Saskatchewan
Ministry of
Health

Saskatchewan Pandemic Influenza Plan for the Health Care System

September 2009

SASKATCHEWAN PANDEMIC INFLUENZA PLAN
FOR THE HEALTH CARE SYSTEM

Version **One**
Approved **September 16, 2009**

TABLE OF CONTENTS

pH1N1 Text Box

pH1N1 Text Boxes are used throughout this document to identify specific planning assumptions, considerations and science related to the **pandemic H1N1 (pH1N1)** virus.

As more is understood about the pH1N1 virus and epidemiology evolves, these Text Boxes will be updated.

Once this strain becomes part of seasonal influenza, the pH1N1 Text Boxes will be removed from this document.

pH1N1 Text Box: 2009-09-02

Much of pandemic planning is based on assumptions from prior learning, but responding to a new pandemic requires an understanding of specific dynamics of the novel influenza virus. A novel strain of H1N1 Influenza A was declared a pandemic by the World Health Organization (WHO) on June 11, 2009. Since discovering the pH1N1 outbreak in April 2009, much has been learned regarding the epidemiology of this strain of influenza.

1. INTRODUCTION

A pandemic plan serves to strengthen a health care system's capacity to prevent, be prepared for and respond to public health risks. The *Saskatchewan Pandemic Influenza Plan for the Health Care System* (SPIP) was developed by the Saskatchewan Ministry of Health (MoH) and provides the foundation for a provincial health care system response.

The SPIP builds from the *Saskatchewan Pandemic Influenza Preparedness Plan 2003* and incorporates lessons learned from on-going provincial pandemic influenza planning activity and influenza outbreaks. The SPIP is also informed by best-practice recommendations for emergency disaster response and public health emergencies. The SPIP replaces all previous MoH pandemic influenza plans.

Influenza pandemics are caused by novel influenza A viruses . The viruses are named according to two proteins on the viral coat, then Haemaggluttin H and the Neuraminindase N proteins. Different strains of these subtypes occur either by gradual change 'drift' or sudden change 'shift'.

There have been three major Influenza A outbreaks in the 20th century: the 1918 Spanish Flu A:H1N1, the 1957 Asian Flu A: H1N2 , and the 1968 Hong Kong Flu A:H3N2. Since 2004, an avian influenza strain, A: H5N1, has spread from South East Asia to Europe and Africa and in 2009 a novel A: H1N1 spread across the world.

Each pandemic has some different characteristics and health impacts. New strains of influenza vary in rate of spread, the severity of symptoms caused, and the part of the population most severely affected. An appropriate response to influenza outbreaks must be based on past learning and the unique characteristics of the new strain of influenza virus.

The SPIP guides a coordinated and phased health care system response for mild, moderate, and severe influenza outbreaks within the context of the *Canadian Pandemic Influenza Plan for the Health Sector* (CPIP). The SPIP is synchronized with the WHO pandemic influenza response phases and outlines response activities of the MoH and guides RHA responses. The SPIP describes key/critical activities that eliminate and reduce possible public health risks posed by a pandemic influenza.

pH1N1 Text Box 2009-09-10

Canada recorded 7,276 laboratory confirmed cases of the pandemic virus pH1N1 to the end of July 2009, this included 239 hospitalizations and 66 deaths. In Saskatchewan as in the rest of Canada the peak of the spring epidemic occurred in mid June 2009.

The analysis of the epidemiology cases in Canada are similar to analyses of the epidemic worldwide with exceptions in some populations.

The rate of infection is highest in children. The majority of cases are mild with only two to three days of symptoms. Severe cases are rare but significant in that the severe cases often require intensive care and ventilation support.

Most cases of hospitalizations involve people with risk factors such as other chronic diseases, pregnancy, obesity and smoking. Hospitalizations also include a smaller percentage of young and middle aged adults who have been previously healthy.

Indigenous populations in Canada and Australia have experienced higher rates of serious illness compared to the non-indigenous. This may be attributable to high levels of co morbidity, lack of rapid access to care or environmental factors such as crowded housing.

The northern hemisphere expects a second wave of the pandemic virus to occur in fall/winter 2009/2010. It is thought that the case numbers will likely be higher than that experienced in Spring.

Although it is uncertain what the spread or impact of the pH1N1 will be in the northern fall and winter, it is considered unlikely that the virus will cause more severe disease.

It is likely however to cause considerably more cases than in the spring outbreak and likely more absenteeism and increased strain on health resources particularly on health care facilities.

This portion of the SPIP contains contextual information necessary to create a common understanding in key areas for an effective response to an influenza outbreak. The SPIP links to regional, provincial, and national annexes, which outline operational processes for an effective response to an influenza outbreak.

Each Regional Health Authority (RHA) is responsible for:

- Maintaining a regional pandemic plan
- Holding accountable each RHA affiliated facility/location for the completion of local plans
- Ensuring coordination of services with external stakeholders

Each plan must meet national and provincial requirements, but be adapted for regional and local level specific needs.

pH1N1 Text Box 2009-09-02
RHA pandemic plans (general or pH1N1 specific) are available to all health care workers (HCWs) through their RHA Provincial Pandemic Planning Management Committee representative through the pandemic Sharepoint site. All RHAs have access to this site, access is maintained through the Ministry of Health, Population Health Branch.

2. GOALS AND OBJECTIVES

The **goals** of the SPIP are to coordinate efforts of the provincial health care system to effectively:

- Minimize serious illness and death
- Minimize societal disruption

The **objectives** are:

- A collaborative process amongst stakeholders at all levels to ensure a "best fit" response
- A provincial response with clearly identified roles and responsibilities
- A product that external stakeholders may use to inform their pandemic planning
- Public confidence that the health care system in Saskatchewan is prepared to respond effectively to an influenza outbreak of any magnitude

3. ROLES AND RESPONSIBILITIES

A collaborative and informed approach coordinates stakeholders at all levels.

International

World Health Organization (WHO)

Pandemic influenza is a global concern that requires international, federal, provincial, and territorial (F/P/T) legislation for an effective response. WHO Pandemic Preparedness determines the global "phase" of an influenza outbreak, coordinates available international resources, and recommends action to national authorities. See Appendix 5 of this Plan for further information on WHO Pandemic Phases.

Federal

Public Health Agency of Canada (PHAC)

In the event of a public health emergency such as a pandemic influenza, PHAC coordinates national emergency public health response by working with provinces and territories. This includes liaison with international authorities, analysis and reporting of epidemiological data, ensuring safety and distribution of vaccine, allocation and distribution of national stockpiles, and implementing national communication strategies, plans and frameworks.

Using the WHO phase of influenza pandemic, the Chief Public Health Officer (CPHO) of Canada assesses the national severity of an influenza outbreak with advice from F/P/T experts, and provides national guidance for a provincial/territorial response.

pH1N1 Text Box 2009-09-02
The PHAC is coordinating the national response to the pandemic pH1N1. The PHAC website (http://www.phac-aspc.gc.ca) contains many guidelines that the MoH has adapted for the SPIP.

Health Canada
Health Canada has authority to negotiate agreements and provide funding for technical and operational activities related to health. Health Canada is the regulatory authority in the country responsible for ensuring the safety, effectiveness, and quality of all drugs, including vaccines, marketed in Canada for human use. Vaccine regulation in Canada is subject to the provisions of the *Food and Drugs Act* and regulations.

First Nations and Inuit Health (FNIH)
FNIH is a branch of Health Canada and provides community and public health services for individuals living on First Nation reserves. For influenza outbreak response, this includes the administration of vaccine, dispersal of antiviral medications, infection control, and self-care education on communities where there are licensed health care workers. First Nations people on reserve can also access necessary health services from RHAs.

Provincial
Saskatchewan Ministry of Health (MoH)
The MoH is responsible for leading the strategic direction of the Saskatchewan health care system through preparedness and response for public health emergencies, such as a pandemic influenza, and for developing the *Saskatchewan Pandemic Influenza Plan for the Health Care System*. The MoH oversees and coordinates the delivery of health services in the province. In pandemic planning, the MoH liaises with F/P/T government officials and public health experts to support provincial interests and to ensure that legislated and ethical responsibilities are met and exceeded.

Corrections, Public Safety and Policing (CPSP)
Local authority is the first level of responsibility for the control and conduct of emergency operations. If there is no local authority or the magnitude of the emergency exceeds local resources, the local authority may request provincial government assistance in order to provide a coordinated response.

The Public Safety Branch of Corrections, Public Safety and Policing works with municipalities and businesses/organizations to assist with the development of emergency plans. Public Safety can provide information on emergency preparedness, planning committee structures, legislation, and emergency response, all of which guides development of pandemic influenza plans.

Local Authorities
Saskatchewan Health Care System
The Saskatchewan health care system is made up of many provincial, regional and local organizations working together to ensure it has healthy people in healthy communities. Most services are delivered through the province's regional health authorities (RHAs), their affiliated organizations, and the Saskatchewan Cancer Agency (SCA).

The RHAs and SCA are responsible for developing an inclusive pandemic influenza plan for their respective jurisdictions. RHAs are also responsible for ensuring the development of pandemic influenza plans from each RHA-affiliated location within the region. RHAs and the

SCA are encouraged to utilize the *Pandemic Influenza Plan Checklist* from 9 a) Emergency Response Management System annex to assist plan development.

Municipalities
Municipalities are responsible for developing protocols for emergency management, including health emergencies. Protocols for responding to health emergencies must link with the MoH and RHAs in order to ensure a collaborative approach in maintaining public health and safety.

Business, Organizations and Industry
Employers are responsible for ensuring safe and healthy working environments for employees in accordance with the *Occupational Health and Safety Act* and regulations. The Occupational Health and Safety (OH&S) branch of the Ministry of Advanced Education, Employment and Labour works with employers to assist with the development of OH&S protocols in pandemic influenza plans.

4. GOVERNANCE AND LEGISLATION

Governance
The MoH is responsible for developing a framework that coordinates the delivery of services to support a health care system response. For the purpose of the SPIP, the health care system includes the MoH, the 13 RHAs, and provincial health organizations such as the SCA, First Nations and Inuit Health (FNIH) and Northern Inter Tribal Health Authority (NITHA), and the Saskatchewan Disease Central Laboratory (SDCL).

Overall
- Public health emergencies will be responded through a cascaded approach; initially at the local authority level, then regionally and finally through provincial assistance;
- Federal jurisdictions will respond as per federal responsibility and collaborate with provincial authorities and in some instances, directly through RHAs;
- The MoH will provide provincial leadership and facilitate coordination across jurisdictions; and
- Routine business processes and communication pathways/networks will be maintained as much as possible.

Provincial
The MoH is responsible for providing leadership to the health care system response by:
- Monitoring the health of the residents of Saskatchewan and health-care utilization/operational status of RHAs;
- Directing the overall provincial communication strategy and messages;
- Communicating and obtaining support from F/P/T government; and
- Coordinating and supporting the health responses of the RHAs and other health care sector stakeholders (i.e. health professional regulatory colleges, SDCL and HealthLine), including providing direction regarding:
    - Surveillance,
    - Public health measures,

- Self-care strategies,
- Vaccines and antivirals,
- Clinical care guidelines/triage, and
- Infection control.

