



H1N1 Pandemic Planning

October 2009

Introduction

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 and functional relationships towards the resumption of normal business activity.

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 (pH1N1) 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 persons 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.

Disease Prevention and Mitigation

One of the most effective mechanisms to limit the effect of the H1N1 pandemic will be to reduce the transmission of the virus. As Influenza viruses are known to spread via aerosols and surface contamination, a campaign aimed at increasing hand washing, appropriate coughing methods and increased frequency of surface cleaning may be useful.

1. PDS is initiating a program to promote an increased awareness of hygiene among its staff and visiting clients.

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 pH1N1 vaccine 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.

2. PDS management is making inquiries regarding the availability of vaccine for PDS staff. When the pH1N1 vaccine is available, we will encourage all PDS staff to consider vaccination.

Oseltamivir is an oral medication and Zanamivir is an inhaled medication. Both are taken twice a day for five days for treatment. These medications can reduce the severity of disease caused by H1N1. 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 stock pile 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.

3. PDS staff should be aware that these medications are available. PDS encourages its staff to consult with their physicians regarding the use of these to mitigate the effects of pH1N1.

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 were 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 pH1N1 may be transmissible to swine. PDS staff with significant interactions with farm workers or who visit agricultural operations should be aware of the possibility of viral transmission to other species.

4. PDS advises staff to self isolate themselves immediately upon experiencing symptoms consistent with pH1N1. Do not risk exposing co-workers by staying at work until the end of the workday if feeling unwell.

Maintaining continuity of PDS services during an pH1N1 outbreak

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 analyses 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.

Absenteeism (sick time)

During the peak – typically two weeks of illness in the community – the absenteeism rate from work and schools may reach 10% to 25%, this may be due to personal illness, caring for others who are ill or pandemic influenza related public health measures (ie school closure and subsequent lack of childcare). Normal baseline absenteeism is 5-8% in a normal winter. A PDS 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.

Unfortunately, this absenteeism cannot be relied upon to spread evenly across the PDS workforce. In fact it is more likely that absenteeism will be focused on individual sections.

Prairie Diagnostic Services is especially vulnerable to disruption from increased absenteeism due to its organizational structure in which the work is performed by a number of very small independent sections. The front line workers in many sections have limited ability to function in other. The following actions should be completed in each area:

1. Identify areas/processes at risk

- a. Identify areas where limited numbers of persons have critical skills. These are laboratories or processes within a laboratory where only a very limited number of individuals are trained or capable of performing a task or operating critical equipment. These include but are not limited to accessions staff, laboratory techs, accounting personnel and Pathologists. Laboratory supervisors and/or head techs please provide the information appropriate to your lab by Friday Oct 9th and send to Brian Chelack
- b. Identify areas where PDS staff has increased personal contact with students or clients. These persons may have an increased risk of infection with pH1N1.

2. Identify alternate staff.

- a. While PDS implemented an response plan to deal with the CUPE support staff strike and has outlined a plan for essential services designation of its own staff, there is no way to ensure that every individual section will have exactly 30% of its staff affected. It is entirely possible and probable that outside persons may be required to perform PDS functions. These persons include:
 - i. In scope personnel working in other areas of PDS with experience in your area.

- ii. Recent retirees. This can include persons from all areas of PDS including Pathologists, lab techs and administrative support personnel.
 - iii. Out of scope personnel with previous experience in other service areas.
 - iv. University members with appropriate skill sets from other departments and VIDO.
- 3. Cross train more individuals to perform key tasks**
 - a. Identify essential processes and ensure that as many staff as possible are capable of performing the work.
 - 4. Prioritize service maintenance.**
 - a. In the event staff absenteeism becomes severe, PDS areas must prioritize the services they will attempt to maintain. These decisions should be made based on staff availability, volumes, turn around time requirements, and revenue generation.
 - 5. Identify alternate labs where casework may be sent.**
 - a. As the pandemic is unlikely to affect all regions of Canada at the same time, PDS management will contact alternate laboratories within reasonable shipping distance to determine their ability to perform testing for PDS. These labs could include Manitoba, British Columbia, Ontario and Prince Edward Island. If you have a preference for an alternate laboratory please indicate this on the information collection form. Other labs may ask us to provide emergency services for them.
 - 6. Ensure that alternate suppliers of support needs are identified.**
 - a. Discussions with WCVI GMP staff indicate that no provisions are currently being planned to maintain GMP functions in the event of an H1N1 pandemic. Alternate suppliers of microbiological media (previously identified during the CUPE strike) must be contacted to ensure they can provide required supplies.
 - 7. PDS management will advise clients, members and staff of our pandemic plans.**

Recovery

The pH1N1 has the potential to cause severe dislocation of PDS's business. We have no control over the effects of the virus in our client group and cannot predict the effect on diagnostic submissions.

Effects on PDS personnel will range from illness and absenteeism among the affected staff to increased work for the uninfected staff remaining to perform the caseload. Both groups will require support in order to minimize stress and facilitate a return to a healthy/normal work environment.

- 1. PDS management will ensure that all staff is informed of the pandemic plan and receive updates on a regular basis that keep them informed of any pH1N1 associated illness at PDS and the application of any measures deemed appropriate.**