



**Saskatchewan
Watershed
Authority**

Pandemic Preparedness Plan

September 2009

<u>Contents</u>	<u>Page</u>
1. Introduction.....	1
- General	
- Saskatchewan Watershed Authority’s Plan	
2. Pandemic Influenza General	2
- Pandemic Influenza Characteristics	
- Pandemic Phases	
- Saskatchewan Impacts	
- Planning and Responding Responsibilities	
3. Impacts to Saskatchewan Watershed Authority	5
- Planning Assumptions	
- Impacts to Saskatchewan Watershed Authority	
- Legislation and Regulations	
4. Maintaining Services	7
- General	
- Key Actions Prior to an Influenza Pandemic	
- Key Actions at the Onset to an Influenza Pandemic	
- Addressing Specific Problems	
- Post-Pandemic Period	
5. Coordination Team	10
- SWA’s Emergency Influenza Pandemic Coordination Team	
- Coordination Team Responsibilities	
- Emergency Coordinator Responsibilities	
6. Communication Plan	11
- Pandemic Audiences	
- Objectives	
- Communications during the Inter-pandemic and Pandemic Alert Phases	
- Communications during the Pandemic	
- Feedback	
7. Protecting Employee Health	13
- General	
- Influenza and Modes of Transmission	
- Communicability	
- Incubation Period	
- Symptoms	
- Infection Control Practices for Staff	
- Managing Infected Staff	
- Reducing Staff Interpersonal Exposure	
- Antivirals	
- Vaccine	
- Strategies for Protecting Employee’s Health	

8. Human and Physical Resources 18
 - General
 - Training
 - Exercises

9. Plan Administration and Maintenance19
 - Document Ownership and Distribution
 - Review Process and Schedule

10. References20

1. INTRODUCTION

General

Every winter strains of influenza circulate through our province as they make their way around the world. These viruses often cause local outbreaks and even regional epidemics. The extent varies from year to year. People are exposed to different strains many times throughout their lives, thereby developing some form of protection against the slightly changed virus. Influenza vaccines are changed each year in an attempt to provide the best match with the expected strains.

Periodically, however, a major change in the genetic make-up of the influenza Type A virus will occur and a new subtype (novel strain) will suddenly appear. The immunity that people have developed to the influenza that occurs every year will not be helpful against the new subtype because it is a completely different strain. If the new strain is transmitted easily from person to person and causes higher rates of disease and complications it is called a pandemic strain.

A pandemic means an epidemic of any disease over a wide geographic area affecting a large proportion of the population. Pandemic influenza occurs when a major new subtype of influenza Type A virus appears against which the entire human population has little or no immunity. It spreads rapidly and widely, and causes more severe disease and more deaths than a seasonal influenza. Pandemic influenza has occurred on average about once every 30 years; there have been 10 in the last 300 years, with the last one hitting almost 40 years ago. In the last century, there were three influenza pandemics:

- The Spanish Flu in 1918-1919 killed an estimated 30,000 to 50,000 people in Canada and 50 million people worldwide,
- The Asian Flu in 1957-1958 resulted in about one million deaths worldwide,
- The Hong Kong Flu in 1968 -1969 resulted in about one million deaths worldwide.

Both Type A and Type B influenza viruses can cause seasonal influenza, but only Type A viruses can cause pandemic influenza.

It is not possible to predict when the next influenza pandemic will occur or how serious its impact will be. Since there may be little warning, the federal government, Saskatchewan Health, the Regional Health Authorities, and municipal governments along with other governments and agencies around the world are preparing to respond when the next pandemic arrives.

Saskatchewan Health's *Pandemic Influenza Preparedness Plan* provides a framework to assist the provincial government, regional health authorities, municipalities, First Nations and other key stakeholders to develop their own plans in preparation for a pandemic. It can be found at the following web site: <http://www.health.gov.sk.ca/pandemic-influenza-plan>.

Saskatchewan Watershed Authority's Plan

An influenza pandemic has the potential to cause significant problems and disruption to Saskatchewan Watershed Authority's business and the services we provide. The Authority operates and maintains 45 water control structures of which 4 of these dams are major structures – Gardiner, Qu'Appelle, Rafferty and Alameda. These dams control the flow of water to improve water quality, ensure adequate supplies of water, reduce the risk of flood damage, enhance recreation opportunities and maintain aquatic habitat. Impacts such as the availability of

employees, supplies, contractors and other services may pose threats to our ability to manage these structures. Major consequences that could result would include downstream flooding, including property and environmental damage, as well as likely loss of life, if these structures failed. Providing flood monitoring and technical expertise to the public in times of potential flooding may also be at risk during a flu pandemic.

For these reasons it is important that Saskatchewan Watershed Authority has a Pandemic Preparedness Plan in place to prepare and plan for a pandemic and to provide direction and strategy for dealing with the issues that can arise when a pandemic does occur.

