instructions for self management
- Copy of **ARHA Follow Up Action Sheet (Tool 12.12)**, indicating contact names and numbers if they deteriorate and any follow-up arrangements.

ARHA Follow Up Action Sheet

Health Centre Name _____

Mailing Address _____

Phone Number _____

Dear _____

You have been assessed by a nurse who uses a set of approved guidelines to determine the urgency of need for medical care. At this time you/your family member do not require admission to the hospital.

We recommend that you take the following action:

- Make an appointment to see your family doctor.
- Return to the health centre at _____ AM/PM.
- Other: _____
- Please follow the self care instructions that have been provided.

If you have further problems or if your condition worsens, please call the ARHA Influenza Call Centre at 1-877-646-3888 or go to the nearest open Emergency Department.

Time

Date

Signature R.N.

* Place original document on chart and provide copy to Client.

Care Guidelines

Short-term Observation

A special area of the hospital should be assigned for “short-term” observation of those patients whose clinical assessment does not lead to a definitive admission.

Diagnostic and Follow-up Tests

The following tests and criteria for patient management, based on clinical assessment of each case, should be considered on admission to hospital. Availability of resources and the pandemic guidelines must be considered. Tests may include:

- a) Chest radiograph.
- b) Complete blood count.
- c) Urea, creatinine, electrolytes
- d) Nasopharyngeal aspirate, sputum, cerebrospinal fluid for viral studies (antigen/nucleic acid determination, virus culture), and/or bacterial Gram stain and culture
- e) Blood culture
- f) Electrocardiogram, urine analysis, blood glucose.

Specific Management

Antiviral Therapy

Antivirals are most effective when started within 48 hours of onset of symptoms. Since supply is expected to be limited, drugs may be reserved for patients severely ill or those at high risk of influenza-related complications. For more information, please refer to *Section 8 - Antivirals* of the ARHA Pandemic Influenza Plan.

Antibiotics

Recommended empirical antibiotics for community-acquired pneumonia

1. Previously healthy and no use of antimicrobials within the previous 3 months:
A macrolide (strong recommendation, level I evidence) OR
Doxycycline (weak recommendation; level III evidence)
2. Presence of comorbidities such as chronic heart, lung, liver or renal disease; diabetes mellitus; alcoholism; malignancies; asplenia; immunosuppressing conditions or use of immunosuppressing drugs; or use of antimicrobials within the previous 3 months (in which case an alternative from a different class should be selected):

A respiratory fluoroquinolone, such as moxifloxacin, gemifloxacin or levofloxacin 750 mg (strong recommendation; level I evidence) OR
A B-lactam plus a macrolide (strong recommendation; Level I evidence)

3. In regions with a high rate (>25%) of infection with high-level (MIC \geq 16 ug/ml) macrolide-resistant *Streptococcus pneumoniae*, consider use of alternative agents above in (2) for patients without comorbidities (moderate recommendation; level III evidence)

Inpatients, non-ICU treatment

A respiratory fluoroquinolone (strong recommendation; level I evidence) OR

A B-Lactam plus a macrolide (strong recommendation; Level I evidence)

Inpatients, ICU treatment

A B-Lactam (cefotaxime, ceftriaxone or ampicillin-sulbactam)

Plus

Either azithromycin (level II evidence) or a respiratory fluoroquinolone (strong recommendation; level I evidence). (For penicillin-allergic patients, a respiratory fluoroquinolone and aztreonam are recommended.)

Special concerns

If *Pseudomonas* is a consideration

An antipneumococcal, antipseudomonal B-lactam (piperacillin-tazobactam, defepime, imipenem or meropenem) plus either ciprofloxacin or levofloxacin (750 mg) OR

The above B-lactam plus an aminoglycoside and azithromycin OR

The above B-lactam plus an aminoglycoside and an antipneumococcal fluoroquinolone (for penicillin-allergic patients, substituted aztreonam for above B-lactam) (moderate recommendation; level III evidence)

If CA-MRSA is a consideration, add vancomycin or linezolid (moderate recommendation; level III evidence)

MIC, minimum inhibitory concentration; ICU, intensive care unit; CA-MRSA, community-acquired methicillin-resistant *Staphylococcus aureus*.

Source: Canadian Public Health Agency – The Canadian Pandemic Influenza Plan For the Health Sector.