The MoH utilizes a number of sources to ensure a collaborative approach. The following is a list and description of the branch and key committees involved in the health-care system's pandemic planning process:

- **The Population Health Branch (PHB) is a branch of the MoH that is responsible for the development of the Saskatchewan Pandemic Infuenza Plan (SPIP) for the health system. PHB facilitates planning and delivery structures to ensure that the health care system is engaged in provincial planning and to ensure seamless regional planning occurs. The PHB leads the system-wide response through operationalizing the SPIP. This is conducted through the Health Emergency Operations Centre. PHB is the primary link with the PHAC on aspects of technical and operational matters in pandemic preparedness.**

- **Health Emergency Management Branch (HEMB)** is a branch of the MoH that **s**upports the MoH and RHAs in developing emergency management and business continuity planning processes and structures, in coordinating responses to emergencies.

- **The Health Emergency Management Steering Committee** is chaired by and consists of key executive directors, including Population Health and/or the CMOH. The main functions of the committee are to provide strategic direction on the emergency management process within the health system, including emergency management, business continuity, incident management and pandemic planning. The committee also approves decision and discussion items to be brought forward to the MoH Senior Leadership Team, Leadership Council and the Minister's Forum.

- **The Provincial Planning Management Committee (PPPMC)** is chaired by the Executive Director of the Population Health Branch. It consists of one member from each RHA and stakeholder groups (SCA, SAHO, FNIH and NITHA). The PPPMC provides a forum to ensure policy directions, planning assumptions, work plans and pandemic planning accountabilities are communicated with and among RHAs and stakeholders.

- **Saskatchewan Influenza Advisory Group (SIAG)** is chaired by the CMHO. Membership includes Medical Health Officers Council of Saskatchewan, Senior Medical Officers, Infectious Disease/Control Specialists, two representatives from General Family Practitioners, two representatives from Public Health Nurse Managers, and Population Health branch. The SIAG provides technical and operational advice that will inform policy decisions.

- **North and South Pandemic Forums** support the pandemic planning processes within the RHAs. The forums report to the north and south CEO forums.

- **Inter-Ministerial Pandemic Planning Officials Committee (IMPPOC)** is chaired by CPSP and the MoH. The IMPPOC provides operational advice that will inform government-wide pandemic planning.

pH1N1 Text Box 2009-09-02

A pH1N1 Cabinet Committee was formed in August 2009 to provide high-level cross ministerial policy and coordination.

Saskatchewan Health Care System
RHAs are responsible for the delivery of health care and must develop pandemic influenza plans that link with the MoH. In a pandemic influenza, the MoH will play the lead key decision and coordination role with a front-line response coming from the RHAs. In a regional outbreak, the affected RHA implements a local response and requests assistance from other RHAs and/or the MoH if necessary.

The RHAs are responsible for supporting a local and regional health care system response by:
- Providing frontline service delivery of essential health and public health programs;
- Reallocating/re-deploying resources when necessary to ensure reasonable equitable access to essential services and critical scarce resources to ensure an effective health response where possible;
- Working directly with local jurisdiction stakeholders across all sectors;
- Working with First Nations and Metis jurisdictions and their representatives;
- Communicating to the public, staff and stakeholders in their regions, consistent with provincial direction (communication may be specific to the local situation);
- Communicating ongoing operational status to MoH; and,
- Requesting assistance from the province as necessary, recognizing that the ability to assist may be limited.

Legislation
In the event of pandemic influenza, legislated guidance falls under the provisions of the *Public Health Act, 1994*. In the event that a provincial emergency is declared under the *Emergency Planning Act, 1989,* the *Public Health Act, 1994,* is complementary in the delegation of provincial authority for the provision of emergency medical services.

The Saskatchewan *Public Health Act, 1994*
This *Act* provides powers to the Minister of Health and the Chief Medical Health Officer (CMHO) in the event that:
- A serious public health threat exists in Saskatchewan;
- The requirements set out in the order are necessary to decrease or eliminate the serious public health threat.

In the event of a pandemic influenza, the Minister of Health, the MoH and the CMHO will assume leadership roles. The MoH and the CMHO will determine the level and degree of a health care system response, but every Medical Health Officer (MHO) in Saskatchewan has powers under the *Public Health Act, 1994*. MHO authority is delegated from RHA boards and the Minister and is exercised in consultation with the CMHO. The goal is to work in collaboration to achieve a coordinated approach. The *Public Health Act, 1994,* enables a centralized coordination approach and provincial command structure appropriate to a province-wide threat. In the CMHO's absence, the Deputy CMHO will assume central responsibilities.

The Saskatchewan *Emergency Planning Act, 1989*
This *Act* is the legal framework for the declaration of local and provincial emergencies in Saskatchewan. The Lieutenant Governor in Council of Saskatchewan is responsible for determining that an emergency exists and for Declaration of an Emergency. The Declaration of Emergency is in place for 14 days and may be extended by the Lieutenant Governor in Council. The Declaration of an Emergency gives the Minister of Corrections, Public Safety and Policing wide sweeping powers. The Lieutenant Governor in Council may make regulations prescribing any matter that the Lieutenant Governor in Council considers necessary with respect to emergency planning.

If societal disruption becomes severe during a pandemic influenza, the *Emergency Planning Act, 1989,* and the *Public Health Act, 1994,* are complementary in the delegation of provincial authority for the provision of emergency medical services.

The Saskatchewan Occupational Health and Safety Act, 1993
The legislation that guides these response activities is *The Occupational Health and Safety Act, 1993*, and The Occupational Health and Safety Regulations, 1996. Section 85 (Exposure Control Plan) of the OHS Regulations and 302 (Chemical and Biological Substances) include more specific responsibilities related to infectious hazards in the workplace.

The Federal *Emergencies Act*, *1988*
This *Act* is the legal framework for declaration of a national emergency and the powers which ensue. In general, an emergency is declared when the ability of a given level of government to deal with an emergency is exceeded. Within the provincial legislation there are three levels of emergency:
1. Local (municipal) emergency;
2. Mutual aid agreements are activated; and,
3. Provincial level emergency

The Federal *Emergency Preparedness Act*, *1985*
This *Act* describes the role of the federal government in emergency preparedness and provides a basis for cooperation between provincial and federal governments in planning.

5. World Health Organization Pandemic Phases

The World Health Organization (WHO) uses a six-phased approach to pandemic-influenza preparedness and response. Phases 1–3 correlate with preparedness. Phases 4–6 signal the need for response and mitigation efforts and recovery activities.

CPIP and SPIP preparedness and response activities are based on the WHO phases. WHO declares the phase level based on world wide distribution of an influenza virus. The Canadian and Saskatchewan response to the WHO declared phase will be dependent on local conditions and spread, and may be different among jurisdictions. For example, Canada as a whole is not likely to be responding to the same level of impact across each province. One province/territory may be working to mitigate impact from a large number of affected people, and another may have only a few cases and be attempting to contain the pandemic with more stringent action in quarantine and public health measures.. In addition, the SPIP's actions follow a gradient from mild, moderate to severe outbreak impact.

RHA response actions will be determined based on the MoH's response and tailored to RHA-specific needs and characteristics.

WHO Pandemic Phases

In nature, influenza viruses circulate continuously among animals, especially birds. Even though such viruses might theoretically develop into pandemic viruses, in **Phase 1** no viruses circulating among animals have been reported to cause infections in humans.

In **Phase 2** an animal influenza virus circulating among domesticated or wild animals is known to have caused infection in humans, and is therefore considered a potential pandemic threat.

In **Phase 3**, an animal or human-animal influenza reassortant virus has caused sporadic cases or small clusters of disease in people, but has not resulted in human-to-human transmission sufficient to sustain community-level outbreaks. Limited human-to-human transmission may occur under some circumstances, for example, when there is close contact between an infected person and an unprotected caregiver. However, limited transmission under such restricted circumstances does not indicate that the virus has gained the level of transmissibility among humans necessary to cause a pandemic. For example, a potential pandemic virus, avian influenza A:H5N1 has been at Phase 3 since 2004.

Phase 4 is characterized by verified human-to-human transmission of an animal or human-animal influenza re-assortment virus able to cause "community-level outbreaks." The ability to cause sustained disease outbreaks in a community marks a significant upwards shift in the risk for a pandemic. Any country that suspects or has verified such an event should consult immediately with WHO so that the situation can be jointly assessed and a decision made by the affected country if implementation of a rapid pandemic containment operation is warranted. Phase 4 indicates a significant increase in risk of a pandemic but does not necessarily mean that a pandemic is a foregone conclusion.

Phase 5 is characterized by human-to-human spread of the virus into at least two countries in one WHO region. While most countries will not be affected at this stage, the declaration of Phase 5 is a strong signal that a pandemic is imminent and that the time to finalize the organization, communication, and implementation of the planned mitigation measures is short.

Phase 6, the pandemic phase, is characterized by community level outbreaks in at least one other country in a different WHO region in addition to the criteria defined in **Phase 5**. Designation of this phase will indicate that a global pandemic is under way.

During the **post-peak period**, pandemic disease levels in most countries with adequate surveillance will have dropped below peak observed levels. The post-peak period signifies that pandemic activity appears to be decreasing; however, it is uncertain if additional waves will occur. Countries will need to be prepared for a second wave.

Previous pandemics have been characterized by waves of activity spread over months. Once the level of disease activity drops, it will be critical to balance this information with the possibility of another wave. Pandemic waves can be separated by months so an immediate "at-ease" signal may be premature.

In the **post-pandemic period**, influenza disease activity will have returned to levels normally seen for seasonal influenza. It is expected that the pandemic virus will behave as a seasonal influenza A virus. At this stage, it is important to maintain surveillance and update pandemic preparedness and response plans accordingly. An intensive phase of recovery and evaluation may be required.

pH1N1 Text Box 2009-09-02
On June 11, 2009 the World Health Organization (WHO) declared the Pandemic Phase 6 for pH1N1 Influenza. Community transmission was occurring in over 120 countries; however there was no increase in severity of the disease in pandemic phase 6. The majority of cases worldwide continue to be mild.

6. EPIDEMIOLOGY AND ESTIMATED IMPACT ON SASKATCHEWAN

With a new influenza virus there will be little to no immunity in the general population. This allows the virus to spread quickly and cause illness in many people. A population is less susceptible overall if the new virus has circulated previously. For example, the H2N2 virus which caused the 1957 pandemic circulated widely up until 1968; therefore, the population born prior to 1968 is expected to have some residual immunity to this particular strain should it begin to circulate again.

Although the course of a future pandemic cannot be accurately predicted, using epidemiology information collected from past influenza outbreaks it is possible to model planning scenarios that estimate the impact on Saskatchewan in future outbreaks. Since outbreaks can vary in

severity, plans of preparation and response must include mild, moderate, and severe levels of readiness.

