



WEEKLY SYNTHESIS OF SURVEILLANCE INFORMATION, LITERATURE & GOVERNMENT UPDATES

(WEEK 26- ENDING IN JULY 03, 2009)

CASE COUNTS:

As of July 6, 2009, over 120 countries have officially reported 94,512 cases of influenza A (H1N1) infection, including 429 deaths. Please see hyperlinks in table for most up to date case counts.

Countries/Provinces	Case counts	Deaths	Hospitalizations
CANADA (PHAC)	8,883	29	663
- BC	298	0	7
- AB	1071	1	45
- SK	774	2	10
- MB	685	4	83
- ON	3464	10	162
- QC	2020	12	314
- NB	10	0	0
- NS	171	0	5
- PEI	5	0	0
- NL	35	0	1
- Yukon	1	0	0
- NWT	9	0	0
- Nunavut	340	0	36
U.S. (CDC)	33,902	170	
E.U. and EFTA (ECDC)	10,581	4	
Mexico	10,262	119	
Chile	8,160	16	
Argentina	2,485	60	
Australia	6,353	13	
New Zealand	1,059	3	
TOTAL (WHO)	94,512	429	

Note: PHAC numbers updated last at 3:00pm (EST) on July 3; CDC numbers updated last at 11:00 am on July 2; ECDC numbers updated last at 5:00pm (CEST) on July 07; WHO numbers updated last 7:00am (GMT) on July 06 2009.

NOTE: Testing parameters are influenced by the most current knowledge of the H1N1 virus and risk groups. Therefore, the frequency of laboratory tests conducted and the risk groups that are being tested may change over time.

HOSPITALIZATIONS AMONG NOVEL H1N1 INFLUENZA A VIRUS CASES

As of July 02, 2009 in Ontario:

- 162 confirmed cases have been hospitalized to date
- Of these, 110 cases have been discharged.
- The average length of stay was 4.7 days, ranging from under 24 hours to 38 days.
- Among cases that are currently or have previously been hospitalized, a number of complex medical conditions have been reported (for example, COPD, kidney disease, heart disease diabetes, etc).
- 81% of cases that were discharged had a length of stay of at least 2 days
- 52 cases that are currently hospitalized

Hospitalization Status	Ventilator and/or ICU	Not in ICU and not on ventilator	Total
Number of Currently Hospitalized	15	37	52
Number of Hospitalized and Discharged	4	106	110

Source: MOHLTC Ontario Influenza Bulletin, iPHIS data as of 8:30 am, July 02/09.

GOVERNMENT UPDATES

CENTRE FOR DISEASE CONTROL (CDC)

Weekly Flu View Map and Surveillance Report for Week Ending June 27th, 2009

Map includes both seasonal flu and H1N1 flu activity. During week 25, (June 21- June 27 2009), influenza activity decreased in the US, however there are still higher levels of ILI than is normal for this time of year. Approximately 98% of all influenza A subtyped viruses being reported to CDC this week are influenza A H1N1 virus. Eight influenza-associated pediatric deaths were reported and seven of the eight deaths were associated with pandemic influenza A (H1N1) virus infection. The proportion of outpatient visits for influenza-like illness (ILI) was below the national baseline. Two of the 10 surveillance regions reported ILI above their region-specific baseline.

<http://www.cdc.gov/flu/weekly/>

PUBLIC HEALTH AGENCY OF CANADA (PHAC)

New Release, July 2 2009: International meeting advances global response to H1N1 Canada continues to play a leadership role.

Canada continues to make a significant contribution to the international response to the H1N1 flu virus. Minsiter Aglukkaq states's " Canada's planning efforts, operational implementation, communications with the public, and cutting edge science are being recognized and studied by numerous counties". The internaitonal meeting focused on Canada-U.S. collaboration on H1N1, opportunities for further collaboration with Mexico, planning for the fall flu season.

http://www.phac-aspc.gc.ca/media/nr-rp/2009/2009_0702-eng.php

June 30 2009, Guidance Document: Prevention and Management of Cases of Influenza-Like-Illness (ILI) Suspected to be due to H1N1 Flu Virus in Day and Residential Camps.