General Management

- Fluid therapy. Ensure adequate fluid intake (fluid management in patients with primary viral pneumonia must be well assessed and closely monitored, because some of these patients may develop Adult Respiratory Distress Syndrome (ARDS), and under these circumstances restricted intake of liquids may be indicated).
- Oxygen therapy based on pulse oximetry.
- Management of associated cardiovascular illness.

Symptom Control

Discharge Criteria and Follow-up

- Their mental state returned to normal (or baseline).
- They are able to maintain oral intake.
- Their vital signs remained within a specified threshold. Cut-off values should be established (e.g., O₂ saturation > 90%, heart rate 100/minute, respiratory rate 24/minute, systolic blood pressure 90 mm Hg, temperature <38°C).

Once the patients are clinically stable for at least 24 hours, symptoms and signs have improved, oral therapy is being given, and they are functionally independent, discharge from the hospital with designated follow up may be considered.

Release and Follow-up:

If the patient is sent home, provide a copy of:

- a) Assessment sheet.
- b) Instructions for self-management.
- c) Contact names/numbers to notify if they deteriorate clinically.
- d) Arrangements for home care/follow-up as required: usually 48 hours later for adults and 24 hours for children.
- e) Arrangements for alternate care will be required for some patients.

3) Residents in Long Term Care Facilities (LTCF)

Because of their age and underlying medical conditions, most individuals living in long-term care facilities are at increased risk for developing complications after influenza infection. Health-care personnel and visitors may introduce the virus and the closed environment will favor transmission. During influenza outbreaks in long term care facilities as many as 70% of individuals (either personnel or residents) may become infected.

During the pandemic, it will be necessary for the most part to **manage residents within the facility**, rather than transferring to an acute care facility.

The interpandemic epidemics suffered almost every year are an opportunity to develop influenza management policies and test their efficacy. The goals of an institutional influenza plan are:

- a) To prevent influenza illness and complications in residents and staff.
- b) Timely diagnosis and appropriate management of influenza infection in residents.
- c) Timely diagnosis and management of an influenza outbreak within the LTCF.
- d) To provide care for ill residents within the facility without transfer to another facility.

Symptoms Consistent with ILI

These recommendations assume that influenza is known to be present in the community or region. In this situation, any resident of a long-term facility who deteriorates clinically and for whom there is no clear alternate diagnosis may have influenza illness.

Influenza infection of elderly residents in a long-term care facility may present with:

- a) Fever (could be only a low-grade fever) or hypothermia.
- b) Cough.
- c) Anorexia.
- d) Vomiting.
- e) Increased confusion or decreased functional status (e.g. a decreased ability to walk independently).
- f) White cell count may be normal, with or without a shift to the left.

Rapid diagnostic tests are useful to confirm or exclude influenza in elderly residents with uncertain clinical presentations. They are helpful if antiviral therapy is considered, as this should be started shortly after the onset of disease (within the 48 hours of onset) to get maximum results. Rapid tests may not be available in a pandemic and there may be many false negatives tests. **Therefore, residents with symptoms compatible with influenza should be assessed and managed as such, especially if there is no obvious alternate diagnosis.**

Influenza Illness Assessment

The **initial assessment** and evaluation of the residents should be consistent with advance directives and include the following:

- History: age, duration of residence in the facility, co-morbid illnesses, documentation of last influenza vaccination, documentation of pneumococcal vaccination, time of onset of symptoms.
- Physical assessment: temperature, skin color, pulse, blood pressure, respiratory rate, peripheral edema, chest auscultation, chest pain on inspiration, mental status, and function (ability to function independently, continuous vomiting, etc.)
- Diagnostic testing: this should include O₂ saturation. For residents who are clinically stable and not judged to be severely ill, this may be sufficient.

In residents where there are concerns about metabolic status, or the degree of illness, additional tests may be considered including a CBC, electrolytes, blood glucose, CPK, BUN and creatinine, an EKG if there is a new arrhythmia or evidence of significant deterioration in cardiac status. A chest x-ray should be considered for all residents with an oxygen saturation of <90% on room air, with new purulent sputum or respiratory rate >30 per minute. A sputum culture may be helpful for residents with a productive cough. Blood cultures may also be helpful to identify a specific infecting agent.

Management of Residents Remaining in the Long-term Care Facility

Diagnostic and Follow-up Tests

- a) Chest X-Rays as required.
- b) Blood tests, urinalysis, etc. as required.
- c) Viral / Bacterial studies: sputum, cerebrospinal liquid, nasopharyngeal aspirate, blood culture.