The CDC has produced tools, such as FluAid, to predict the numbers in any given population who might become mildly ill, the number requiring an outpatient visit, number hospitalized and fatal cases in different scenarios of mild, moderate and severe attack rates.

pH1N1 Text Box 2009-09-11

pH1N1 is expected to infect 15-35% of Canadians during the fall/winter 2009/2010, though infection control measures are likely to keep infections to the low end of that range. Almost all the illness is likely to be mild. However, because of the number of people who are infected, the relative proportion who require hospitalization will be higher than a normal influenza season, some will require intensive therapy.

The current pH1N1 virus has caused severe respiratory illness in small proportions of older people with underlying conditions and a small proportion of young healthy adults. Pregnant women have had a higher risk than non-pregnant for hospitalization. People living in isolated communities associated with poor living conditions and limited access to health care are also at risk. Indigenous people have been over-represented for hospitalization in some provinces.

There have been few cases of pH1N1 in elderly people and it is thought probable that a strain circulating prior to the 1950s conferred some immunity to this group.

Flu surge is used as a model for planning. The model has many assumptions and does not take into account the mitigating factors of public health measures, infection control, use of antivirals and vaccines. These figures will not eventuate with mitigating factors in place. It does, however, give planners an indication of the demand on the health care system.

Using the parameters of infectious and age groups affected by pH1N1 the European Centre for Disease Prevention and Control and the United States of America's President's Council of Advisors on Science and Technology surge models applied to the population of Saskatchewan provides a arrange of figures. The calculations indicate that over a 6-12 week period; without intervention of public health measures such as early antiviral treatment and vaccinations, there would be approximately 100,000-300,000 ill at home, 150,000-300,000 requiring outpatient visits , 3,000-6,000 requiring hospital care and between 100-300 deaths. At the peak of the epidemic 100-250 ICU beds may be required to manage the severe respiratory infections (these numbers have been rounded). Even with mitigation measures, the health care system is likely to be under significant pressure to respond to the minimally projected surge.

While the planning assumptions are based on 3,000-6,000 extra admissions over the course of an approximate 12 week period, these extra admissions represent a significant increase that needs to be planned for and will impact beyond the primary care and acute care sectors. Resource sharing across boundaries, and, if required, curtailing elective procedures for a limited period of time and raising the threshold for acute admissions are some of the ways in which this increased pressure will be managed.

FluAid 2.0, 2009 ECDC and PCAST

7. KEY PLANNING ASSUMPTIONS

Key planning assumptions allow for decision making based on the characteristics of previous outbreaks. The following assumptions are a reflection of international expert scientific opinion to be used to guide pandemic influenza response activities.

Expected Course of a Pandemic Influenza

Pandemics of respiratory illness are inevitable and clinical severity will vary from mild to severe. A pandemic may last between 12 to 18 months and may occur in two or more waves. In a single community, a pandemic influenza wave of illness will generally last six to eight weeks, but this time period may vary.

Characteristics of the Pandemic Influenza Virus

Since there is likely to be no specific immunity to the new virus on a population basis, the new virus will be transmitted efficiently from person to person, resulting in large numbers of being infected.

The novel virus is expected to have an incubation time of one to three days, and an individual infected with the virus can be infectious from 24 hours prior to symptoms to up to seven days in adults (may be prolonged in children). Most transmission is likely to occur by large droplets (i.e. sneeze or cough) or direct contact with contaminated surfaces.

The course of illness, without complications is three to seven days, but return to prior well being may take weeks. Sick people should be on home isolation until symptoms are resolved and they are able to participate fully in day to day activities. It is uncertain whether individuals who recover from illness caused by the pandemic influenza strain will be immune to further infection by that strain.

pH1N1 Text Box 2009-09-02

The H1N1 virus causes illness very similar to seasonal influenza with most people experiencing fever, cough and myalgia. Other symptoms include sore throat, headache and rhinorrhea (runny nose). Some people experience gastrointestinal symptoms, stomach pain, diarrhea, nausea and/or vomiting.

Children are more likely to get gastrointestinal symptoms. In Nunavut most cases of pH1N1 in the spring wave were children and gastro intestinal symptoms predominant.

The H1N1 virus has an incubation period of up to 4 days. In most people symptoms only last 2 -3 days and they are back to normal fitness within 2- 3 days. The period of communicability may be up to 7 days from onset of symptoms in uncomplicated cases. This may be longer (up to 10 days) in individuals with severe illness and children in whom symptoms and virus shedding may persist. Transmission of the virus is most likely within the initial days of infection.

The onset of shortness of breath, prolonged fever, chest pain, persistent deep cough, confusion and severe fatigue are hallmarks of serious disease. In children signs of severe illness include marked gastro intestinal symptoms, reduced responsiveness and neurological symptoms such as seizures.

Sick people should be on home isolation until symptoms are resolved and they are able to participate fully in day-to-day activities. It is uncertain whether individuals who recover from illness caused from the pandemic influenza strain will be immune to further infection by that strain.

Absenteeism

During the peak – two weeks of illness in the community – the absenteeism rate from work and school may reach 10% to 25%, this may be due to personal illness, caring for others, pandemic influenza related public health measures. Normal baseline absenteeism is 8% in a normal winter. Business continuity response should plan for up to a third of the workforce being absent, for all reasons, in this peak period during a severe pandemic.

Vaccine

A vaccine supply is typically not available until four to six months after the pandemic influenza virus strain is confirmed. Even though sufficient vaccine for the Canadian population is expected, it is anticipated that the new pandemic vaccine will become available in batches. This may require the PHAC to implement specific recommendations with regard to nationally determined priority (sequencing) groups for immunization in order to minimize serious illness, overall deaths and society disruptions. It is expected that two doses of vaccine may be required to produce an effective immune response. It is likely that the vaccine will require an adjuvant to produce an increased immune response and for dose sparing in order to allow for the maximum number of people to be immunized.

Antiviral Medication

It is assumed that the virus will be sensitive (susceptible) to antiviral medications; the neuraminidase inhibitors which compile the provincial and federal stockpiles. Testing for resistance of the pandemic strain against antiviral medications will be ongoing. Antiviral medication will be available for treatment for approximately 17.5% of the Saskatchewan population in the provincial stockpile and 25% when including the National Emergency Stockpile.

pH1N1 Text Box 2009-09-13

The pH1N1 influenza vaccine is expected to be available to all people in Canada who want and need it by mid- late November 2009.

Unlike the seasonal influenza vaccine where only one dose is required, the vaccination program for pandemic pH1N1 may require a person to have two doses to get immunity. In the case of a completely new virus the body often requires two immunizations to stimulate an immune response. Vaccine trials in progress for pH1N1 are however showing promising results to a single dose.

The vaccine will be similar to seasonal influenza vaccines. It will contain an extra component called an adjuvant which is an oil based substance designed to stimulate the immune system.
The adjuvant has been trialed for safety in adults and children and is safe.

The federal government is purchasing non-adjuvanted vaccine for use in pregnant women as the adjuvant has not been adequately tested in pregnant women.

Health Care Workers (HCW) and people who are at most risk of severe disease will be encouraged to receive the vaccine first. Household contacts and care providers of infants under the age of 6 months and persons who are immunocompromised are also encouraged to come forward to receive the first available doses. The pH1N1vaccine will be available to all Saskatchewan residents who want and need it.

The population groups considered at risk are: Persons with chronic diseases under the age of 65 years, pregnant women, children less than 5 years of age, and residents of remote and isolated communities and other populations that provinces deem vulnerable by their public health medical officers.

pH1N1 Text Box 2009-09-02
The pH1N1 virus is sensitive to the neuraminidase inhibitors (NI) which are Tamiflu (oseltamivir) and Relenza (zanamivir), the main components of the National Antiviral Stockpile.

The NIs are safe medications and are indicated for use in children and pregnant women. The side effects are generally minor and the main side effect is nausea.

The use of antivirals is advised for treatment in pH1N1 cases of severe disease or moderate disease in people with risk factors or in second or third trimester of pregnancy. Antivirals should be started immediately if there are indicators of severe disease.

The development of resistance to antivirals can occur. Sporadic cases of resistance in pH1N1 has occurred but have not resulted in transmission.

A prescription for antivirals is required from a physician or nurse practitioner. The prescription will be dispensed free of charge from designated pharmacies or at designated influenza assessment sites.

8. ETHICAL CONSIDERATIONS

The balance between individual and population interests shift according to the nature of any health risk being addressed. During an infectious disease outbreak, there are many kinds of health risks to the public. Population interests will prevail over individual interests that may be temporarily affected (i.e. limitation of travel).

Limited resources will be a reality during a severe outbreak of influenza and requires the adoption of the ethical principle of *respect for the inherent dignity of all persons*. This means that although some people may not be initially eligible (i.e. who gets vaccinated and when), they must be informed and cared for in a way that is respectful and maintains dignity. *Distributive justice* implies the distribution of resources in a fair and equitable manner based on need.

The ethical principle of *least restrictive means* stipulates that personal autonomy should be infringed upon only to the extent necessary to ensure the public good. Public health ethics inform decisions made during a pandemic response to optimize a risk/benefit ratio and to maintain transparency and public accountability.

Consistent with the CPIP, the overall ethical principles informing the SPIP are as follows:
- Protect and promote the public's health;
- Ensure equity and distributive justice;
- Respect the inherent dignity of all persons;
- Use the least restrictive means;
- Optimize the risk/benefit ratio; and,
- Work with transparency and accountability.

9. PREPAREDNESS AND RESPONSE

Pandemic preparedness and response follows emergency management principles, and is based on the following concepts:

- **Prevention** – preventing the risk.
- **Mitigation** – a reduction in the risk, or a reduction in the impact of a risk.
- **Planning** – planning for prioritized business functions based on the risk.
- **Response** – taking into account the safety of staff, protection of assets and the maintenance of prioritized business functions.
- **Recovery** – recovery of lost data, functional relationships towards the resumption of normal business activity.

Preparedness

Preparedness addresses prevention and awareness activities that are to be completed during the WHO Phases 1-3. Preparedness requires increasing the public health infrastructure's overall capacity to respond to all threats to public health and strengthening coordination mechanisms at international, F/P/T and local levels.

Preparedness for the MoH and the health care system requires clearly written and up-to-date pandemic influenza plans that outline specific and sequenced actions based on input from stakeholders, and are proven to be practical through the implementation of planning exercises.

Response

Response activities are initiated in WHO Phases 4-6. As a pandemic unfolds, response activities will be modified according to the specific needs related to the new virus and dependent on a mild, moderate or severe outbreak.

There are times when preparedness and response activities will occur at the same time.