This document has been developed to provide interim guidance to Public Health authorities regarding day camps and residential summer camps for the prevention and management of influenza-like illness (ILI) suspected to be due to H1N1 Flu Virus.

<http://www.phac-aspc.gc.ca/alert-alerte/swine-porcine/guidance-orientation-06-30-eng.php>

FluWatch Week 25 (June 21 to June 27 2009)

There is an increase in transmission, however, the illness from the H1N1 flu virus has been mild thus far. Of those hospitalized cases, more than 36% were reported this week. Children less than 10 years were particularly affected, accounting for almost a third of the hospitalized cases. Cases with known information provided have at least one or more underlying medical condition. For a proportion of hospitalized cases, 73% of the cases had one or more underlying medical conditions.

http://www.phac-aspc.gc.ca/fluwatch/08-09/w25_09/index-eng.php

WORLD HEALTH ORGANIZATION (WHO)

WHO Influenza A(H1N1) - update 58 -- As of 07:00 GMT, July 06 2009

The breakdown of the number of laboratory-confirmed cases by country is given in the following table and map.

http://www.who.int/dg/speeches/2009/influenza_h1n1_lessons_20090702/en/index.html

July 02 2009: Influenza A(H1N1): lessons learned and preparedness

http://www.who.int/dg/speeches/2009/influenza_h1n1_lessons_20090702/en/index.html

EUROPEAN CENTRE FOR DISEASE PREVENTION & CONTROL (ECDC)

The Influenza A (H1N1) ECDC situation report from July 07, 2009.

Cumulative number of cases in EU and EFTA countries are now 10, 581 including four deaths. The majority of all cases have been found in Spain and the UK.

http://ecdc.europa.eu/en/files/pdf/Health_topics/Situation_Report_090707_1700hrs.pdf

Denmark announced that it will change its response strategy from “containment” to “mitigation”.

The change in policy means that laboratory testing and the use of anti-viral treatment and prophylaxis will be limited to persons considered at higher risk.

July 3 2009: Exchange of experience necessary in the EU's fight against the influenza pandemic.

The EU Member States, the WHO, the European Commission and others were gathered to exchange experience and discuss future areas of cooperation regarding preparedness for the coming influenza season. The meeting also discussed lessons learned from affected countries: the U.K., France and Spain.

http://www.se2009.eu/en/meetings_news/2009/7/3/exchange_of_experience_necessary_in_the_eu_s_fight_against_the_influenza_pandemic

ECDC's Director participates in EU Presidency conference on influenza preparedness and response from July 1 2009.

On the 2-3 July, ECDC's Director, Zsuzsanna Jakab, will participate in an EU Presidency conference on Influenza Preparedness and Response – lessons learned and next steps

http://www.ecdc.europa.eu/en/health_content/Articles/article_20090701_1100.aspx

HEALTH/SURVEILLANCE BULLETINS:

Southern Hemisphere

Australia

July 07 2009: Total confirmed cases as of 1200 AEST are 6,353; National breakdown includes: Australian Capital Territory 266, New South Wales 1532, Northern Territory 381, Queensland 1165, South Australia 666, Tasmania 118, Victoria 1865 and Western Australia 360. Total deaths associated with pandemic H1N1 influenza is 13.

Currently, there are 116 hospitalized cases of pandemic H1N1 and 232 of these are in ICUs. The total number of hospitalizations in Australia since H1N1 Influenza was identified is 641.

South America & the Americas

As of July 6 2009: In Chile, children between 5-19yrs have been most affected, constituting 61% of cases. Chile has 8,160 confirmed cases and 16 deaths.

Argentina has 2,485 confirmed cases and 60 deaths.

July 01, 2009: Argentina capital declares flu health emergency

http://www.straitstimes.com/Breaking%2BNews/World/Story/STIStory_397656.html

Health officials in Argentina's Buenos Aires city and province, due to the quickly rising pandemic flu cases, extending school vacations and giving the mayor the power to suspend sports and other entertainment gatherings.. Buenos Aires is the fifth province to declare a health emergency. Argentina has South America's highest number of pandemic flu cases, with 1,587, including 26 deaths.