Care Guidelines/Discharge Criteria

The goals of general management are to maintain comfort, to preserve functional status, and to limit complications. Specific aspects of management for influenza and its complications include:

- a) **Maintenance of hydration.** This may be achieved through oral fluids or if necessary through parenteral fluids. Where parenteral fluids are necessary hypodermoclysis is an option rather than intravenous therapy and may be more practical in the long-term care setting.
- b) **Oxygenation.** Patients with an oxygen saturation of <90% on room air should have oxygen supplementation. This may usually be given by portable oxygen with nasal prongs. Where this is insufficient, patients may require more aggressive efforts of oxygenation including non-intubation methods of respiratory therapy.
- c) **Antipyretics and analgesics** may be required to limit discomfort associated with myalgia and arthralgia. Usually *acetaminophen* will be sufficient.
- d) **Other therapies** such as antitussives may occasionally be indicated depending on the clinical features of the given patient.
- e) **Specific therapy:** Specific therapy is directed at the influenza infection itself and influenza complications including secondary pneumonia and/or aggravation of pre-existing disease.

Antiviral agents may be given for the prevention and treatment of influenza. Treatment with these drugs is, usually, only indicated if symptoms have been present for less than 48 hours. They may not be available, depending on supplies and on the priorities for the pandemic situation. When *amantadine* is used, dosage adjustment for renal function is necessary. *Zanamivir* may be impractical because it requires cooperation from the individual to use an inhaler and this may not be achievable in many long-term care facility residents, especially when acutely ill. Refer to Section 8 - Antivirals

Antibiotics should be given only for the management of presumed or diagnosed secondary bacterial pneumonia.

Transfer to and from Acute Care Facilities

A goal in the pandemic situation, will be to manage residents within the same facility. In some special circumstances, however, the transfer to acute care services may be considered.

Section 12 – Adapted from Manitoba Health Clinical Management Guidelines

Regional Bed Capacity By Facility

Tool 12.13

FACILITY	Acute	Transition	PCH		TOTAL Facility		EPH	TOTAL COMMUNITY LICENSED	TOTAL COMMUNITY SETUP
	Set-up		Licensed	Set-up	Licensed	Set-up			
Baldur Health Centre	14		20	20	34	34		34	34
Birtle Health Centre	14		20	20	34	34	30	64	64
Boissevain Health Centre	11		20	20	31	31		73	71
Westview Lodge (Boissevain)			42	40	42	40			
Carberry Health Centre	10		36	36	46	46		46	46
Davidson Memorial HC (Cartwright)				10	0	10		0	10
Deloraine Health Centre	14		16	16	30	30		60	60
Bren-Del-Win Lodge (Deloraine)			30	30	30	30			
Elkhorn Personal Care Home			24	24	24	24		24	24
Erickson Health Centre	9		16	16	25	25		25	25
Glenboro Health Centre	11		20	20	31	31		31	31
Hamiota Health Centre	20		30	30	50	50	30	80	80
Hartney Personal Care Home			20	20	20	20		20	20
Melita Health Centre	11		20	20	31	31		31	31
Minnedosa Health Centre	27				27	27		77	77
Minnedosa Personal Care Home			50	50	50	50			
Neepawa Health Centre	35				35	35		135	135
Neepawa Personal Care Home			100	100	100	100			
Reston Health Centre		13	20	20	33	33		33	33
Rivers Health Centre	14		20	20	34	34	12	46	46
Rosburn Health Centre	9		20	20	29	29		29	29
Russell Health Centre	32				32	32		72	72
Russell Personal Care Home			40	40	40	40			
Sandy Lake Personal Care Home			36	35	36	35		36	35
Shoal Lake Strathclair Health Centre	12		40	40	52	52	27	79	79
Souris Health Centre	29		43	43	72	72		72	72
Tiger Hills Health Centre (Treherne)	13		22	22	35	35	21	56	56
Tri-Lake Health Centre (Killarney)	22		60	60	82	82		82	82
Viriden Health Centre & WNH	25		50	50	75	75		125	121
Sherwood PCH (Viriden)			50	46	50	46			
Wawanesa Health Centre	6		20	20	26	26		26	26
	338	13	885	888	1236	1239	120	1356	1359