The following details specific annexes to the SPIP and provide operational planning and implementation information for the health sector. All annexes undergo a significant amount of development on a regular basis. Examples and tools for pandemic planners and providers will become available on the following website: www. health.gov.sk.ca/influenza-monitor

Note: The annexes are currently being developed and/or revised specific to the pH1N1 virus in order to reflect the current epidemiology and characteristics. Information on these annexes is being developed within the current internal planning structures globally, nationally and within Saskatchewan.

a) EMERGENCY RESPONSE MANAGEMENT SYSTEM

In the event of an influenza pandemic, using an F/P/T collaborative approach, the MoH will determine the level and degree of provincial health care system response activities.

Health Emergency Operations Centre (HEOC)

At the call of the Deputy Minister (DM) and in conjunction with the CMOH, the MoH will activate its HEOC. The pandemic response will be coordinated using an Incident Management

System. The Incident Management System provides an approach to managing any incident by dividing the event into components of a command and control structure that correspond to responsibilities and objectives.

The HEOC will provide the mechanism for provincial communication and coordination of regional response activities. The RHA Emergency Operations Centres (EOCs) and other key stakeholders will have direct communication channels to the MoH through the HEOC.

The HEOC can be activated on four levels:

- Level 1 – list of names/positions can be called to congregate when need arises.
- Level 2 – low level crisis – staffed during normal working hours throughout the normal work week, up to 8 hours per day, with someone on-call for the remainder of the day.
- Level 3 – high level crisis – staffed 12-14 hours per day, seven days per week, with someone on-call for the remainder of the day.
- Level 4 – provincial crisis – staffed 24 hours per day, seven days per week.

The HEOC consists of:

- **The appropriate personnel** for a given incident to serve for the following functions:
    - **Planning** – to determine the resources needed to address the impact of the incident on the health care system;
    - **Logistics** – to organize and direct the delivery of services and supplies in support of the response to the incident;
    - **Operations** – to deliver services and to support the RHA in the delivery of health care, to oversee the response to the incident; and,
    - **Finance** – to ensure the fulfillment of financial obligations of the response to the incident.
    - **A medical advisor** – to ensure the control group has the necessary medical information to make appropriate decisions;
    - **Communications** – in conjunction with Executive Council, to manage all communications with the public, either directly or through the media;
    - **A liaison officer** – HEMB to serve as lead contact for other organizations that are directly involved in the incident,
    - **Duty officer** – HEMB to ensure efficient management of the emergency operations centre; and,
    - **Others** as determined by the incident commander.

pH1N1 Text Box 2009-09-02
The HEOC at the MoH was activated between mid April to the end of June.
It was reopened to level 2 (8 am – 5 pm) on 24th August due to the intensive preparations for the potential fall/winter resurgence of pH1N1.

During an emergency, national, provincial, and local data is collected and disseminated on a 24 hour cycle. The CMHO will provide detailed instructions for when and how reporting will occur.

b) CONTINUITY OF HEALTH SERVICES AND SURGE CAPACITY

During influenza pandemic, it is expected the health care system will need to deal with both an increased demand on the system and a high rate of absenteeism. RHAs are required to maintain a list of priority services and surge capacity plans in order to effectively respond to an increased demand on health care services for any reason.

The goal of continuity of health services during an emergency event is to ensure uninterrupted performance even when there may be a limited number of staff. The process requires RHAs to identify critical day-to-day services from each level of the health care system, categorizing them (which ones need to be reinforced, which ones must continue to run, which ones can be reduced, and which ones can be removed) according to a ranking or prioritizing order. Each service must also identify the minimum number of staff required to ensure the service.

As a general rule, surge capacity plans are written to address multi-casualty, short-term, localized emergency situations. In a pandemic influenza outbreak, the impact is virtually worldwide and the duration of the emergency will be longer. On-site surge capacity plans must be able to respond to a 10 to 20% increase in demand on services. Above that, consideration should be given to implementing an Influenza Assessment Site (IAS) and reallocating services/resources from less affected areas. Surge capacity plans must consider:

- Maximum independent use of existing structures, facilities, equipment and staff;
- Use of other facilities (i.e. IASs);
- Prioritizing services to be provided (i.e. no elective services);
- Utilizing health care providers in alternate roles, utilizing volunteers or other professionals who do not usually work in the health care system; and,
- Movement of patients between regions for specialized care.

If a patient requires hospital admission, RHAs must be prepared to provide dedicated treatment of influenza patients, separate from patients in hospital for other reasons. RHAs and health care facilities must assess their space and their programs and services to see how they could minimize the number of admissions and maximize the number of beds available for influenza patients.

Continuity of health services and surge capacity plans are a matrix of logistical, ethical, and practical decisions that must be determined *before* an emergency occurs. During a pandemic it is expected that the usual supply lines will be disrupted. The demand for medications, medical, surgical and other supplies will increase substantially around the world. Suppliers may experience difficulties responding to increased demand due to staff shortages, raw material shortages and transportation disruptions. Because most medications, equipment and supplies are produced outside of Canada, there will be barriers to obtaining supplies, which include embargoes on medications, cross-border barriers and transportation problems resulting from staff shortages.

pH1N1 Text Box 2009-09-09
Countries in the Southern hemisphere are reporting an increase of 10-30% in demand for Intensive Care Unit (ICU) provision, in particular for ventilators. The cases of pH1N1 Influenza requiring ventilation are often very severe, requiring lengthy periods on ventilators, intensive circulatory support and high levels of sedation. The cases generally are aged between 30 to 55 years of age and over one-half have co-morbidities.

c) STRATEGIC RESERVE (STOCKPILING)

Strategic reserve is a process of identifying and acquiring a stockpile of medicines, supplies and equipment to ensure a health care system can continue to provide services in the event of an emergency.

In the SPIP there are two categories of strategic reserve:

1. Antivirals
2. Other supplies

pH1N1 Text Box 2009-09-02
Oseltamivir is an oral medication and Zanamivir is an inhaled medication. Both are taken twice a day for five days for treatment.

During the spring, antiviral stock held by pharmacies was made available free of cost to all Saskatchewan residents who had influenza like symptoms and had a prescription from a physician for antiviral treatment.

A small amount of the stockpile was distributed particularly to remote areas. The used stockpile is being replenished.

During Fall/Winter the stockpile will be distributed dependent on characteristics of the pH1N1 spread. It will be distributed from a central holding to a site designated by the Regional Health Authorities.

It is important to monitor the use of antivirals as inappropriate use could lead to rapid depletion and possibly to development of resistance in to the pandemic virus.

Antivirals

The antiviral distribution plan uses criteria established nationally and adapted provincially, based in part on the severity of illness the pandemic influenza virus is causing.

Other Supplies
Medical supplies are manufactured outside of Saskatchewan resulting in the province relying upon all supplies coming in from outside the borders, many being from offshore. RHAs are responsible for completing an assessment and developing lists and stockpiles of medications, medical supplies and equipment expected to be required by their region during a pandemic. It is anticipated that supply lines will be compromised in some way during a pandemic. It will be necessary to have sufficient supplies available within the province to meet the needs of the health care system.

In addition to the surge in demand for medications and supplies for respiratory illness due to pandemic influenza, it is anticipated that the traditional process for the acquisition of supplies for other medical products, food, linens and pharmaceuticals will be compromised.

The MoH and Saskatchewan Association of Health Organizations (SAHO) have developed a strategy to assist RHAs in purchase and storage.

pH1N1 Text Box 2009-09-02
The stockpile also contains protective personal equipment (PPE). This will be distributed to all health care workers who are managing or working with pH1N1.

The requirement for personal protective equipment is dependent on risk of infection. This may differ from situation to situation either in primary care, emergency room or intensive care setting.

During the spring wave of pH1N1 influenza, N95 respirators and additional Personal Protective Equipment were distributed. The use of PPE requires training and, in some instances, fit testing is required (i.e. respirators).

Full PPE is not required for assessment of cases and is not indicated for taking nasopharyngeal swabs.

Full PPE is required for aerosolizing procedures. A surge in severe H1N1 cases may place a strain on the Saskatchewan intensive care capacity. Information from the Canadian data and from the Southern hemisphere indicates that most pH1N1 cases admitted to ICU will require long periods - from one to five weeks - of ventilation.

d) FINANCE
The financial cost in responding to a pandemic influenza is system-wide responsibility. Budgets, forecasts, and processes for tracking (i.e. tracking codes and forms) for a pandemic have been developed.

Important financial costs include:

- Stockpiling (i.e. lab and diagnostic supplies, vaccines, antivirals, etc.)
- Quality control and training (i.e. equipment, staffing, etc.)
- Medical and essential supplies (i.e. medications, protective equipment, etc.)
- Surveillance and supervision (i.e. home isolation, contract tracing, etc.)
- Monitoring, evaluation, and program management (i.e. records, SIMS, etc.)

e) SURVEILLANCE

Surveillance is the ongoing collection, analysis and interpretation of health data in order to improve decision-making. Influenza surveillance is required to determine:

- When, where and which influenza viruses are circulating;
- Detection of new viruses;
- The high risk populations;
- The intensity and impact of influenza activity; and,
- Unusual events.

Surveillance must be timely and able to detect cases ("sensitivity") and identify that a case is truly due to the novel virus ("specificity"). The case definition of an emerging virus will change during different stages of an outbreak and will affect the activities of clinicians and public health workers.

Early stage surveillance (when the outbreak first begins) will be focused on detecting cases in the province and in regions in order to promote containment of the virus as much as possible. This will be achieved by determining the rate of spread, clusters, age group affected, and clinical severity through contact tracing and field investigation report forms.

Later stage surveillance (as virus characteristics are understood) will be focused on monitoring spread, changes in epidemiological and clinical aspects of the virus, development of resistance, response to public health measures, and effectiveness and response to antivirals and vaccine. Contact tracing and field investigation will cease, but will be replaced by other forms of surveillance and monitoring, such as adverse reactions to antivirals and vaccines.
Having a system for tracking illness trends will also ensure that the health care system can detect stressors that may affect operating capacity, including staffing and supply needs during a pandemic.

pH1N1 Text Box 2009-09-02

During the spring wave of pH1N1, the Saskatchewan Disease Control Laboratory (SDCL) notified the HEOC of positive pH1N1cases. The RHAs were required to follow up, confirm and provide additional information on a selection of these cases. Cases of severe respiratory infections (SRI) also require additional information to be collected.

Tracking of spread and numbers of infections is essential for the best use of resources to respond to the pandemic. PHAC is finalizing the type of information and required reporting at a federal level. Saskatchewan is working to finalize an additional component of the web-based system, the Integrated Public Health Information System (iPHIS) for fast-tracking pH1N1 data.

The SDCL provides and leads public health laboratory services for the province. The SDCL can detect the arrival of the specific pandemic strain and its subsequent spread across the province.

During the WHO pandemic phase 5 and earlier, the SDCL will process respiratory samples from patients across Saskatchewan exhibiting ILI and other respiratory pathogens. In order to monitor outbreaks, the SDCL will develop reports that identify the number of positive samples compared to the number of samples submitted from each RHA and fax them to the CMHO and RHA MHOs.