As of July 6 2009, 69, 328 confirmed cases of Influenza A H1N1 2009 infection, including **414 deaths**, have been notified in **30 countries of the Americas**. [See PAHO link.](#)

CENTER FOR INFECTIOUS DISEASE RESEARCH AND POLICY (CIDRAP)

July 6: ACEP unveils plan to manage fall pandemic wave

The American College of Emergency Physicians (ACEP) recently released a plan to help emergency departments, first responders, and public health departments manage a surge in pandemic flu cases that many experts predict will happen this fall.

<http://www.acep.org/pressroom.aspx?id=45828>

Also see ACEP national novel H1N1 influenza strategy:

<http://www.acep.org/WorkArea/DownloadAsset.aspx?id=45781>

July 3 2009: Hong Kong finds antiviral-resistant novel flu strain

Public health officials in Hong Kong said they have detected their first oseltamivir (Tamiflu)-resistant novel H1N1 strain, which was isolated from a 16-year-old girl after she arrived from San Francisco. The sample was sensitive to zanamivir (Relenza).

<http://www.info.gov.hk/gia/general/200907/03/P200907030213.htm>

July 3 2009: UN director: \$1 billion needed to help poor nations fight flu

United Nations Secretary-General Ban Ki Moon today estimated that \$1 billion is needed by the end of the year to help developing countries respond to pandemic influenza.

<http://www.thestate.com/world/story/853690.html>

July 2, 2009: Japan reports its first antiviral resistant novel flu case

Japan's health ministry today confirmed the country's first instance of oseltamivir (Tamiflu) resistance in a novel flu virus. The patient, from Osaka, was sick with the new H1N1 virus in mid May and has since recovered. A health ministry spokesman said the patient's sensitivity to the drug has not been tested yet. Danish officials reported the world's first oseltamivir-resistant novel flu case Jun 29 2009.

<http://www.reuters.com/article/rbssHealthcareNews/idUSSP52739320090702>

July 2, 2009: Studies: Novel H1N1 affects deep lung tissue, transmits fairly well

The novel H1N1 (swine) influenza now circling the globe causes more serious lung disease than seasonal flu strains and sheds from the lung and throat tissue where it reproduces at higher rates, according to two animal studies published today—findings that could explain autopsies and case reports of severe pneumonia as well as the virus's rapid spread.

<http://www.cidrap.umn.edu/cidrap/content/influenza/swineflu/news/jul0209h1n1.html>

July 2, 2009: US to supply Tamiflu to Latin America, Caribbean

HHS Secretary Kathleen Sebelius announced today that the country will supply 420,000 treatment courses of oseltamavir (Tamiflu) to the Pan-American Health Organization to fight novel H1N1 flu in Latin America and Caribbean countries.

<http://www.hhs.gov/news/press/2009pres/07/20090702a.html>

July 1 2009: UK moves away from flu containment measures

The United Kingdom is moving from a novel flu containment strategy to focus more of its resources on more vulnerable patients, Prime Minister Gordon Brown announced the change yesterday, noting that case numbers spiked by 2,000 over the past week and that a "more flexible and local approach" will be used in hard-hit areas. Reports say "hot spots" include London, the West Midlands, and Glasgow.

http://www.terradaily.com/reports/Swine_flu_surge_forces_Britain_to_shift_strategy_999.html

July 1 2009: Argentina authorities criticize government's flu response

Health officials in Argentina are criticizing the government for rejecting calls to postpone the nation's recent election, a move they say could have avoided the virus's spread at crowded polling places and focused the public's attention on pandemic issues. The officials said the health minister who just resigned was among those who recommended postponing the election. Increased flu cases prompted an emergency declaration in Buenos Aires.

http://www.nytimes.com/2009/07/02/world/americas/02argentina.html?_r=1&partner=rss&emc=rss

July 1 2009: Obama convenes flu summit for next week

President Obama has called a "flu summit" on Jul 9 to discuss the nation's pandemic flu preparedness plans for the fall. The meeting will be held at the National Institutes of Health and be led by Department of Homeland Security Secretary Janet Napolitano and Department of Health and Human Services (HHS) Secretary Kathleen Sebelius. Earlier last week, Obama met with federal officials who helped manage the 1976 influenza outbreak to discuss lessons learned from their experience.