ADDITIONAL FACILITY BED CAPACITY INFORMATION

Tool 12.14

FACILITY	Operating Beds				Additional Spaces							
	Operating Beds with wall O ₂	Operating Beds with wall suction	Operating Beds without wall O ₂	Operating Beds without wall suction	Additional Spaces for Beds with wall O ₂ outlet	Additional Space for Beds with wall suction	Location	Additional Spaces for Beds without wall O ₂ outlet	Additional Spaces for Beds without wall suction	Location	Number of Spare Beds not included in currently operating beds	Location
Baldur HC	14 (9 with O ₂ regulators)	0 - one portable suction on ward, 1 in OPD on the crash cart 1 in PCH	20 - PCH	20 - PCH 14 - Trans Unit	4	0	Lab / Med Room / Tub Room / OPD	3	0	Palliative Family Room / X-ray / Lounge	1 stretcher	in OPD
Birtle HC	8	0	26	34	2	0	E.R Rm 3 Lounge	3	3	Palliative Care Family Rm, lounge, 2 beds in single rooms	4	1 - EKG Rm 1 Physio Bed 2 stretchers
Boissevain HC	11	11	20	20	2	2	ER and Cast Room	9	9	4 Board Rm., 3 Physio Rm., 1 EKG Rm., 1 Pallive Fam Rm.	0	
Bren Del Win Lodge	0	0	30	30	0	0		0	0	Activity Room	0	
Carberry Plains HC	10	10	0	0	2	2	Rooms #35 & 36 PCH	2	2	Physio Rm.	None	
Cartwright HC (Davidson)	0	0	10	10	0	0		0	0		0	
Country Meadows PCH (Neepawa)	0	0	100	100	0	0		1	1	Treatment Room	0	
Deloraine HC	14	0	0	14	5	0	Palliative Family Room and MPR each have capacity for 2 beds OBS Room	1	1	EKG Rm	3	1 in ward storage and 2 stretchers

ADDITIONAL FACILITY BED CAPACITY INFORMATION

Tool 12.14

FACILITY	Operating Beds with wall O ₂	Operating Beds with wall suction	Operating Beds without wall O ₂	Operating Beds without wall suction	Additional Spaces for Beds with wall O ₂ outlet	Additional Space for Beds with wall suction	Location	Additional Spaces for Beds without wall O ₂ outlet	Additional Spaces for Beds without wall suction	Location	Number of Spare Beds not included in currently operating beds	Location
Delwynda Court PCH	0	0	16	16	0	0	n/a	0	0	Activity Room		
Elkwood Manor	0	0	24	24	0	0		0	0		0	
Erickson HC	0	0	25	25	0	0	Emergency Rm and Treatment Rm	7	7	2 Public Health office 2 Doctor's office 2 quiet room	0	PHO - could accom 2 beds 1 stretcher in Emerg rm. (could also hold cot/bed) 1 stretcher in Treatment Rm Vacant beds - have 1 cot 2 mattresses in storage 1 hideaway bed in quiet room
Glenboro HC	11	0	0	0	2	0	second stretcher in ER	hall 2-3 in the lab	3-Feb	lab and hall	1	lab
Hamiota HC	19	19	31	31	4	4	old recovery room x2; ER x1; Treatment Room x1	1	1	Palliative Care/Family room	0	
Hartney HC	0	0	20	20	0	0		2	2	Dr. Clinic Area	0	
Melita HC	11	0	0	11	6	0	1-OBS rm 1 Palliative rm, 2 trauma rm, 2 emergency rm	1	1	EKG Rm	5	1-bed obs 3-stretchers 1-platform EKG
Minnedosa HC	29	29	0	0	12	12	1 - ultrasound* 1 EKG rm* 3 Trauma EDP 1 Phlebotomy rm* 3 Physio* 3 Recovery rm * = not close to nursing unit	0	0		14	3 beds - 1 storage, 1 EMS, 1 ultrasnd 3 stretchers, recov. Rm 3 stretchers, EOP 3 Physio platforms 1 EKG platform 1Phlebotomy rm