During the declared WHO pandemic phase 6, mild to moderate cases will not be tested. The SDCL will provide laboratory information for the identification and treatment of severe cases, those considered at risk and pregnant women. The SDCL will work in collaboration with the National Microbiology Laboratory (NML) in Winnipeg and submit a subset of samples to this federal laboratory for full-strain characterization. The SDCL Laboratory Liaison Officer (LLO) will move information between the SDCL and NML, and will collaborate with the MoH on various activities (i.e. validating numbers, distribution of cases, etc.). The SDCL will also work with the NML in studies for development of resistance and vaccine efficacy.

Point of Care (POC) testing for pandemic influenza will have a limited role. Because of the very poor sensitivity of these tests, they should not be used to guide individual case management or to conduct surveillance, but they may be effective in identifying outbreaks by testing multiple samples submitted from an outbreak cluster. RHA laboratories may want to implement influenza POC testing to facilitate identification of outbreaks and to identify cases for triage and treatment of severe respiratory illness at the height of the outbreak. The SDCL recommends that the RHAs use overnight transport systems to enhance turn-around-time for samples sent to the SDCL. Samples received in the morning will be analyzed by Nucleic Acid Amplification Test (NAAT) and identified as pandemic strain of influenza by late afternoon of the same day. The typing result for seasonal influenza will be available the following morning. Test results will be faxed directly by secure fax to the requesting doctor, RHA, MHO and the CMHO at the HEOC. The SDCL is developing a protocol with the Saskatoon RHA to improve transport of samples, to assist in surveillance across the province, and to improve capacity to identify pandemic influenza using NAAT.

g) INFECTION PREVENTION AND CONTROL

Good infection prevention and control (IPC) is the cornerstone of an effective pandemic response. One goal for IPC is that all health care settings have measures in place to protect patients/residents, employees and visitors from disease. A second goal is to provide effective public health education to Saskatchewan residents, enabling them to protect themselves in the community.

Adherence to IPC policies and procedures is critical at all times, but during influenza pandemic IPC practises are emphasized. During an outbreak, additional precautions may be recommended until more is known about the characteristics of the virus.

pH1N1 Text Box 2009-09-13
Persons who are ill with ILI and who must go out into the community (for example, to seek medical care) should take measures such as coughing or sneezing into a tissue or their sleeve and avoiding crowds to avoid exposing others to the virus.

There is currently insufficient evidence to suggest that the wearing of masks by asymptomatic individuals (for example, caregivers) will help to reduce the transmission of influenza in the household setting.

Strict adherence to good hygiene practices, such as frequent washing of hands, frequent disinfection of shared services and not sharing utensils, is essential to reduce transmission.

h) PUBLIC HEALTH MEASURES

The purpose of public health measures during influenza pandemic is to decrease the number of individuals exposed to the new virus and to potentially slow the progress of the pandemic. Slowing the spread of disease allows for more time to implement medical measures such as the development of a vaccine.

Public health measures are designed to respond to the needs of a population. Population health can be addressed with:

- Public education;
- Case management (i.e. isolation);
- Contact management (i.e. quarantine);
- School and daycare-based infection prevention and control;
- Social distancing measures in the community; and,
- Travel and mass gathering restrictions.

Public health assumptions:

- Influenza virus causing *mild* severity – it is assumed that infected individuals will be asked to home-isolate, unless sick enough to require hospitalization. Contacts will not be quarantined. Schools will not be closed and it is unlikely that there will be travel restrictions or a ban on mass gatherings.
- Influenza causing *moderate or severe* pandemic – it is assumed that contacts of cases will be asked to self-quarantine. It is possible that there will be travel restrictions and bans on mass gatherings.

Even during a mild pandemic, certain populations may be more susceptible to developing moderate or severe illness, which would require a combination of the above measures to be employed. Public health measures will depend on circumstances at the time. Enactment of measures that respond to these areas during a pandemic will be directed by the MoH. The measures will be reviewed and updated as information becomes available during pandemic influenza.

pH1N1 Text Box 2009-09-02
Although the number of infected people may potentially be high in the fall/winter recurrence, the majority of pH1N1 influenza cases are expected to be mild with symptoms for only 2-3 days.

During the spring wave, pH1N1 spread quickly but had an intense focus on one area only for a week or two. Schools in Regina reported high absenteeism for one week. One hospital in a rural centre reported a strain on the emergency room due to a high number of cases presenting.

In September, PHAC changed the period required for self isolation from seven days until the symptoms have resolved and the person is able to participate fully in day-to-day activities. This will apply to school and work settings.

For the pH1N1 response, school closures are not recommended. The WHO have recently recommended school closures in countries to assist in controlling spread in early phases of the pandemic. The WHO's target areas are typically third-world countries where effective infection control practices cannot be sustained. As the pH1N1 Influenza virus continues to cause community transmission, the WHO direction does not apply to Canada.

Only one or two mass gatherings were cancelled and this was due to considerations regarding the timing of the epidemic and the vulnerability of the communities involved. Local authorities and the public health officials will decide cancellation of mass gatherings will be considered on a case-by-case basis.

There is limited evidence that school closures successfully reduce overall transmission. If school closures were recommended it would be early in a pandemic in order to slow the pandemic down and would be coupled by other measures such as quarantine for contacts, travel restrictions, and reduction in mass gatherings.

i) INFLUENZA ASSESSMENT SITES (IAS)

In order to handle the large numbers of people who are expected to seek health care during a pandemic, services may require prioritization or modification. An IAS centralizes health care services in order to:

- Prevent a surge on physician offices and emergency room services;
- Maximize human resources;
- Provide better access and quicker assessment and treatment of people with influenza; and,
- Minimize spread of influenza by keeping persons with influenza-like illness separated from others.

There are two types of IAS recommended for the provincial health care system:

- Utilizing an established health care site that already offers primary care services;
- Utilizing a site that is not established as primary care site, but offers accessibility and necessities.

The timeline of when an IAS is activated, the location of the site, and the services offered will depend on the capacity and need of the RHA.

IASs will provide a range of services for mild to moderately ill people. Individuals with severe illness and respiratory difficulty will be encouraged to seek assessment by emergency room triage personnel rather than through IASs. In order to further prevent a surge on the health care system and IASs, the public will be encouraged to call HealthLine as a first measure. HealthLine will advise callers if they need to seek care or if they are able to stay at home and care for themselves or a family member.

An essential component to the above will be the education of the public about when and where to seek care and the importance of following the processes outlined to minimize congestion and spread of infection, and allow rapid access to the most appropriate level of care.

pH1N1 Text Box 2009-09-02
During the spring wave of pH1N1, it was not necessary to set up influenza assessment sites. Although it was reported that high numbers were presenting to doctors' offices and emergency rooms, there were only a few days in which this appeared to be reaching critical levels in two facilities.

Southern hemisphere countries such as Australia and Chile reported significant pressures on physicians' offices and emergency rooms. All states, territories and counties in these countries set up influenza assessment sites.

A few Saskatchewan physician offices put up notices that they were not seeing influenza patients. The MoH has worked with the College of Physicians and Surgeons to inform physicians that the risk of serious disease was low.

Most RHAs intend to use systems as normal unless critical points of workload are reached. At that stage, which may occur at different times in different RHAs, the RHA will redirect influenza patients to a designated area. This can include settings such as a family practice or an independent site such as a town hall or community centre.

j) CLINICAL MANAGEMENT OF INFLUENZA

Clinical management during an outbreak or pandemic is the safe and effective medical assessment and treatment of patients with suspected or confirmed cases of influenza. It is important that clinical guidelines such as admission criteria, appropriate specimen collection, updated treatment protocols and infection prevention and control measures be developed, in advance of an outbreak.

As a pandemic influenza strain is identified and more is known about the virus-specific clinical presentation, this information will be communicated from WHO and PHAC to the MoH, then to RHAs and frontline clinicians. Clinical management of influenza will be determined by the specific characteristics of a new virus, but will also be built on lessons learned from previous outbreaks and pandemics, and on well established guidelines for treatment of seasonal influenza and associated complications such as pneumonia. Clinical care requires assessment of the severity of the influenza, how the population is being affected, and also of overall health of an individual (i.e. hydration and nutrition) and co-morbidities. Clinical guidelines will be modified as specific information becomes available and distributed to health care providers.

pH1N1 Text Box 2009-09-02

The pH1N1 virus has an incubation period of 2–4 days. The pH1N1 virus causes illness very similar to seasonal influenza with most people experiencing fever, cough and myalgia. Other symptoms include sore throat, headache and rhinorrhea (runny nose). Some people experience gastrointestinal symptoms, stomach pain, diarrhea, nausea and/or vomiting.

Children are more likely to get gastrointestinal symptoms.

In most people symptoms only last 2 -3 days and they are back to normal fitness within 2- 3 days. Mild cases of pH1N1 maybe treated at home with rest, hydration and good nutrition. Hydration is important particularly in children. Good oral hydration (plenty of fluids may prevent hospital admission.

If moderate symptoms, such as persistent cough, fatigue and persistent fevers then assessment by health care provider is advised.

The onset of shortness of breath, prolonged fever, chest pain, persistent deep cough, confusion and severe fatigue are hallmarks of serious disease. In children signs of severe illness include marked gastro intestinal symptoms, reduced responsiveness and neurological symptoms such as seizures.

People who have other illnesses should ensure that illness is well controlled. If a person has a serious risk factor such as brittle asthma, severe heart disease or is immuno-compromised they should be assessed at onset of symptoms.

Sick people should be on home isolation until symptoms are resolved and they are able to participate fully in day to day activities. It is uncertain whether individuals who recover from illness caused from the pH1N1 virus will be immune to further infection by that strain.

Women pregnant in the second or third trimester of pregnancy who present with ILI should be tested for the pH1N1 and offered to start on antivirals. The antivirals can be ceased if the test is negative for the pH1N1 virus.

There have been few outbreaks of pH1N1 in long-term care facilities. There have been few cases in people over the age of 65 years, however if elderly do get infected they are more likely to have severe disease. Outbreaks of pH1N1 in long-term care facilities or other institutions need to be considered on a case-by-case basis as to whether antivirals are used for treatment only or if post exposure prophylaxis is warranted. This will depend on the age of the inhabitants and their epidemiology of the disease at the time, the RHA MHO will make this decision.

k) ANTIVIRAL MANAGEMENT AND DISTRIBUTION

Currently, antiviral medications can only be prescribed by providers licensed to diagnose and prescribe. Dispensing of the prescription is performed by pharmacists or designated settings. Depending on the severity of a pandemic, it may be necessary to authorize additional providers to diagnose, prescribe and dispense.

The goal of distribution is to ensure equitable access to antiviral medications where and when people need them. Depending on how the virus is spreading, the MoH will distribute a portion of the antiviral reserve to the RHAs on a per capita basis. The MoH will retain the remainder and distribute as required. Antivirals will be transported from a provincial central secure site to designated secure sites. Distribution within the RHAs is the responsibility of the RHAs.