This plan covers the following areas:

- Information on influenza pandemics, characteristics, effects, impacts and pandemic phases.
- Details on the potential impact of a pandemic on Saskatchewan Watershed Authority's ability to provide safe and reliable services
- Plans for maintaining services by deciding which programs and services to provide and identifying priorities
- Identifies specific problems to be solved prior to and during a pandemic, what actions are required to solve or meet the problems, who is responsible for undertaking each action and what resources are needed to take these actions.
- Establishes an Emergency Coordination Team including identifying a Team Chief, identifying emergency team members and backups and outlining their duties and responsibilities.
- Provides a communication plan that identifies audiences, the types of messages to be delivered and ways to communicate the messages.
- Provides hygienic measures and information to protect staff, customers and suppliers from influenza.
- Identifies and lists key staff and skills with backup options and additional training requirements.
- Identifies physical resources required.

2. PANDEMIC INFLUENZA GENERAL

Pandemic Influenza Characteristics

There are three types of influenza viruses, but only Type A and Type B cause significant disease in humans. Type A influenza viruses mutate frequently and cause local outbreaks and regional epidemics during influenza season each year. A person may be infected by these viruses multiple times throughout their life, thus developing some form of immunity against the slightly changed viruses. In an average year there are between 12 and 50 deaths from influenza in Saskatchewan.

The term "flu" is a non-specific term used by different people to mean different things ranging from actual influenza to any illness that causes diarrhea and vomiting (sometimes called stomach flu) or other collections of symptoms like fever or muscle aches.

Influenza is an infectious respiratory disease caused by an influenza virus. It generally causes fever, chills, headache, sore throat, cough, stuffy or runny nose, and/or muscle pains. Although

not primary symptoms some people may feel sick to their stomach, vomit and have diarrhea. Influenza spreads rapidly from person to person – by droplets from a simple cough or sneeze, or by contact with something recently contaminated by infectious fluids from the nose and throat of an ill person (like shaking hands with someone whose hands have been contaminated). Real influenza is only caused by influenza viruses. It is generally much more serious than a common cold.

Pandemic Phases

The World Health Organization has identified four levels indicating the threat of a pandemic, which have been adapted by the Canadian Pandemic Influenza Planning Committee and are as shown in the following table.

Levels	Phases	Description
Interpandemic period. Planning and preparedness.	1	No new influenza virus subtypes have been detected in humans. An influenza virus subtype that has caused human infection may be present in animals. The risk of human infection or disease is considered to be low. This is normally considered the period between pandemics.
	2	A circulating animal influenza virus subtype poses a substantial risk of human disease. The distinction between Phases 1 and 2 is based on the risk of human infection or disease resulting from circulating strains in animals.
Pandemic Alert (emergency and pre-emptive response)	3	Human infection(s), with a new subtype, but no human-to-human spread, or only rare instances of infectious spread to a close contact. Globally, we are currently in the pandemic alert period.
	4	Small clusters with limited human-to-human transmission but spread is highly localized, suggesting that the virus is not well adapted to humans.
	5	Larger clusters, but human-to-human spread is still localized, suggesting that the virus is becoming increasingly better adapted to humans. At this point there is a substantial pandemic risk.
Pandemic (minimizing impact)	6	Widespread infection in general population
Post-Pandemic Period	7	Rates of infection return to normal flu season levels. Period of recovery

Each period requires a series of recommended activities by all levels of government and various agencies.

In the health sector, these activities ensure the system is prepared to detect, report, analyze and respond to any cases of human illness caused by the new virus, and to manage the demands on the health system should an outbreak of illness or pandemic occur.

A pandemic influenza is a global public health emergency and different than a natural disaster that would typically involve only a localized area. Many communities throughout Canada and worldwide could be affected simultaneously with large numbers of severely ill people and deaths. A pandemic influenza will have prolonged effects on health services and the entire society.

Saskatchewan Impacts

Saskatchewan Health has used a mathematical model developed by the U.S. Centers for Disease Control to provide an estimate of the numbers of people that could become ill. Using this model and based on the assumption that between 15% and 35% of the population would be affected. The number of people in Saskatchewan that could be affected is estimated to be:

- 300,000 to 700,000 people infected (70%)
- 150,000 to 350,000 people clinically ill (25% + 10% = 35%)
- 62,000 – 175,000 people require outpatient care (50% of ill)
- 4,000 to 4,500 people require hospitalization
- 1,300 to 1,400 deaths

Note that in the model used, clinical cases are defined as cases in persons with illness sufficient to cause an economic impact and excludes those that are infected and develop mild symptoms (e.g., nausea, headache, low-grade fever), but essentially still continue their daily activities.

Planning and Responding Responsibilities

Many groups and agencies have a role to play in planning for and responding to an influenza pandemic. Internationally, the World Health Organization (WHO) watches for and tracks the emergence of new strains of influenza around the world. The WHO determines the level of pandemic alert and when to move from one phase to another. It will be the WHO that declares a pandemic on an international level and notifies federal health authorities. The link for the WHO website is www.who.int/csr/disease/influenza/pandemic/en/.

