

PANDEMIC READINESS:

An Occupational Health Perspective (an Update)

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Dr. Bernier is Emergency Management Program Coordinator for Ontario's Workplace Safety & Insurance Board, where she recently led the development of the Organization's Business Continuity, Emergency Management and Pandemic plans and programs.

Internationally recognized for her work in helping organizations across Ontario plan for a possible pandemic, Dr. Bernier is currently on a two-month assignment with the United Nations Headquarters in New York, to develop and run a Pandemic Tabletop Exercise for them. She has been a guest speaker on pandemic planning at both the 2007 and 2008 *Continuity Insights Management Conferences* in New Orleans, and recently spoke at the United Nations' *International Disaster and Risk Management Conference* in Davos, Switzerland in August of this year.

With over 10 years in the field of emergency management Dr. Bernier has worked for Emergency Management Ontario, Ontario Power Generation, the Canadian Nuclear Safety Commission as well as Management Board of Cabinet, and has recently been asked to sit on the newly-created National Council on Emergency Management. She is also one of a select few Canadians to receive designation as Certified Business Continuity Professional through Disaster Recovery Institute International.

INTRODUCTION

A paper on Pandemic Readiness was published by this author in the December issue of Ontario Medical Review in 2005.¹ Many progresses have been made. With the latest development of H1N1 infections, this paper is written as an update.

Historical Perspective and Update: Influenza pandemics have occurred three times in the last century with intervals of 11-39 years in between; the 1900s being the Spanish Flu (1918), the Asian Flu (1957), and the Hong Kong Flu (1968). If history usually repeats itself, the world is due for the next influenza pandemic.

Highly pathogenic Avian Influenza A (H5N1) infects and spreads predominantly amongst birds, but can be transmitted from sick birds to humans and there are sporadic human to human transmission resulting from close contact. The threat of it evolving or re-assorting to become the virus for the next influenza pandemic has been recognized since 2003. The World Health Organization (WHO) has been monitoring the H5N1 human infection and posts confirmed cases on their website.²

The mode of transmission of H5N1 has been believed to be from droplet or from contact exposure, i.e. direct contact with infectious body fluids or from contaminated surfaces. Airborne transmission cannot be ruled out,³ but infectious disease experts believe that it is neither the predominant mode of transmission nor a frequent enough occurrence to be of significant concern.⁴

Most of the fatal cases of H5N1 infections are in young and healthy individuals. One hypothesis was that the young host has mounted such a severe immune response that it produces a large quantity of cytokine causing damage to the body tissues, especially to the lungs. The younger and healthier, the more severe the reaction and as a result they suffer the worst consequences.⁵

In April 2009, there were reports of many people dying in Mexico from respiratory illnesses. The cause was later identified as novel Influenza A H1N1 virus.⁶ Initial cases outside Mexico had a travel history to Mexico but as time goes on, the travel history is no longer a risk factor of the infection. The WHO raised the pandemic phase from 3 to 4 and then 4 to 5 during the week of April 29th. On June 11, it declared that the world is now at the start of the 2009 influenza pandemic and moved to phase 6 of the pandemic.

In a statement by Dr. Margaret Chan, Director General of the World Health Organization, she stated that the virus is contagious, spreading easily from one person to another, and from one country to another. Nearly 30,000 confirmed cases have been reported in 74 countries. The novel H1N1 virus preferentially infects younger people. In nearly all areas with large and sustained outbreaks, the majority of cases have occurred in people under the age of 25 years.⁷

Preliminary epidemiology data available from Mexico (up to May 6th) shows that in the 45 fatal cases the majority were between age 20 to 39, similar to the age group for H5N1 infection. The median number of days from onset to admission was 6 days and the median number of days between onset to death was 10 days. Comorbidities were obesity, non-insulin diabetes, and hypertension.