<http://politicalticker.blogs.cnn.com/2009/07/01/white-house-plans-flu-summit-next-week/>

PROMED

1) INFLUENZA A (H1N1): ANTIVIRAL RESISTANCE

Date: Sat 4 Jul 2009

From: From: Adam Meijer

[http://www.promedmail.org/pls/otn/f?p=2400:1001:5156119130724751::NO::F2400_P1001_BA
CK_PAGE,F2400_P1001_PUB_MAIL_ID:1004,78221](http://www.promedmail.org/pls/otn/f?p=2400:1001:5156119130724751::NO::F2400_P1001_BA CK_PAGE,F2400_P1001_PUB_MAIL_ID:1004,78221)

2) INFLUENZA A (H1N1): TRANSMISSION

Date: Thu 2 Jul 2009

Source: CHealth, The Canadian Press

http://chealth.canoe.ca/channel_health_news_details.asp?news_id=28420&news_channel_id=1020&channel_id=1020

3) INFLUENZA A (H1N1): TAMIFLU RESISTANCE, CHINA (HONG KONG S.A.R.)

Date: Sat 4 Jul 2009

Source: 660News, All News Radio, The Canadian Press

<http://www.660news.com/news/national/more.jsp?content=n034881128>

JOURNALS SCANNED:

- American Journal of Public Health
- British Medical Journal
- Clinical Infectious Diseases
- Emerging Infectious Diseases
- Eurosurveillance
- Journal of Infectious Diseases
- Lancet
- MMWR
- Nature
- New England Journal of Medicine
- PLoS One
- Science

AMERICAN JOURNAL OF PUBLIC HEALTH

- Nothing new on H1N1 since June 28

BRITISH MEDICAL JOURNAL

1) Two more people in UK die from swine flu, as swabbing policy ends in "hot spot" areas (*June 30, 2009*)

http://www.bmj.com/cgi/content/full/338/jun30_3/b2670

Some general practitioners (GPs) in so called "hot spot" areas are now handling the virus in a different way from how they did at the start of the epidemic. At the end of last week the agency revised its guidance to GPs in "hot spot" areas where the virus is widespread by ending the policy of swabbing people with a potential case for laboratory testing. Policy now encourages GPs to rely instead on their own clinical diagnosis and judgment as the virus is deemed to have widespread transmission.

2) Was H1N1 leaked from a laboratory? (*Tom Nolan, July 2, 2009*)

<http://blogs.bmj.com/bmj/2009/07/02/tom-nolan-was-h1n1-leaked-from-a-laboratory/>

This blog reviews conspiracy theories in the medical literature that the swine flu pandemic may have been caused by an accidental leak from a laboratory three decades ago. The author refers to the recent NEJM article “Historical Perspective — Emergence of Influenza A (H1N1) Viruses”, and explain the finding suggested that the 1977 outbreak strain has been preserved since 1950. The re-emergence was probably an accidental release from a laboratory source.

CLINICAL INFECTIOUS DISEASES

- Nothing new on H1N1 since last week.

EMERGING INFECTIOUS DISEASES

- Nothing new since last week.

EUROSURVEILLANCE

1) STATFLU – A statistical modelling tool for pandemic influenza hospital load for decision makers (*M. Camitz, July 2, 2009*)

<http://www.eurosurveillance.org/ViewArticle.aspx?ArticleId=19256>

The novel H1N1 virus strain has shown to put considerable strain on the current hospital capacity. This article describes a new static modeling tool, StatFlu, which uses historic influenza data with an interface designed to highlight propagation of parameter settings and uncertainties in the output. This tool provides graphs of the load on hospital wards, primary care units as a function of time, which aids the user in decision making for public health planning and preparedness.

2) The emerging influenza pandemic: estimating the case fatality ratio (*N. Wilson, M.G. Baker, July 2, 2009*)

<http://www.eurosurveillance.org/ViewArticle.aspx?ArticleId=19255>

In order to determine appropriate influenza pandemic containment and mitigation measures, it is important for health authorities to produce estimates of the likely impact of the pandemic in their particular countries. The estimated mortality burden is particularly useful for calibrating appropriate containment and mitigation measures that balance the likely health gains from interventions against their social and economic costs. This article presents four different methods for estimating the plausible range of the case fatality ratio (CFR) for symptomatic infection for this pandemic strain in developed countries. These methods focused on correcting for under-ascertainment of the denominator, yet there is also a potential bias from under-ascertainment of the numerator of the CFR. All of the methods produce substantially lower values (range 0.06% to 0.0004%) than a previously published estimate for Mexico (0.4%). Although these results have many limitations, improved surveillance and serological surveys are needed in countries to produce more accurate CFR estimates.