The federal government holds responsibility for the nationwide coordination of the pandemic influenza health response, including surveillance, international liaison, and coordination of the vaccine response (the way vaccines are obtained, allocated and funded). It is up to the federal government to activate the Canadian Pandemic Influenza Plan once a pandemic is declared.

The province has the responsibility for coordinating pandemic influenza planning and mobilizing contingency plans and resources in the province. The Saskatchewan Health Pandemic Influenza Preparedness Plan provides a framework for provincial activities to be carried out in each pandemic period. Health emergency response begins at the local (regional health authority) level.

3. IMPACTS TO SASKATCHEWAN WATERSHED AUTHORITY

Planning Assumptions

While the next influenza pandemic is inevitable, the timing and impacts associated with it are unpredictable. Effective planning however can reduce its effect on Saskatchewan Watershed Authority's personnel, business activities and customers.

For planning purposes, it is necessary to make a number of assumptions. These are based on the historical evidence and available scientific information. The following planning assumptions are the factors that Saskatchewan Watershed Authority's Pandemic Preparedness Plan is based on and that need to be considered in determining actions and mitigation measures in the event of a pandemic. The assumptions vary from external issues, outside of Saskatchewan Watershed Authority's control to internal issues that the Authority can directly control.

Saskatchewan Watershed Authority's Pandemic Plan is based on the following planning assumptions:

- The next pandemic will first emerge outside of Canada.
- A pandemic state may last for 12 to 18 months or more.
- The next pandemic virus will be present in Canada within 3 months after it emerges in another part of the world, but could be sooner due to air travel.
- The pandemic virus may arrive in Canada at any time of year.
- The first peak of illness in Canada could occur within 2 to 4 months after the virus arrives in Canada.
- Previous influenza pandemics may infect regions in multiple waves – the duration of each wave is likely to be 6 to 8 weeks.
- In a pandemic situation, the potential exists for all sectors to be infected, including health care workers and senior decision-makers.
- The Saskatchewan economy will still function.
- 100% of Saskatchewan Watershed Authority staff will be affected in some manner.
- 15-35% employee absenteeism for the duration of the pandemic wave.
- Peak absenteeism could reach 60%.
- Up to one-third of the Saskatchewan Watershed Authority workforce or 75 people clinically infected, one-third sub-clinical (the number is higher in spring to fall).
- A potential for Saskatchewan Watershed Authority influenza related deaths, based on projected mortality rates is low.
- In a provincially declared pandemic situation, some or all processes and actions in Saskatchewan Watershed Authority's Plan may be taken out of the direct control of Saskatchewan Watershed Authority by public health or emergency response agencies.

Impacts to Saskatchewan Watershed Authority

The widespread nature of a pandemic is expected to significantly impact Saskatchewan Watershed Authority. The anticipated effects on Saskatchewan Watershed Authority's operations may include the following areas:

- employee absenteeism
- supply chain problems – service providers and suppliers
- reduced customer demands for services
- civil, regulatory or contractual liabilities

Extended periods of high absenteeism will threaten Saskatchewan Watershed Authority’s ability to carry out infrastructure maintenance and rehabilitation work, provide timely response to water permitting and technical advice related to addressing flood and drought issues. Because IT and accounting services are contractually provided to SaskWater, service and delays in services may be expected. Absenteeism may be due to a number of factors:

- illness,
- caring for sick family members or friends,
- closures of schools and daycare facilities,
- volunteering time to some other essential pandemic related need,
- fear of becoming infected at work or other public places.

Absenteeism may mean that some key individuals are lost to the organization for extended periods of time resulting in a critical loss of knowledge and skills.

Saskatchewan Watershed Authority relies on a number of essential services and suppliers to maintain operations. Essential services providers and suppliers include:

- SaskPower - impacts all phases of the Authority’s operations.
- SaskTel - impacts communications, IT, and operations
- Other suppliers – impacts equipment supplies for maintenance, repair and replacement.
- Contractors – impacts infrastructure and equipment maintenance and repairs.

Governing Legislation & Regulations

The Saskatchewan Watershed Authority operates under *The Saskatchewan Watershed Authority Act, 2005*. The operation of Authority-owned dams, which provide provincial water power, fall under *The Water Power Act*.

Failure to provide certain services may impact customer relationships with Saskatchewan Watershed Authority. The impacts may range from loss of reputation to potential liability resulting from property damage or loss of life due to failures to warn the public regarding flooding threats or from infrastructure breaches.

4. MAINTAINING SERVICES

General

During an influenza pandemic, Saskatchewan Watershed Authority's public mission will be to continue to lead management of the province's water resources to ensure safe drinking water sources and reliable water supplies for economic, environmental and social benefits for the people of Saskatchewan. The Authority will focus its resources and activities on operations, communications and public service.