ADDITIONAL FACILITY BED CAPACITY INFORMATION

Tool 12.14

FACILITY	Operating Beds with wall O ₂	Operating Beds with wall suction	Operating Beds without wall O ₂	Operating Beds without wall suction	Additional Spaces for Beds with wall O ₂ outlet	Additional Space for Beds with wall suction	Location	Additional Spaces for Beds without wall O ₂ outlet	Additional Spaces for Beds without wall suction	Location	Number of Spare Beds not included in currently operating beds	Location
Minnedosa PCH	0	0	50	50	0	0		0	0		0	
Neepawa Hospital	41	21 with gauges all have outlets	0	20	9	7	FCC office - 02 & suction/no gauges 2 spaces Recovery rm - for stretchers/beds	1	1	Palliative Care Family Rm	8	Stretchers - 2 in ER, 3 in Recovery 1 Chemotherapy 1 morgue 1 spare
Reston HC	11	13	20	20	5	1	3-o ₂ outlets-conference rm 2-o ₂ outlets - TV room (1) suction-treatment rm	0	0		3	1 - in physio 2 - Dr's office
Rivers HC	14	14	0	0	2	1	ER (O ₂ & suction)& report room (O ₂ only)	0	0		1	bariatric bed pool
Rosburn HC	0	0	8	4	0	0		0	0		2	1 stretcher in Outpt Dept 1 cot
Russell HC	30	16 only one suction per room can be used at a time.	0	0	13	7	5-Pt. Rooms 1-chemo room, 1 chemo tx. Room 2 -treatment room #2 1 -1 Emerg. 1-rm 12 BF office, 1 rm 13 Mental Health office	6	6	2-physio dept 2-nurses conference room 1-room 6 1-emerg (can put extra bed with no suction)	12	2-physio exam table 1 telehealth exam table 4-stretchers (emerg. Hall and morgue, tx rm 2) 1 exam table tx rm 2- 1 exam table EKG rm, 1-cot 2-cribs
Russell PCH	0	0	40	40	0	0		11	11	8 in Activity Area but will require privacy screens and 3 in ADP area with screens	0	

ADDITIONAL FACILITY BED CAPACITY INFORMATION

Tool 12.14

FACILITY	Operating Beds with wall O ₂	Operating Beds with wall suction	Operating Beds without wall O ₂	Operating Beds without wall suction	Additional Spaces for Beds with wall O ₂ outlet	Additional Space for Beds with wall suction	Location	Additional Spaces for Beds without wall O ₂ outlet	Additional Spaces for Beds without wall suction	Location	Number of Spare Beds not included in currently operating beds	Location
Sandy Lake PCH	0	0	35	35	0	0		2	2	2-boardroom 1-harcare rm 1-storage rm	1 bed/chair	kept on Wing A sitting area
Sherwood Nursing Home	0	0	48	48	0	0		7	7	2-4 Dew Drop (2) Library (1) rm 33 (1) hairdressing rm (1) Activity Lounge	0	
SL/Strathclair	12	12	40	40	4	4	1 Triage Rm 1 OPD rm - space for 2 beds 1 cast rm - space for 1 bed **each of these rms has one stretcher	1	1	Resident Smoke Room	0	
Souris HC	25	25	0	0	8	7	report room / storage x 2 RR x 2	13	13	conference MPR	2	maintenance
Tiger Hills HC/PCH	12	0	20 PCH	0	6-Jan	0	another bed could be accommodated in Rm 11 & 12 - stretcher room has 2 stretchers with O2 - physio room has O2 and could accommodate 2 stretchers	1	1	PCH TV Room	2	storage building
Tri Lake HC	22	22	60 PCH	60 PCH	4	4	recovery room and OR and delivery rooms	2	2	family rooms	0	
Virden HC	26	26	0	0	3	3	Pediatric Ward or case room	3	3	OR Area	3 stretchers	

ADDITIONAL FACILITY BED CAPACITY INFORMATION

Tool 12.14

FACILITY	Operating Beds with wall O ₂	Operating Beds with wall suction	Operating Beds without wall O ₂	Operating Beds without wall suction	Additional Spaces for Beds with wall O ₂ outlet	Additional Space for Beds with wall suction	Location	Additional Spaces for Beds without wall O ₂ outlet	Additional Spaces for Beds without wall suction	Location	Number of Spare Beds not included in currently operating beds	Location
Wawanesa HC	6	6	20 PCH	20 PCH	1	1	ER	1	1	family room	0	
Westman Nursing Home	0	0	50	0	0	0		4 to 6	4 to 6	Activity room	0	
Westview Lodge	0	0	39	39	0	0			0			
	312	187	632	631	94	55		78			57	