RHAs must consider dispensing options to facilitate access, yet maintain control of the limited reserve of antiviral medication. Some options to consider include:

- Dispense antivirals on-site at an IAS by contracted or regional pharmacist or by another authorized professional;
- Designate limited number of community retail pharmacies to dispense antivirals according to requirements spelled out in a letter of agreement between the RHA and the pharmacy; and,
- Ensure in-patients will receive antivirals from a hospital pharmacy while they are in hospital.

Documentation to track the use of antivirals will be required in all situations.

pH1N1 Text Box 2009-09-02

The MoH strategic reserve of antiviral medication can treat 17.5% of the provincial population. There is an additional emergency stockpile stored at the national level. Approximately 90% of the stock is oseltamivir (Tamiflu) capsules and 10% is zanamivir (Relenza) inhaled medication.

A prescription for antivirals is required from a medical or nurse practitioner. The prescription will be dispensed free of charge to Saskatchewan residents from designated pharmacies or at influenza assessment sites.

Use of Antivirals

Antiviral medication may be used to treat persons who are ill with influenza or to prevent illness. The *National Policy Recommendations on the Use of Antivirals for Prevention during an Influenza Pandemic 2008* and Annex E of the CPIP indicate that publicly funded reserve should be used primarily for early treatment versus preventative therapy. Ineffective use could lead to running out of antivirals before treating those people who would benefit most from it, and the virus could develop resistance to antivirals and, as a result, would have limited benefit.

Before a pandemic is declared, antivirals may be used to contain sporadic cases of a new virus in order to prevent the virus from spreading further in the community. However, once the pandemic virus is widespread, containment will no longer be effective.

During a widespread outbreak or pandemic, criteria regarding use of antivirals for treatment will be developed through analysis of available information about the influenza virus by F/P/T experts and national consensus. Criteria may change during the course of the pandemic.

Adverse Reaction to Antiviral Medications

Canada has an adverse-reaction reporting system to allow clinicians and other health care providers to report reactions they suspect could be due to the medication. Health Canada analyzes these reports to determine if an adverse reaction of concern has been detected. Adverse reactions following treatment will be monitored through a provincial reporting mechanism to the MoH.

pH1N1 Text Box 2009-09-11

Adverse reactions can be reported to Healthline 1-877-800-0002. Serious adverse reactions must be reported to a physician and assessed and reported to the HEOC.

l) VACCINATION MANAGEMENT AND MASS IMMUNIZATION

Vaccination against influenza is one of the most effective measures for reducing disease, death and societal disruption during an influenza pandemic. A major strategy outlined in the CPIP is for vaccination of the Canadian population in the event of a pandemic.

A vaccine supply will not be available until four to six months after the pandemic influenza virus strain is confirmed. Even though sufficient vaccine for the Canadian population is expected, it is anticipated that the new pandemic vaccine will become available in batches. Prioritization maybe required depending on the availability of vaccine. Prioritization will depend on groups in which there is most rapid spread and for those who are at most risk of severe disease, and also the stage of the pandemic. The national recommendations will be used by the MoH in determining recommendations to direct the provincial distribution and administration of the vaccine when the pandemic vaccine becomes available. RHAs and First Nations jurisdictions will develop mass immunization plans which will include the administration of vaccine at mass immunization clinics.

When the vaccine becomes available it will be distributed from the MoH to RHAs and First Nations health organisations based on estimates of population sub-groups. The estimates will be shared with stakeholders in advance of vaccine distribution for validation. Distribution of vaccine will follow the already established systems with contingency planning to accommodate severe weather conditions that may compromise the integrity of ensuring the vaccine remains at the required temperature.

RHAs and First Nations organizations will be required to submit reports to the MOH to account for vaccine administered, including vaccine provided to priority groups.

Adverse events following immunization (AEFI) will be monitored through a provincial reporting mechanism to the MoH. AEFIs will be entered into the Saskatchewan Immunization Management System (SIMS). AEFI reports will be forwarded by the MoH to PHAC to assist in national surveillance of adverse events. The effectiveness of the vaccine at preventing influenza will also be monitored by recording cases in people who have been vaccinated.

pH1N1 Text Box 2009-09-02

Canada has determined that vaccination against pH1N1 will be available for all those who want and need it.

It is anticipated that the vaccine will be available for public administration in late November. Early indications are that the vaccine is safe for use, further testing and approvals are pending.

Saskatchewan has set a one month goal to provide the initial dose of the vaccine to all Saskatchewan residents who want or need it. A vaccine produced in response to a new virus is likely to be an adjuvant vaccine given in two doses, three to four weeks apart.

A non-adjuvanted vaccine will be available for pregnant women.

The PHAC has entered into a contract with GlaxoSmithKline to purchase 50.4 million doses of vaccine. Of this 1.5 million doses will be non-adjuvanted. Early discussions are considering that non-adjuvanted doses will be offered to pregnant women.

The vaccine will be delivered in 10 dose vials and require strict temperature monitoring.

Public education materials will be prepared to inform the public about the risks and benefits of the vaccine and to assist with the informed consent process.

The MoH is reviewing the current methods for vaccine distribution and will be refining current shipping processes. This may include the use of a refrigerated trucking service to deliver the vaccine to designated points in the RHAs.

The Saskatchewan Immunization Management System (SIMS) will be used for entering immunizations. In some instances a paper recording system will be used, such as the recording of immunizations provided in long term care facilities. These immunization events will be entered later on in SIMS. Currently, FNIH does not have direct access to SIMS, and will require a separate process for recording and aggregation of statistics. MoH will prepare weekly RHA, FN and Provincial aggregate coverage reports.

Each RHA has a mass vaccination program. In some areas this may involve health care workers from other parts of the health care system. These health care workers will undergo rapid training, if required, in vaccination technique.

m) HUMAN RESOURCE MANAGEMENT

The health care system is likely to be stretched during a pandemic due to a combination of factors, including the high number of people infected or severity of the disease. Personnel shortages are expected to limit the ability of the health care system to respond. Providing health care services in a pandemic will present challenges to health care workers related to the scarcity of resources, scope of practice, liability and workplace safety.

The best use of resources will be achieved through a prioritization of resources from a local, RHA, then a health care system-wide approach. This includes identifying all current health care workers, recruiting and training additional professionals, non-professionals and volunteers, and managing the assignment and support of health care workers to various locations and tasks.

RHAs must maintain functional numbers of affiliated human resources (i.e. licensed physicians and nurses). In a pandemic, non-traditional workers may be utilized. RHAs must maintain access to hospital beds and tertiary services and determine triage and transport plans with other facilities and other RHAs.

Governing and regulatory bodies of health care workers have a number of control mechanisms in place for current and prior licensed professionals to work under emergency situations, including restricted license bylaws, rapid licensing, ability to prescribe/diagnose/treat, and ability to train and delegate duties to out-of-scope workers. Revised legislation is currently being drafted that will enable pharmacists and health care workers to be active in a broader scope of care. These bodies also have a number of control mechanisms in place for utilizing retired members or increasing the scope of care. Alternate sources of health care workers include:

- Retired physicians or nurses
- Physicians or nurses currently not working in clinical health care (i.e., working in education, administration, research, private industry)
- Trainees (i.e., medical students and nursing students)
- Emergency services technicians
- Veterinarians
- Pharmacists
- Therapists & technicians (i.e. respiratory, occupational, physiotherapists, laboratory)
- Licensed Practical Nurses and Special Care Aides
- Dentists

pH1N1 Text Box 2009-09-11
Provisions are made for RNs and LPNs to be able to vaccinate. This will require oversight by an MHO.

n) OCCUPATIONAL HEALTH AND SAFETY

There are clear occupational health and safety (OHS) requirements to protect workers who come into contact with infectious micro-organisms, such as an influenza virus, either as a direct consequence of their work (i.e. those who carry out research work on the virus) or may be exposed in the course of their work (i.e. HCWs caring for infectious patients, cleaners, etc).

RHA Occupational Health Committees help to oversee each workplace/unit and to assist in the performance of on-going risk assessments that identify the necessary training and preventative measures, and to help enforce controls as appropriate. In addition to specific workplace hazards as it pertains to biological exposure, the risk from increased absenteeism and operational changes must also be continually assessed. This will include workers who have been redeployed to unfamiliar tasks, or who work alone or remotely as a consequence of depleted staff resources. Other potential risks related to pandemic influenza include addressing stress, which may be related to fear, illness of family members, changing job roles, and absent co-workers; and, fatigue if workers are required to put in extra hours or exposed to increased or different workloads.

The legislation that guides these response activities is *The Occupational Health and Safety Act, 1993*, and The Occupational Health and Safety Regulations, 1996. Section 85 (Exposure Control Plan) of the OHS Regulations and 302 (Chemical and Biological Substances) include more specific responsibilities related to infectious hazards in the workplace.

o) FIRST NATION AND INUIT HEALTH

On-Reserve First Nation (FN) pandemic influenza response must be integrated seamlessly into the provincial health care system. FNIH delivers public health services to the FNs who live on non-transferred federal Reserves. In transferred communities that have accepted funding and responsibility for public health services, FNIH provides the funding, but FN communities are responsible for providing the services.

FNIH requires transferred communities to have an emergency preparedness plan that incorporates pandemic planning. RHA plans and FN community plans must be complementary. FNIH, through its regional offices, assumes an intermediary role between provinces and transferred communities.

RHA pandemic plans must collaborate with FN communities in:

- Coordinating roles and responsibilities during public health emergencies, including pandemic influenza;
- Incorporating on-reserve FN population numbers into the provincial/regional plans for purchase of antivirals, vaccines and other relevant emergency supplies, and clarifying how these limited supplies/products will be monitored;
- Clearing protocols for on-reserve FN communities to access the antivirals, vaccines and other emergency supplies in a coordinated fashion with the provinces;
- Clearing authority from appropriate MHO;
- Ensuring capacity at the FN community levels to deal with outbreaks; and,
- Surveillance, epidemiology and influenza vaccination program data of on-reserve population.

pH1N1 Text Box 2009-09-02
During the spring wave of pH1N1, there were disproportionate numbers of First Nations represented in clinics and in hospitalizations in some provinces.

Early detection and early use of antivirals was found to be helpful in reducing moderate disease in some communities. An association has been made between living conditions, access to health care and likelihood of greater impact of the pH1N1.

In Saskatchewan, enhanced surveillance was commenced in First Nation communities and medical health officers (or physicians) were asked to commence antivirals early.

Keeping communities informed, providing ability to practice good infection control (i.e. running water, soap or gels) and treating risk factors is important in ensuring low impact on vulnerable communities.

p) COMMUNICATION

An influenza pandemic will generate immediate, intense, and sustained demand for information from the public, health care workers, policy makers, and news media. Strategic communication activities are an integral part of a comprehensive public health response before, during, and after an influenza pandemic. Effective communication guides everyone in responding appropriately to outbreak situations and complying with public health measures.