Saskatchewan Watershed Authority's key programs and potential actions during an influenza pandemic are as follows:

- Operate, maintain and rehabilitate Authority-owned water structures to ensure all structures meet dam safety criteria;
- Reduce the risk of flood damages in the province by continuing to monitor hydrometric data and provide forecasting services;

Key Actions Prior to an Influenza Pandemic

Key changes to business activities in preparation for an influenza pandemic should include the following actions:

No.	Action	Responsibility
1.	In preparation for an influenza pandemic, Saskatchewan Watershed Authority must ensure that employees are familiar with any additional duties that may be assigned to them. Staff and potential reassigned duties are shown in Section 8. Staff should be advised of possible assignments and new duties during an influenza pandemic.	Operations for staff assignments Human Resources for staff contacts
2.	Saskatchewan Watershed Authority should communicate with the union to ensure their cooperation as the provision of work deemed to be essential services during an influenza pandemic.	Human Resources
3.	Documentation should be prepared on essential and key services relating to procedures and processes.	Operations, C&HS, Stewardship, Communications
4.	Training for required back up resources for essential services should be arranged for staff assigned as backup resources.	Operations & Human resources
5.	Staff should be advised of any change in the risk of an influenza pandemic.	Human Resources/ OH&S Manager
6.	Ensure that keys for all facilities are available at dam locations or Moose Jaw. Compile a list of all passwords and alarm codes.	Operations

Key Actions at the Onset to an Influenza Pandemic

Key changes to business activities at the onset of an influenza pandemic should include the following actions:

No.	Action	Responsibility
1.	Implement/Terminate Pandemic Plan based on information from EMO, Ministry of Health.	-Coordination Committee -EMT
2.	Assess workloads and priorities against available resources and adjust accordingly.	All directors
3.	Communicate with staff and union as needed.	Corp &HS; Commun.
4.	Communication with the public and other affected or relevant parties as needed.	Communications

Addressing Specific Problems

As noted in Section 4, the following are key problems that Saskatchewan Watershed Authority needs to be prepared for in the event of an influenza pandemic:

- 1) **Employee Absenteeism** – Qualified staff must be available to operate and maintain major water structures to ensure safety. Some critical positions may lack redundancy for continuity of critical operations.
- 2) **Shortages of Supplies** – Saskatchewan Watershed Authority relies on suppliers for critical supplies who will also be affected. Supplies considered critical would include maintenance and equipment supplies for operations, i.e.: instrumentation and electronic equipment, pumps, motors, valves etc.
- 3) **Service Provider Interruptions** – Saskatchewan Watershed Authority relies heavily on service providers who will also be affected. These include SaskPower, SaskTel, Environment Canada, Alberta Environment, Agri-Environment Services Branch (formerly PFRA), and SaskEnergy. Depending on the time of year and weather, the condition of roads and highways may be a concern if Highway or municipal staffing are unavailable.
- 4) **Contractor Availability** – Saskatchewan Watershed Authority relies on contractors to carryout specialized maintenance and repair work as well as project work.

1) Employee Absenteeism - The following are actions to address employee absenteeism:

No.	Action	Responsibility
1.	Identify key lines on business and minimize or temporarily suspend business activities for less critical lines.	Coordination Team
2.	Advise staff that they may be required to be away from their assigned headquarters for several days at a time and may be required to work after hours and weekends.	Human Resources
3.	Consider the use of outside resources to assist in temporary operations (See Appendix E for a list of potential external operational contacts).	Operations

4.	Contract out specialized activities where possible.	Operations
5.	Institute measures to try and reduce staff absenteeism. Meeting practices, working from home, see Section 7 on Protecting Employee Health.	Corp & HS /OH&S/ Communications
6.	Track employee health status and availability. (use Outlook calendar)	All Divisions/ Coordination Team
7.	Collect and maintain information on the status of the on-going pandemic, on both a national and provincial level.	Coordination Team
8.	Consider changing operational practices to minimize work load.	Operations; all Divisions
9.	Carry out an analysis of hydrometric monitoring needs during an influenza pandemic and prepare recommendations detailing any essential functions	Operations
10.	Based on the recommendations, develop a plan based on staff availability for essential functions during a pandemic.	Operations
11.	Implement any Labour Relation and Human Resource pandemic protocols that have been identified.	Human Resources
12.	Advise security system companies, SecurTek and ADT of any changes in operating status and staff contacts.	Operations
13.	Coordinate efficient use of all staff assigned vehicles.	Operations
14.	Arrange for facility and works keys and laptops assigned to absent staff to be made available to relief staff as appropriate.	Operations/IT/HR
15.	Advise of any changes to on-call staff assignments.	Operations
16.	Establish a protocol for changing passwords and codes in field locations.	Operations/IT
17.	Be prepared to notify public if any impact on service	Communications

2) Shortages of Supplies - The following are actions to address supply shortages:

No.	Action	Responsibility
1.	Maintain close contact with suppliers to anticipate shortages as soon as possible.	Operations/C&HS
2.	Check for alternative suppliers.	Operations/C&HS
3.	Check for alternative equipment suppliers.	Operations/C&HS

3) Service Provider Interruptions - The following are actions to address service provider interruptions:

No.	Action	Responsibility
1.	Maintain close contact with main service providers to anticipate interruptions, to let them know Saskatchewan Watershed Authority's requirements and to assist them in minimizing their down time.	Operations

4) Contractor Availability - The following are actions to address contractor availability:

No.	Action	Responsibility
1.	Check for alternative contractors as required.	Operations

Post-Pandemic Period

As the pandemic wanes, actions will be taken to move towards resumption of normal business activities which may have been curtailed during the pandemic, and to capture lessons learned by staff at all levels.

