

Pandemic H1N1 Influenza

Regional Forum on Pandemic H1N1 Preparedness

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Outline

- Influenza
 - Seasonal
 - Pandemic influenza A/H1N1 novel influenza virus
- H1N1
 - First wave: our experience to date
 - First wave: lessons learned
 - Second wave: what can we expect?

Seasonal Influenza: the illness

- viral illness caused by the influenza virus
- Spread person-to-person by droplets from coughs & sneezes
 - Inhaled (droplets from coughs & sneezes can travel 1 – 2 meters)
 - Hand-to-mouth by touching contaminated surfaces
- Incubation period: usually 1 – 3 days
- Symptoms: fever, cough, headache, sore throat, muscle aches, physical exhaustion (illness hits suddenly); sometimes nausea & vomiting
- Start to get better in 3 – 4 days
- Infectious for up to 7 days; longer in children
- Some people may carry and spread the influenza virus but have no symptoms
- People usually recover from the flu without medical help
 - However, very young children, the elderly, people with lowered immunity (e.g., chronic illnesses) **have a higher risk of severe illness**

Seasonal Influenza: the impact

- Each year, 10% - 20% of population in general community develops influenza illness
- More than 50% in closed populations (e.g., nursing homes, schools)
- High-risk groups include: very young children and infants, elderly and those with chronic illnesses
- Influenza associated with:
 - ~ 4,000 deaths per year in Canada
 - ~ 100 deaths per year in Manitoba

Influenza: the virus

- 3 Types: A, B & C
- Type C: usually infects children and causes mild illness
- Type B: can cause annual outbreaks
 - usually mild illness
 - exclusive to humans
- Type A:
 - Responsible for most seasonal flu outbreaks
 - Crosses species – found in many birds and mammals (e.g., swine, horses, waterfowl)
 - Only influenza A can cause pandemics

Influenza: the virus

- Masters of survival – constantly changing their genetic make-up
- Genetic “drift” – subtle changes
- Genetic “shift” – abrupt, major change
 - Occurs when influenza A sub-types from different species trade & merge genes
 - Results in a brand new virus
 - Population has little to no immunity

Influenza: pandemics

- **Pandemic influenza:** a global outbreak that occurs when a new influenza A virus to which virtually no one is immune spreads easily from person-to-person, causing serious human illness.
- 2 – 3 influenza pandemics every century:
 - 1918 (“Spanish Flu”)
 - 1957 (“Asian Flu”)
 - 1968 (“Hong Kong Flu”)

Pandemic: novel influenza A/H1N1

- Brand-new virus
- Includes genetic material from 3 species: swine, human & avian (bird)
- has spread rapidly throughout the world
- June 2009: WHO Pandemic Level 6 (moderate severity)
- Causes illness similar to that of seasonal influenza
 - Vast majority of people mild illness, better with no treatment, no complications
 - However, cases of severe illness resulting in death have occurred.

H1N1 Experience to Date: world

- April 2009: cluster of cases of Severe Respiratory Illness (SRI) in Mexico; novel H1N1 cases reported in U.S. at same time
- Over next few months, cases spread throughout world
- World-wide (as of October 12, 2009):
 - > 480,000 confirmed cases in 198 countries
 - Almost 5,000 deaths