The goals of effective communication are to:

- Provide timely, accurate, consistent, and appropriate information about pandemic influenza public health interventions;
- Emphasize the rationale and importance of adhering to public health measures that some people may consider intrusive (e.g., quarantine);
- Help set realistic expectations of public health and health care systems;
- Promptly address rumors, inaccuracies, and misperceptions;
- Minimize stigmatization that may occur during a pandemic;
- Adapt materials for special needs (e.g., non-English speaking populations, difficult-to-reach communities, and persons living in institutional settings); and,
- Acknowledge the anxiety, distress, and grief that people experience during long-term, major public health events such as pandemics.

During the Interpandemic and Pandemic Alert Periods, the MoH and RHAs must coordinate communication to keep the public and other target groups updated about risks as the threat of a pandemic evolves. Actions include:

- Assessing communications capacity and needs;
- Conducting collaborative planning;
- Developing and testing standard procedures for disseminating information; and,
- Developing, testing, and disseminating locally tailored messages and materials.

Communication with local, regional, F/P/T, and international bodies must be consistent in messaging.

Communication channels include, but are not limited to, the Saskatchewan Health website, HealthLine, direct mail, print, media, and outdoor advertising such as on public transit. Certain groups will be hard to reach and must be targeted specifically, such as non-English speaking residents/visitors, the homeless and marginalized populations, persons who are hearing/visually impaired, and FN communities.

The Health Emergency Communications Network (HECN) is a key national component of the pandemic influenza communications response. Federal communications on influenza currently focus on the dissemination of surveillance data by FluWatch bulletins.

The MoH is the lead provincial agency for pandemic influenza communication, with all other ministries providing support. The MoH will provide regular communications to RHAs, FNIH, and the public. The CMHO will be the spokesperson for the MoH on issues related to the response plan and medical information, but the CMHO can also designate a spokesperson. Depending on the epidemiology of the outbreak, regional MHOs may be called upon to be spokespeople in local circumstances. A comprehensive internal and external communication plan for the various spokespeople must clearly identify role clarification and guidance for sharing. Technical experts may be identified through the CMHO to provide media briefings and background information. The Premier, the Minister of Health, or other ministers will participate in public announcements that involve government policy, declarations of states of emergency, or a broad provincial response initiative.

RHAs are responsible for communicating information to physicians and other health-care professionals and health-service personnel within their system, although the MoH will also communicate with the physicians.

Communication to business, schools, childcare agencies, and community groups will be a collaborative approach among Ministries.

pH1N1 Text Box 2009-09-02

A national communication plan for pH1N1 response is in development at the Federal level with input by jurisdictions. The first part of the communications plan will be targeted at informing the public and encouraging uptake of the vaccine. It will commence in mid-September using a number of different media modalities. Information will be available and updated regularly on the Saskatchewan Health website http://www.health.gov.sk.ca/

q) MANAGEMENT OF THE DECEASED

During an outbreak, an increase in the number of deaths is expected and plans must be in place to ensure that good public health practices are followed from death to disposal.

The number of deaths resulting from the influenza pandemic could easily overwhelm local morgues and funeral homes. In a severe outbreak, each funeral home could expect to handle a six-month workload within a six to eight week period. Since it is expected that most fatal influenza cases will seek medical services prior to death, hospitals, nursing homes and other institutions must plan for more rapid processing of corpses.

Facilities that do not currently provide morgue services (i.e. correctional facilities, personal care homes) must plan the capacity to provide this function in a pandemic situation. Temporary cold storage facilities are required for the storage of corpses prior to their transfer to funeral homes. In jurisdictions where a timely burial is not possible due to the lack of facilities or frozen ground, corpses may need to be stored for the duration of the pandemic wave (six to eight weeks).

A number of religious and ethnic groups have specific directives about how bodies are managed after death. As a result of these special requirements, some religious groups might maintain facilities such as small morgues, crematoria and other facilities, which are generally operated by volunteers. Religious leaders should be involved in planning for funeral management, bereavement counseling and communications, particularly in ethnic communities with large numbers of people who do not speak the official languages.

Current scientific knowledge indicates that a body is not contagious after death, but routine infection control precautions are recommended. All OHS standards apply – PPE, training, etc. Additional training in the routine infection control practices and additional precautions is available through the Funeral Service Association of Canada.

r) CONTINUAL CARE FACILITIES

Health services provided in facilities such as personal care homes, long-term care facilities, group homes and correctional settings attend to the needs of residents on a 24-hour basis in a controlled environment. The provision of on-site health services in these facilities varies from minimal capability to respond to illness, to provision of care up to acute hospitalization.

Many of the residents suffer from diseases that will increase their risk for complicated influenza. Each of these facilities already responds to the health needs of mild to moderately ill individuals. During a pandemic, these facilities must be prepared to enhance their ability to respond to health care needs above normal operations, and to be as “self-sufficient” as possible. It is important that RHAs collaborate with these facilities to determine how these residents could potentially impact the health care system.

RHAs must determine if continual care facilities within their regional boundaries have:

- A facility policy for the management of infectious disease/influenza outbreaks;
- An immunization plan for residents and personnel when/if vaccine becomes available;

- Established an area (i.e. medical beds) within the facility for management of more acutely ill patients (consider 24 hour HCW services);
- "Maximum capacity" to respond by calculating the number of ill that can be attended to and the level of illness that can be accommodated; and,
- Plans for management of deceased.

Allocation of RHA human resources to a continuing care or correctional facility should also be considered in order to prevent a surge on the health care system.

Personal Care Homes (PCH)
PCHs are privately owned and operated facilities that provide both accommodation and care. PCH operators are free to choose residents based on preference for what services they are able to provide. The type of care provided in PCHs varies from light to heavy care needs.

The MoH's role respecting PCHs is one of licensing and monitoring to ensure that the residents who live there receive safe and adequate care. All residents are entitled to RHA services. All PCHs have an RHA assessor linked to their home.

In March 2009, all PCHs were required to submit a Pandemic Plan for their individual home after receiving Pandemic Planning and Education and other resources presented by the MoH in partnership with the Regina Qu'Appelle Health Region and the College of Nursing.

Institutional Supportive Care (ISC)
ISC is the provision of long-term care (LTC) services to individuals with heavy care needs in special-care homes (SCH) and outreach programs. These services include day programs, adult night programs and respite in SCH, hospitals, and health centres. Some facilities may also provide rehabilitative, convalescent and palliative care.

SCHs are designated by the Minister of Health under *The Regional Health Services Act* and are partially funded by government through RHAs. RHAs may operate a SCH directly or through affiliation/contract.

Group Homes and Correctional Facilities
Group homes and correctional facilities provide varying degrees of health care services; from 24-hour on-site services through registered/licensed health professionals, on-call service, to escorted services in the publicly funded health care system.

Some of these facilities are set up with "medical beds" for those who need special attention and may be treated in the same establishment. RHAs must collaborate with these facilities to maximize an effective response during an influenza outbreak.

pH1N1 Text Box 2009-09-02
During the spring outbreak of pH1N1, there were few closed-setting outbreaks. This is likely related to the fact that people born before 1957 appear to have some immunity to the virus. However, pH1N1 is primarily transmitted in young people and particularly in closed settings. There were a number of outbreaks in centers that housed younger people.

The management of outbreaks in institutional or closed settings will be considered on a case-by-case basis.

Infection control will be important as complete isolation may be difficult. In some circumstances, consideration to post-exposure prophylaxis with antivirals will be considered.

s) ZOONOTICS

Zoonotic influenza viruses can be transmitted from animals to humans, but normally exist in animals. There are significant barriers to stop the spread of influenza viruses from animals to humans; however, zoonotic influenza viruses can adapt and become transmissible to humans. The H1N1 Influenza outbreak demonstrated that these viruses change and human-to-human transmission may follow.

The groups that are most at risk of acquiring a zoonotic infection include those who have close contact with animals (i.e. veterinarians, livestock operations workers, farm workers, and farm families). Bio-security measures reduce the possibility of diseases entering and leaving swine and poultry operations. More information on bio-security can be found from the Canadian Food Inspection Agency.

pH1N1 Text Box 2009-09-02
The pHIN1 virus has been detected in a small number of swine herds across Canada. The pH1N1 virus is a mild disease in pigs. This has emphasized the need for vigilant bio-security in farm holdings. The influenza virus is short-lived and rapidly denatured by cooking.

For more information on:

- Protecting poultry workers, see *"Avian Influenza: Protecting Poultry Workers"* at http://www.labour.gov.sk.ca/ohs-publications
- Protecting workers in swine facilities, see *"H1N1 Flu Virus: Information for Workers in Swine Facilities"* at http://www.health.gov.sk.ca/swine-facilities
- How to write a plan, see "*Healthy and Safe Practices in Pork Production: Technical Modules*" at http://www.labour.gov.sk.ca/ohs-publications/

t) PSYCHOSOCIAL CONSIDERATIONS

The consequences of a severe influenza pandemic pose more than a physical threat; there are multiple secondary consequences that have significant implications for the psychological,

emotional, behavioural or psychosocial well-being of individuals and communities. Unaddressed psychological and emotional issues may result in behavioural responses (i.e. surges on health care facilities, unwillingness to work) that exacerbate other pandemic-related issues (i.e. economic downturns, workforce shortages) and undermine business and community viability and continuity in the short and long terms.

An appropriate response includes multi-sectoral, collaborative and holistic action that supports and enhances alliances within health (i.e. medical, public, mental, and FN health) and across other systems (i.e. social services), and integrates the expertise of those already providing psychosocial support and engaged in psychosocial disaster planning.

An influenza pandemic will generate uncertainty, anxiety and stress resulting in prolonged exposure to extraordinary and chronic stress. Psychosocial consequences will vary across a spectrum of severity and duration, from brief to long-term. To prevent or mitigate the consequence of these exposures, psychosocial responses must support rapid assessment of psychosocial needs, mapping of resources and vulnerabilities, including the identification of those with specific vulnerabilities, and the ongoing evaluation of the effectiveness of support programs and strategies.

Individuals who may be vulnerable to psychosocial problems as a result of a pandemic include individuals who have pre-existing psychological problems, physical/mental disabilities and mental health needs. Persons living or employed in areas of increased exposure to infected individuals and/or who are exposed to higher levels of stress are also vulnerable. However, depending on the magnitude and impact of the pandemic on individuals and society, any individual may be at increased risk of psychosocial problems as a result of the pandemic.

Planning overview (see Annex checklist for additional detail):

- Plan for the psychosocial impact of an influenza pandemic
- Communicate with and educate staff, volunteers and community members about the health and psychosocial consequences of a pandemic
- Plan for the physical, social, emotional and economic impact on workers/community by institutionalizing psychosocial and worker resiliency programs
- Establish policies and procedures for use during a pandemic
- Develop and implement workforce resiliency plans
- Coordinate with psychosocial planning partners in organizations/communities within RHA and province

The guidelines for planning and managing a psychosocial response to a pandemic reflect core humanitarian principles (e.g. valuing of human rights and equity). Psychosocial planning should maximize fairness in terms of the availability and accessibility of mental health, psychiatric and psychosocial support services in affected populations across workplaces, languages and various individual factors (e.g. sex, age, ethnicity, geographic location).

u) RECOVERY

Holistically, recovery is the coordinated efforts and processes required to effect the immediate, medium and long-term regeneration of a community following a pandemic.