No.	Action	Responsibility
1.	Stage back into normal business activities as staff absenteeism drops.	Unit Directors and Coordination Team
2.	Debrief EMT, Coordinating Team members, back-up staff to capture lessons learned during the plan implementation	Coordination Team
3.	Solicit feedback from all staff	Coordination Team
4.	Engage with key service providers and key stakeholders for feedback on plan implementation.	Coordination Team
5.	Revise the Pandemic Plan based on all feedback	Coordination Team

5. COORDINATION TEAM

Saskatchewan Watershed Authority's Emergency Influenza Pandemic Coordination Team

During an Influenza Pandemic, Saskatchewan Watershed Authority will focus its resources and activities on operations, communications and customer service. The following shows Saskatchewan Watershed Authority's Influenza Pandemic Emergency Coordination Team.

Position	Responsibilities	Backup
Executive Director, Corp & HS	Coordination Team Chief, EMT link	Designated VP or Exec.Director
Director, Basin Operations	Provincial Emergency link	Engineer Specialist, Hydrology Services
Director, Human Resources	Corporate and human resource issues	Manager Payroll & Benefits; Director of Finance
Director, Infrastructure	Operation and	Manager, Dam Safety &

	maintenance of critical water management infrastructure, provision of engineering services	Major Structures Manager, Project Engineering
Executive Director, Policy & Commun.	Communications Stewardship Contact	Corporate Communications Consultant
Program Manager, OH&S	OH&S Issues	Director, Human Resources
Director, IS	IT Issues	Supervisor, IT Supervisor, IS
Director, Regional Operations	Operation and Communication Coordination	Vice President Operations or Designated Regional Manager

Coordination Team Responsibilities

Coordination Team members are responsible for the following:

- Coordination Team Chief obtains EMT approvals for Communication advisories, emergency decisions, etc
- tracking employee health status and availability,
- communications,
- decisions on program activities - when to minimize or temporarily suspend,
- how to suspend non-critical operations,
- staff assignments other than operations,
- collecting and maintaining information on ongoing pandemic,
- maintaining interagency contacts,
- maintaining workplace safety,
- addressing human resource issues,
- coordination team's use of meetings and meeting locations (if needed, a command center will be located in the Boardroom at Moose Jaw or Regina office).

The Coordination Team will make decisions necessary to respond to the pandemic in a timely manner and where appropriate will seek Executive Management guidance and or decisions.

6. COMMUNICATION PLAN

Pandemic Audiences

Saskatchewan Watershed Authority internal and external communications are key elements in dealing with a pandemic. During a pandemic media interest will be intense and increased information demands will continue over several months. Effective and frequent communication will be required with all the people and organizations that regularly work with Saskatchewan Watershed Authority.

Audiences that Saskatchewan Watershed Authority will need to address include customers, the public, service providers, suppliers, contractors, employees and stakeholders.

Objectives

The key communication objectives during a pandemic will be as follows:

- inform and educate staff and stakeholders on the pandemic plan.
- provide consistent, coordinated and accurate communications to the public, staff, service providers, suppliers and stakeholders.
- assure the public that Saskatchewan Watershed Authority is prepared to maintain services and has a pandemic plan.
- provide staff with updated information on the pandemic plan to ensure roles and responsibilities are understood and to ensure effective responses to the various pandemic issues.

The education objective will focus on the following:

- provide an understanding of pandemics and their seriousness to staff and stakeholders.
- provide information to staff on influenza to help reduce their and their families' risk of contacting influenza and to provide them with practical measures for dealing with the infection.
- provide accurate and timely information to staff to help them understand Saskatchewan Watershed Authority's pandemic plan and the measures being implemented due to the pandemic.

Methods of communicating information to staff that should be considered are: e-mail, internet, posters or signs and group presentations.

Communication Strategies during the Inter-pandemic and Pandemic Alert Phases

For Customers and Stakeholders:

In the first phase of pandemic alert, WHO Phase 3, communication should focus on Saskatchewan Watershed Authority's readiness and plan for dealing with a pandemic.

In WHO Phases 4 and 5, communications should confirm that Saskatchewan Watershed Authority is monitoring the situation and that we are testing and adjusting our plan to improve our readiness. At this point a pandemic is considered inevitable.

For Saskatchewan Watershed Authority Staff:

During WHO Phase 3, staff should be encouraged to become knowledgeable about pandemics and about Saskatchewan Watershed Authority's Pandemic Preparedness Plan. Employees should be strongly encouraged to participate in the annual influenza immunization program.

During WHO Phases 4 and 5, communications should assure staff that Saskatchewan Watershed Authority is monitoring the situation and is prepared for a pandemic. Advise staff that

information delivered as it becomes available and on how the information will be delivered. A dedicated section of the intranet on the pandemic plan and program is recommended.