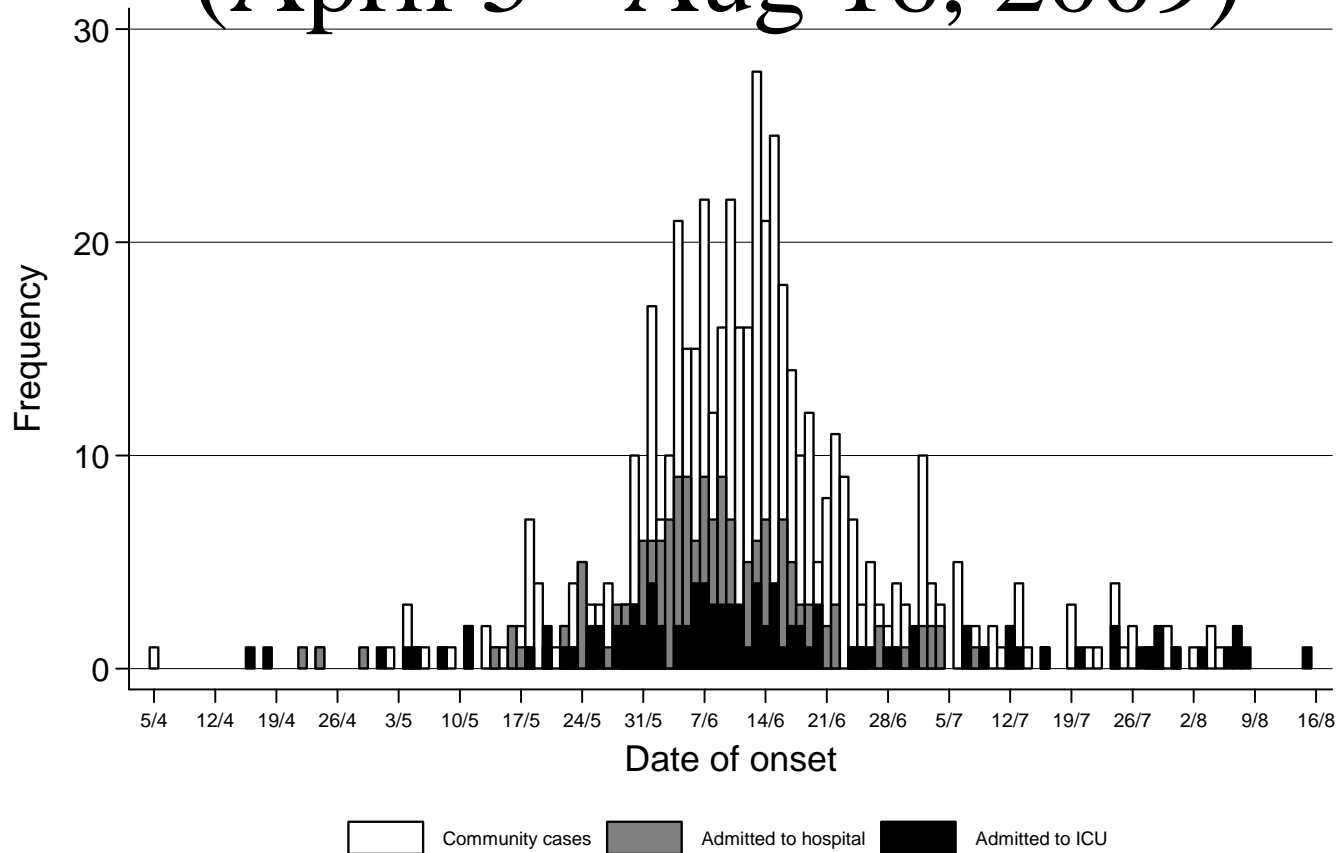
H1N1 Experience to Date: Canada

- As of October 3, 2009:
 - > 7,000 lab-confirmed cases
 - ~ 1,500 cases hospitalized (~20%)
 - ~ 20% of those hospitalized admitted to ICU
 - 79 deaths
 - Higher proportion of Aboriginals and pregnant women among hospitalized, ICU and deaths.

H1N1 Experience to Date: Manitoba

- As of October 5, 2009:
 - 892 confirmed cases (Manitoba residents only)
 - ~ 25% of cases hospitalized
 - ~ 20% of those hospitalized required ICU admission
 - 7 deaths
 - Risk factors for severe illness:
 - Underlying medical conditions (diabetes, lung/heart disease)
 - Immune disorders or receiving cancer treatment
 - Pregnancy
 - Obesity or malnutrition
 - Social conditions (smoking, substance abuse or alcoholism)
 - Aboriginal ancestry
 - People < 55 years more likely to develop severe illness

Manitoba H1N1 Epidemic Curve (April 5 - Aug 16, 2009)



H1N1 Experience: Manitoba's H1N1 flu cases

(as of August 24, 2009)

RHA of residence	Confirmed H1N1 cases
Assiniboine	28
Brandon	46
Burntwood/Churchill	189
Central	26
Interlake	55
North Eastman	56
Nor-Man	58
Parkland	16
South Eastman	17
Winnipeg	395
Totals	886

First Wave: lessons learned (WHO)

- large numbers of people in all countries remain susceptible to infection.
 - Even if mild illness continues, impact of pandemic during the second wave could worsen as larger numbers of people become infected
 - Larger numbers of severely ill patients requiring intensive care are likely to be the most urgent burden on health services

First Wave: lessons learned (WHO)

- Monitoring for drug (antiviral) resistance:
 - only a handful of pandemic viruses showing resistance to Tamiflu worldwide, despite millions of treatment courses used
 - no evidence of on-going transmission of these strains

First Wave: lessons learned (WHO)

- Not the same as seasonal influenza:
 - Age groups affected by pandemic generally younger:
 - especially so for those experiencing severe or fatal illness
 - Pandemic: most severe cases and deaths occurred in adults under age of 50 yrs; deaths in elderly rare
 - Seasonal: ~ 90% of severe and fatal cases occur in people 65 yrs of age or older
 - Severe respiratory failure:
 - Reports of very severe respiratory disease in young and otherwise healthy people (rarely seen with seasonal influenza)
 - Requires highly specialized and demanding ICU care with longer hospital stays
 - Need for ICU care is greatest burden on health services

Second Wave: what can we expect?

- Likely many more cases of pandemic influenza
 - H1N1 now established in the population
 - H1N1 will spread until the percentage of population immune to H1N1 is high enough to interrupt transmission (people have either had the illness or received the vaccine)
 - Risk of being exposed to H1N1 everywhere (schools, workplaces, supermarkets, arena, churches, gathering, households, etc.)
- Similar pattern of illness in communities to pattern already seen

Second Wave: who should seek medical help?

- Vast majority of people get better without requiring medical attention
- Contact your health care provider if:
 - You have flu symptoms and risks for severe illness (e.g., chronic illness, disability, weakened immune system, obesity, alcoholism, substance abuse, smoking, pregnancy, aboriginal ancestry)
 - Children under five and adults under 65 have been at greater risk for severe H1N1 illness.
 - Your flu symptoms get worse (even if you don't have risk factors) or if you are concerned about your health – even if you have already seen your doctor about this illness
 - Early treatment may be important!

Second Wave: preventing the spread of influenza

- Prevent infected people from spreading the virus
- Prevent well people from being exposed to the virus

Second Wave: preventing the spread of influenza

- Prevent infected people from spreading the virus:
 - Distancing
 - Stay home if sick
 - Go home if become sick at school or work
 - Remain home until you feel well enough to return to school/work and no fever for at least 24 hours
 - Personal measures
 - Cover coughs & sneezes
 - Hand-washing
 - Environmental cleaning
 - Wipe down frequently touched surfaces (usual products)

Second Wave: preventing the spread of influenza

- Prevent well people from being exposed to the virus:
 - Distancing
 - Try to avoid very close contact
 - Maintain a distance of at least 1 meter, if possible
 - Wash your hands frequently
 - Reinforce other people's compliance with handwashing, covering coughs and going home when ill
 - Be vaccinated

Questions?

The most up-to-date information will be available at www.manitoba.ca through the H1N1 flu site.