Important aspects of the recovery process following a pandemic:

- Is a short, medium & long-term process;
- Starts on day one of response and can continue long term (years or decades);
- May need to transition through phases of recovery activity;
- Recovery is a holistic concept (embraces all the needs of the community);
- Addresses the consequences of a pandemic as it effects communities;
- Encompasses the community and its social, natural, economic and built environments;
- Steps in recovery should be planned and evaluated; and,
- Recovery is a process of regeneration since "things may never be the same".

Assumptions for recovery planning:

- Saskatchewan will need to recover from a pandemic
- A pandemic is likely to have significant impacts on the social and economic environment in Saskatchewan
- Recovery stages should build on business continuity plans and response planning in the province
- Psychosocial considerations will be important to recovery (see Annex S)

Recovery coordination:
RHAs should outline how to prepare for and conduct the process of recovery. There is a need for a coordinated, consequence-based approach that offers a wide range of supports at all levels to support requirements following a pandemic.

10. ACKNOWLEDGEMENTS

The Saskatchewan Pandemic Influenza Plan is a result of a collaborative process through the engagement of many professionals throughout the health sector. The Ministry recognizes those who have contributed to the shaping of this plan and who continue to refine its contents and associated detail. The processes used in this development will continue in order to ensure that this plan evolves with evidence and emerging science and will be revised accurately and timely.

11. KEY CONTACTS

Provincial

Saskatchewan Health **Health Emergency Operation Centre** **Regina SK**	**Phone:** **Fax:**	**798-0292** **798-0291**
Chief Medical Health Officer - Provincial Ministry of Health Population Health Branch Regina SK	Phone: Fax:	787-4722 787-3237
Deputy Chief Medical Health Officer - Provincial Ministry of Health Population Health Branch Regina SK	Phone: Fax:	787-4722 787-3237
Chief Population Health Epidemiologist Ministry of Health Population Health Branch Regina SK	Phone: Fax:	787-4722 787-3237
Medical Director Ministry of Health Saskatchewan Disease Control Laboratory Regina SK	Phone: Fax:	787-3131 787-1525
Emergency Management Officer Alternate Emergency Management Officer Ministry of Health Regina SK	Phone: Phone: Fax:	787-3179 798-3090 798-3093
Provincial Programs Coordinator Ministry of Corrections and Public Safety Protection and Emergency Services Branch Regina SK	Phone: Fax:	787-9566 787-1694
Chief Coroner Ministry of Justice and Attorney General Community Justice Division Office of the Chief Coroner Regina SK	Phone: Fax:	787-5541 787-5503

Chief Veterinarian	Phone:	787-6469
Ministry of Agriculture	Fax:	787-1315
Livestock Branch		
Regina SK		

Provincial Regulatory Bodies

Registrar	Phone:	244-7355
College of Physicians and Surgeons of Saskatchewan	Fax:	244-2600
Saskatoon SK		
Executive Director	Phone:	359-4233
Saskatchewan Registered Nurses' Association	Fax:	525-0849
Regina SK		
Registrar	Phone:	525-1436
Saskatchewan Association of Licensed Practical Nurses	Fax:	347-7784
Regina SK		
Registrar	Phone:	584-2292
Saskatchewan College of Pharmacists	Fax:	584-9695
Regina SK		
Registrar/CEO	Phone:	244-5072
College of Dental Surgeons of Saskatchewan	Fax:	244-2476
Saskatoon SK		

Other

Director HealthLine	Phone:	766-6002
Regina Qu'Appelle Regional Health Authority	Fax:	766-6006
(24 hour nursing support)	Phone:	1-877-800-0002
Regina SK		
Director Materials Management Services	Phone:	347-5540
Saskatchewan Association of Health Organizations	Fax:	347-5907
Regina SK		

Federal

Public Health Agency of Canada	Phone:	780-5356
MB & SK Region	Fax:	780-3885
Regina SK		
Regional Medical Health Officer	Phone:	780-6561
Health Canada	Fax:	780-8826
First Nations & Inuit Health		
Regina SK		

Regional Coordinator Emergency Preparedness
Public Health Agency of Canada
MB & SK Region
Winnipeg MB

Phone: 204-789-7854
Fax: 204-789-7878

12. TERMINOLOGY

Aerosol-Generating Medical Procedures (AGMPs)
Any procedures carried out on a patient that can induce the production of airborne and droplet particles. Procedures can include: any procedure carried out on a patient that can induce the production of aerosols of various sizes, including droplet nuclei. Examples include: non-invasive positive pressure ventilation; endotrachial intubation; respiratory/airway suctioning; high-frequency oscillatory ventilation; tracheostomy care; chest physiotherapy; aerosolized or nebulized medication administration; diagnostic sputum induction; bronchoscopy procedure; and, autopsy of lung tissue.

Additional Precautions
Infection Prevention and Control measures, above and beyond routine practices that should be taken, based on the mode of transmission of the pathogen causing infection (airborne, droplet or contact).

Adjuvant
An agent that acts to accelerate, prolong, or enhance antigen-specific immune responses when used in combination with specific vaccine antigens.

Airborne Particles
Small airborne particles (< 5 um) of saliva and mucosa that are expelled out of the respiratory tract from coughing, sneezing, talking or during "aerosol generating procedures" for a distance of up to two metres (six feet).

Antivirals
A class of medications used specifically for treating infections caused by a virus. Unlike antibiotics, antiviral drugs do not destroy their target pathogen, they only inhibit their development. Neuraminidase Inhibitors are a class of antiviral drugs that targets influenza A and B viruses by blocking the function of the viral neuraminidase protein. This action prevents the virus from reproducing. Oseltamivir (Tamiflu) and Zanamivir (Relenza) are neuraminidase inhibitors. Amantadine and Rimantadine are effective for only influenza A viruses.

Attack Rate
The cumulative incidence of infection in a group of people observed over a period of time during aepidemic

Contact (Direct) Transmission
The process of being exposed to an infectious disease directly. Transfer of the microorganisms can occur from inhaling airborne or droplet particles, and from direct exposure of these particles onto non-intact skin or a mucous membrane (i.e. eye, nose, mouth) via a cough or sneeze from an infected person. Direct transmission emphasizes the importance of social distancing, cough/sneeze etiquette, and personal protective equipment.

Contact (Indirect) Transmission
The process of being exposed to an infectious disease indirectly. Transfer of the microorganisms can occur from touching a contaminated surface or object (i.e. a counter, telephone, door knob, pen) and then touching non-intact skin or a mucous membrane (i.e. rubbing the eyes) with infected hands. Indirect transmission emphasizes the importance of hand washing and frequently disinfecting commonly touched surfaces.

Droplet Particles
Large droplets (≥ 5um in diameter) of saliva and mucosa are generated and expelled out of the respiratory tract from coughing, sneezing, talking or during aerosol generating procedures for a distance of up to two metres (six feet).

Epidemic
A disease occurring suddenly in a community, region or country in numbers clearly in excess of normal

Epidemiology
A science that studies the factors that determine and influence the frequency and distribution of disease, injury and other health-related events and their causes. This science is performed on a defined human population for the purpose of establishing policies, procedures and programs that can prevent and control development and spread of the concern.

Infection
Invasion and multiplication of microorganisms in body tissue, causing a disease process.

Influenza
An acute respiratory disease caused by influenza viruses A and B. Influenza A viruses are historically more virulent and lead to higher levels of complications, such as pneumonia. Symptoms are characterized by sudden onset of fever, cough, headache, muscle aches, and fatigue. The disease often occurs in epidemics. H1N1 is a subtype of influenza virus A.

Influenza-like-illness
Acute onset of a respiratory illness with signs and symptoms similar to influenza.

Isolation
The precautions that are taken to prevent the spread of an infectious disease from an infected person to people who are well. Isolation can occur by segregation into a private room or a room with others who have the same illness and through use of barriers (i.e. mask, gloves, etc.) during a period of communicability.

Localized Activity
Outbreaks affecting a single geographic area within a jurisdiction (i.e. an outbreak in a nursing home, school or work site).

Routine Practices
A set of practices to be implemented for routine care and treatment of all patients, and includes Standard/Universal Precautions. Additional precautions are described under Transmission Based Precautions.

Standard/Universal Precautions
A method of infection control and is the practice of treating *all* blood and body fluids, and all surfaces as potentially infectious so as to prevent personal contact with them.

Surge Capacity
Is a health care system's ability to respond effectively to a sudden rise in demand for services.

Widespread Activity
Outbreaks affecting multiple and non-adjacent geographic areas within the service area jurisdiction such as two or more regional health authorities, two or more municipalities, etc.

13. ABBREVIATIONS AND ACRONYMS

AEFI	Adverse Events Following Immunization
AGMP	Aerosol-Generating Medical Procedure
CDC	Centre for Disease Control and Prevention
CMHO	Chief Medical Health Officer
CPHO	Chief Public Health Officer
CPIP	Canadian Pandemic Influenza Plan for the Health Sector
EOAC	Emergency Operations Advisory Committee
HEOC	Health Emergency Operations Center
EPO	Emergency Planning Officer
ER	Emergency Room
FN	First Nations
F/P/T	Federal, Provincial and Territorial
FNIH	First Nations and Inuit Health
HCW	Health Care Worker
HECN	Health and Emergency Communication Network
IAS	Influenza Assessment Site
ICU	Intensive Care Unit
ICG	Incident Control Group
ILI	Influenza-like-illness
IMS	Incident Management System
IPC	Infection Prevention and Control
iPHIS	Integrated Public Health Information System
ISC	Institutional Supportive Care
LLO	Lab Liaison Officer
LTC	Long Term Care
MHO	Medical Health Officer
MoH	Saskatchewan Ministry of Health
MOU	Memorandum of Understanding
NAAT	Nuclear Acid Amplification Test
NESS	National Emergency Stockpile System
NHEMS	National Health Emergency Management System
NITHA	Northern Inter Tribal Health Authority
NML	National Microbiology Laboratory
OHS	Occupational Health and Safety
PCH	Personal Care Home
pH1N1	Pandemic (H1N1) 2009 Virus
PHAC	Public Health Agency of Canada
PHN	Public Health Nurse
POC	Point of Care
PPE	Personal Protective Equipment
RHA	Regional Health Authority
SARS	Severe Acute Respiratory Syndrome
SCA	Saskatchewan Cancer Agency
SCH	Special Care Home

SDCL	Saskatchewan Disease Control Laboratory
SIMS	Saskatchewan Immunization Management System
SPIP	Saskatchewan Pandemic Influenza Plan for the Health Care System
SRI	Severe Respiratory Infection
SRNA	Saskatchewan Registered Nurses Association
WCB	Workers' Compensation Board
WHO	World Health Organization