Communications during the Pandemic

For the Public and Stakeholders:

During a pandemic, the main concern of the public and stakeholders will be Saskatchewan Watershed Authority's ability to maintain services. Keep in mind, customers will be experiencing the pandemic with a wide range of impacts to themselves. In this environment, communications should be timely, factual and controlled, emphasizing Saskatchewan Watershed Authority's progress in maintaining its service.

For Saskatchewan Watershed Authority Staff:

Information to staff will also need to be factual and frequent. Preferred lines of communication should be established and a regular schedule of updates and information provided. It is expected that the EMO and Saskatchewan Health will provide pandemic information, daily updates and/or conference calls for critical infrastructure providers. The Coordination Team may decide on a daily conference call and/or briefing for Saskatchewan Watershed Authority Management as well.

As the Saskatchewan Watershed Authority staff are widely scattered around the province and it will be important to monitor the effectiveness of the communication and the methods of communications. Management should actively obtain feedback on the effectiveness of the communications and be prepared to make adjustments as necessary.

7. PROTECTING EMPLOYEE HEALTH

General

This section contains further information on influenza and on measures staff can take to prevent or reduce the risk of getting influenza.

Influenza and Modes of Transmission

Influenza, the flu, is a highly contagious respiratory illness caused by a virus. Understanding how influenza is spread can help people take precautions to prevent or minimize its transmission.

Influenza spreads when the infected respiratory secretions from the mouth or nose of one person come into contact with the mucous membranes (eyes, mouth or nose) of another person. The vast majority of influenza is spread from person to person by droplet spread or direct contact. Outside the body, the influenza virus may persist for some time, especially in conditions of low relative humidity and cooler temperatures. Specifically, the influenza virus can survive for 1-2 days on hard surfaces, 12 hours on porous surfaces, and 5 minutes on hands, resulting in some spread by indirect contact.

Droplet spread refers to spray with relatively large, short-range droplets produced by sneezing, coughing, talking, or singing. These droplets may spray a distance of up to one metre (about three feet) before dropping to the ground.

Direct contact occurs when there is immediate transfer of the virus through skin-to-skin contact. For example, an infected person may cough into his/her hand and then shake hands with another person who may then rub his/her eyes.

Indirect contact occurs when the virus is transmitted from an infected person to an inanimate object and then on to another person. For example, an infected person may blow his/her nose, and then touch an elevator button which is then touched by another person who then touches his/her eyes.

Communicability

Communicability refers to the time period during which the influenza virus can be spread from an infected person to another person. Most adults infected with influenza can transmit the virus from 1 day before and up to 3-5 days after the onset of symptoms. This period may be longer (7 or more days) in children and some adults.

Incubation Period

The incubation period for influenza is 1-3 days. This means that a person may develop symptoms of influenza 1-3 days after coming into contact with a person with the influenza virus.

Symptoms

Infection with influenza can result in a wide range of illness. Some people might not have any symptoms. About half of infected people will experience some symptoms. These include the following:

- Sudden onset of fever, headache, chills, muscle aches, physical exhaustion, and a dry cough;
- Subsequent onset of sore throat, stuffy or runny nose, and worsening cough;
- Children may also feel sick to their stomach, vomit, or have diarrhea;
- Elderly and immune-compromised people may not develop a fever;
- Most people recover in 7-10 days.

Infection Control Practices for Staff

There are a number of things staff can do to prevent the risk of getting influenza. These include following hand hygiene and respiratory etiquette practices.

Hand Hygiene

Hand hygiene is possibly the simplest and single most important method for preventing influenza infection. Clean your hands frequently with soap and water or an alcohol-based hand sanitizer, especially after you cough, sneeze, or blow your nose. An alcohol-based hand sanitizer is adequate for hand hygiene, unless your hands are visibly soiled. If your hands are visibly soiled, you should wash them with soap and water. If you are not near water and your hands are visibly

soiled, clean your hands with a moist towelette to remove visible debris, and then use an alcohol-based hand sanitizer.

The influenza virus is easily killed by soap, hand-wash, or hand sanitizer products, and household cleaning products. Therefore, gloves or special antibacterial hand-wash products are not needed.

Respiratory Etiquette

Cover your mouth and nose when you cough or sneeze (use elbow instead of your hands). This will help stop the spread of germs that can make people sick. It is important to keep your distance from people who are coughing or sneezing.

Avoid Touching Your Nose, Mouth or Eyes

Without even realizing it, you may touch the infected nose and mouth secretions of someone who has influenza. If you go on to touch your mouth, nose or eyes, the influenza virus may gain entry into your body causing infection. Avoid touching your nose, mouth or eyes; these are points of entry for the influenza virus.