Current information suggests that this H1N1 influenza virus has demonstrated the ability to spread even in warmer humid weather and new cases keep developing. The genetic make-up of this virus has been evaluated and there is a belief that more than one third of the people over 60 years of age may have some cross reacting antibodies to it. The current (past 3 years) influenza vaccines do not seem to provide cross protection.⁸

BUSINESS CONTINUITY PLANS AND PANDEMIC PLANNING IN ONTARIO

Since 2005, many private and public organizations have been actively planning and preparing for the next influenza pandemic.

Ontario Government: As part of the government of Ontario's Business Continuity Planning process, all ministries are also developing plans and procedures on how to maintain key services during a pandemic. This includes planning for up to 50% staff absenteeism at any given time during an 18-month period (assuming more than one wave of pandemic) protecting staff health, ensuring effective communication prior to, and during a pandemic, and identifying critical staff and training requirements.⁹

Ministry of Health and Long-Term Care: Ontario's Ministry of Health and Long-Term Care has also produced a wealth of information on pandemic planning, including the release of its *2008 Ontario Health Plan for an Influenza Pandemic*.¹⁰ The plan sets out a comprehensive, province-wide approach to health preparedness and response planning, and provides information to guide local pandemic planning groups. Chapter 7 addresses this issue of Occupational Health and Infection Control and Chapter 9 addresses antiviral and vaccine. The plan indicates that the Province has stockpiled enough antiviral medication to treat 25% of its population.

During the H1N1 period (May 2009), many "Important Health Notices" have been published on their website providing practical and useful information, clinical direction to healthcare professionals including emergency departments, long-term care and ambulatory care settings. www.health.gov.on.ca/english/providers/program/emu/ihn.html At the beginning, daily teleconferences were held for the medical offices of health.

Ministry of Government and Consumer Services: The Ministry of Government and Consumer Services (MGCS), tasked with ensuring continuity of government operations during emergencies, has published and distributed a Guide entitled: *Pandemic Planning Guide for the Ontario Public Service*.⁹

Ministry of Community Safety & Correctional Services and Emergency Management Ontario (EMO): In addition, the Ministry of Community Safety & Correctional Services recently released its own *Ministry Influenza Pandemic Plan*, in May 2008, designed to provide guidance to the Ministry, first response organizations and others who are involved in pandemic planning in the province.¹¹ The document was also broadly circulated to key community stakeholders, including municipal Community Emergency Management Coordinators, fire, police, public health and other agencies involved in Pandemic Planning.

WSIB (Workplace Safety and Insurance Board, Ontario): Starting in 2005, the WSIB sent out Broadcast Messages via e-mail to all staff regarding safe holiday travel, staying influenza-free and general pandemic awareness. Posters were developed promoting key messages on safe holiday travel, general health, hand hygiene, and cough etiquette. General information brochures on seasonal influenza were also prepared in house and distributed to all staff.

Hand sanitizer samples and hand hygiene tip sheets were also distributed to all staff in the Province, and related headlines appeared on their intranet site, with a link to Frequently Asked Questions on pandemic influenza. Hand wash signs were also installed in all washrooms and alcohol-based solution stations were installed at elevator banks on all floors of all offices across the province.

For the external client, the Organization also created a number of products including an informational brochure, an Employer Tip Sheet and a Checklist of Pandemic Preparations, as well as links to other relevant websites and expertise to assist the employers and workers of Ontario in planning for a possible pandemic.¹² All products are posted on its website and are available for free download. The WSIB also continues to encourage Employers to include infection control and pandemic plans into both their business plans and occupational health and safety policies and procedures.

In addition, a pandemic tabletop exercise was held in 2007, with participation from external partners, including local health authorities and government officials. The exercise, which walked senior management through the various stages of a pandemic, was designed to educate all players and to identify gaps in the organization's pandemic plans. As a result, one of the staff has been seconded to lead a similar exercise in New York for the United Nations headquarters.

Since April 2009, all Divisions with WSIB have quickly performed gap analysis revision and up-dates to their pandemic plans and procedures.