Further information on hand hygiene and respiratory etiquette can be found in Appendix A

Stay Home if You Are Ill to Avoid Infecting Others

Most adults infected with influenza can transmit the virus from 1 day before and up to 3 to 5 days after the onset of symptoms. This period may last for 7 or more days in young children and some adults. Some experts believe that the highest concentration of viral shedding occurs early and decreases quite a bit after 3 days of illness. However, there is no clear data on how long a person should wait before returning to their usual activities (e.g. school, work) in order to minimize the risk of infecting others. The best advice at this time is that adults should return to their usual activities at least 5 days after the onset of symptoms (7 days for young children), or when they feel well enough to return to their duties, whichever is longer.

Managing Infected Staff

It is important to reduce the spread on influenza at work during a pandemic. Saskatchewan Watershed Authority may need to adjust policies and communicate with staff to make sure that sick employees do not come to work until they are well. It's also important to have policies for managing staff that get sick at work.

Managers and supervisors should be aware of employees' health status and should be on the lookout for physical symptoms that are flu like. When flu like symptoms are observed, options available to managers should include asking the employee to wear a surgical or procedure mask to reduce the risk of infecting others or asking the employee to leave and stay home for a minimum of 24 hours after symptoms have completely subsided.

Reducing Staff Interpersonal Exposure

Reducing staff's exposure to influenza can also be accomplished by reducing close contact with customers and co-workers. Strategies for accomplishing this are as follows:

- Reduce face to face interactions with customers wherever possible. Alternative methods of interacting with customers include using e-mail, letter or memo, fax, phone or conference call, internet meetings or video conferencing for larger groups.
- When it's essential to meet in person create a buffer zone of at least a metre between employee and customer (avoid shaking hands).
- Internal meetings as well should be reduced as much possible and where possible done by alternative methods such as conference calls.
- If possible, consider allowing some employees to work from home during a pandemic. This may reduce their level of exposure to the virus. Make the necessary arrangements to facilitate employees working from home.
- Avoid any unnecessary travel and cancel or postpone non-essential meetings, gatherings, workshops and training sessions.

Antivirals

At the present time, two antivirals are licensed for use in Canada for prophylaxis of influenza A infections: amantadine and oseltamivir (Tami flu), Tami flu is the preferred treatment during a pandemic. For treatment purposes, when administered within two days (48 hours) of the onset of illness, Tami flu appears to be beneficial in reducing length of illness and hospitalization and influenza complications. The Public Health Agency of Canada is now working with the provinces to establish a national antiviral stockpile, with a target of having enough supplies to treat those presenting illness and for early containment.

A number of organizations have included the provision of antivirals for prophylaxis, as part of their pandemic strategy. However Saskatchewan Health currently recommends against stockpiling Tami flu as part of a pandemic strategy for a number of reasons including the fact that it may be ineffective against an eventual pandemic strain. SaskTel has also stated that antiviral prophylaxis is not part of their pandemic plans and SaskPower is also reluctant to commit to it as part of their plan.

Vaccine

In Canada, the federal government is responsible for vaccine procurement and supply. A vaccine will not be available for at least four to six months after the pandemic strain is identified, which means it will not be available in time for the first wave of illness. Vaccine may be available to mitigate the impact of the second wave. Once available, the vaccine will initially be in short supply and high demand. Vaccines manufactured in other countries are likely to be embargoed during a pandemic. In a pandemic caused by a novel virus subtype, the population will not be able to benefit from cross-protection from previous exposure to related strains, and everyone may require two doses of vaccine to induce immunity.

According to the Canadian Pandemic Plan for the Health Sector, Saskatchewan Watershed Authority workers would not be one of the first groups to receive a new vaccine. The Plan ranks health care workers as the first priority group. Utility workers are included in the second priority group along with police, fire fighters, armed forces, key emergency response decision makers, funeral service and mortuary personnel, people who work with institutionalized populations, persons who are employed in public transportation and the transportation of essential goods and key government employees/elected officials.

When the vaccine becomes available, SaskHealth will confirm its availability and will establish vaccination centers across the province. Provincial rules and regulations have certain consent requirements that govern how consent is given and obtained.

Strategies for Protecting Employee's Health

The following table shows Saskatchewan Watershed Authority's strategies for protecting employee's health and includes the following actions:

No.	Action	Responsibility
1.	Provide employees with information of pandemic influenza characteristics, modes of transmission and good hygienic practices to help protect staff health.	Corp&HS/OH&S and Communications
2.	Ensure that either hand washing facilities or sanitizing supplies and disposable tissues are readily available to all staff.	Administrative Services
3.	During a pandemic, persons coming into Saskatchewan Watershed Authority facilities will be asked to sanitize their hands before proceeding.	Administrative Services
4.	Ensure that all workers have access to procedure or surgical masks if they are ill or if they interact with someone who may be ill.	Administrative Services
5.	During a pandemic, persons coming into Saskatchewan Watershed Authority facilities presenting influenza like symptoms will be asked to put on a procedure mask (i.e., with ear loops) or a surgical mask (i.e. with ties) to contain respiratory secretions, and may be asked to leave the facility.	Administrative Services
6.	Ask employees exhibiting influenza symptoms to wear a surgical or procedure mask.	Management/Administrative Services
7.	Ask employees exhibiting influenza symptoms to leave and stay home for a minimum of 24 hours after symptoms have completely subsided.	Management
8.	Reduce face to face interactions with customers wherever possible.	All Staff
9.	Reduce internal meetings as much possible and where possible done by alternative methods such as conference calls.	Coordination Team/All Staff
10.	If possible, consider allowing some employees to work from home during a pandemic.	Coordination Team
11.	Avoid any unnecessary travel and cancel or postpone non-essential meetings, gatherings, workshops and training sessions.	Coordination Team/Management
12.	Saskatchewan Watershed Authority will not include antiviral prophylaxis as part of its current pandemic preparedness plan.	Coordination Team
13.	Saskatchewan Watershed Authority will consult with other provincial agencies to ensure consistent strategies on the issue of antivirals.	Management

No.	Action	Responsibility
14.	Saskatchewan Watershed Authority will monitor information on the effectiveness and availability of antivirals and adjust its plan if appropriate.	Coordination Team
15.	Saskatchewan Watershed Authority will monitor international and domestic vaccine developments and communicate current information to employees.	Coordination Team
16.	When the availability of the vaccine is confirmed by SaskHealth, immunization information will be delivered to Saskatchewan Watershed Authority employees, who will be asked to sign a vaccine consent form and will be immunized.	Human Resources/OH&S

8. HUMAN AND PHYSICAL RESOURCES

General

Based on Saskatchewan Watershed Authority's main focus during an influenza pandemic, continuing to provide our main lines of service, the ongoing operation of our facilities will be a top priority. Saskatchewan Watershed Authority currently has 38 field staff that carry out the direct operations of our facilities. This staffing level provides for normal coverage of absences due to sickness, staff leave and other reasons. These staff absences would typically be covered by overtime or relief operators. Extended periods of absenteeism would however cause a severe strain on the remaining staff and multiple absences may mean short-term relief is required from other areas of the Authority.

Based on the scenarios identified in Section 3 on Planning Assumptions, employee absenteeism could be 15% to 35% for the duration of the pandemic wave with peak absenteeism of up to 60%. Staff numbers shown here are based on *May 2009 staff directory counts* which includes summer students, casuals and temps. The following table shows the potential impact to Saskatchewan Watershed Authority based on 35% and 60% absenteeism:

Division	Total Staff	Key Positions	Scenario 1 35% Absent		Scenario 2 60% Absent	
			Sick	Working	Sick	Working
President's Office	4	2	1	3	2	2
Operations						
• Total Staff	114	34	39	75	67	47
• Admin	4	2	1	3	2	2
• Infrastructure Mgt	37	11	13	24	22	15
• Basin Ops	12	8	4	8	7	5
• Regional Ops	47	9	16	31	28	19
• Groundwater Mgt	14	4	5	9	8	6

Stewardship	58	2	20	38	35	23
Policy and Communications	11	2	4	7	7	4
Corporate & Human Services	39	6	14	25	23	16
Totals	226	46	79	147	136	90

Assuming that the key positions are the ones that need to be maintained for the duration of the pandemic, the above table shows that for 35% absenteeism there are still 147 staff available to work and sufficient staff overall to cover the 46 key positions. All Divisions would have sufficient staff to cover the key positions within their own divisions.

For the 60% absenteeism scenario, the table shows only 90 staff available to cover 46 key positions. Basin Operations would have 5 working staff for 8 key positions.

Under this scenario the short fall would need to be covered either by other Divisional staff, overtime or contract help from outside Saskatchewan Watershed Authority. The 60% scenario however is the assumption for peak absenteeism and is not expected to last the duration of the wave (six to eight weeks), so some short-term absenteeism in key positions or overtime to cover the missing staff may be an option.

Training

Members of the Coordinating Team should take training opportunities offered by SaskEMO on Pandemic Planning, and/or Business Continuity Planning, or other similar opportunities as they arise.

Personnel identified in back-up roles should receive training in those roles during the Interpandemic Period.

Exercises

The Coordinating Team should plan and schedule exercises to test the pandemic plan on a regular basis during the Interpandemic Period.

9. PLAN ADMINISTRATION AND MAINTENANCE

Document Ownership and Distribution

The electronic copy of the Pandemic Plan and its appendices will be kept by the Administrative Support Unit of Corporate and Human Services. The Administrative Support Unit will ensure that each document is clearly indicated by version and date.

Hardcopy versions of the Plan will be distributed to each member of the Coordinating Team and to each member of the Executive Management Team. Each holder of a copy will ensure their

backup person is aware of the location of their copy. Each holder of a copy will ensure they have only the most recent version.

Review Process and Schedule

The Coordinating Team will amend the plan as necessary. Any substantial revisions to the Plan must be approved by EMT.

The Coordinating Team must meet at least once every two years to review the plan.

References

1. Government of Saskatchewan.
Saskatchewan Health. March 2006
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5. Government of Manitoba. Manitoba Health. June 2006
Pandemic Influenza Preparedness Guidelines for Manitoba Business. Author: Manitoba Health.