3) Modelling of the influenza A(H1N1)v outbreak in Mexico City, April-May 2009, with control sanitary measures (*G Cruz-Pacheco, July 2, 2009*)

<http://www.eurosurveillance.org/ViewArticle.aspx?ArticleId=19254>

This study examined the evolution of the influenza A(H1N1)v epidemic reported in the Mexico City area under the control measures used during April and May 2009. The model illustrates how the sanitary measures postponed the peak of the epidemic and decreased its intensity. It provides quantitative predictions on the effect of relaxing the sanitary measures after a period of control. The study shows how the sanitary measures as an intervention reduced the maximal prevalence of the infected population from 10% to less than 6% of the total population.

JOURNAL OF INFECTIOUS DISEASES

“Prepandemic” Immunization for Novel Influenza Viruses, “Swine Flu” Vaccine, Guillain-Barré Syndrome, and the Detection of Rare Severe Adverse Events (*David Evans, Simon Cauchemez, and Frederick G Hayden*)

<http://www.journals.uchicago.edu/doi/abs/10.1086/603560>

Safety of vaccines has been a critical issue in policy development for wide-scale use of vaccine in the pre-pandemic period. The article discusses the debate surrounding the H5N1 vaccination and the anticipated development of vaccines against the “swine” influenza A (H1N1) for the possible use of the vaccine for protection of people exposed to the potential pandemic virus. This articles reviews aspects of the 1976 National Influenza Immunization program and examines data of the association with Guillain-Barre syndrome as a case study to shows severe adverse events in mass immunization settings. The article also examines safety data from clinical trials of the H5N1 vaccines and suggests monitoring vaccine safety in a post-marketing surveillance setting.

LANCET

1) [Editorial] – Where are we now with indigenous health? (*July 4, 2009*)

<http://www.thelancet.com/journals/lancet/article/PIIS0140673609612150/fulltext?rss=yes>

Indigenous people experience not only the ill health associated with poverty but also the chronic diseases that come with the lifestyle in industrialized countries a situation that is directly attributable to loss of land and traditions and the resultant move to poor urban environments.

2) [Review] – Indigenous health part 1: determinants and disease patterns (*Gracey, Michael & Malcolm King, July 4, 2009*)

<http://www.thelancet.com/journals/lancet/article/PIIS0140673609609144/abstract?rss=yes>

Nearly 400 million Indigenous people worldwide have low standards of health. Their poor health is associated with poverty, malnutrition, overcrowding, poor hygiene, environmental contamination, and prevalent infections. Inadequate clinical care and health promotion, and poor disease prevention services aggravate this situation. The article recommends that these inequities should be improved through increased awareness, political commitment, and recognition rather than governmental neglect of these serious and complex problems. Indigenous people should be encouraged, trained, and enabled to become increasingly involved in overcoming these challenges.

3) [Review] – Indigenous health part 2: the underlying causes of the health gap (*Gracey, Michael; King, Malcolm & Alexandra Smith, July 4, 2009*)

<http://www.thelancet.com/journals/lancet/article/PIIS0140673609608278/abstract?rss=yes>

This article reviews the underlying causes of health disparities between Indigenous and non-Indigenous people and provide lens to understanding these inequalities through the Indigenous perspective. The authors present a brief summary of the many research publications about Indigenous health. The articles aim is to provide clinicians with a framework to provide a Indigenous perspective to understand these inequalities and matters. The articles suggests applying the framework for each patient will promote a more culturally appropriate way to interact with, assess, and treat Indigenous peoples. The article discusses various topics such as Indigenous traditions of health and identity; mental health and addictions; urbanization and environment; healing; and reconciliation.

LANCET INFECTIOUS DISEASES

- Nothing new on H1N1 since last week.

MORBIDITY AND MORTALITY WEEKLY REPORT

- Nothing new on H1N1 since last week.

NATURE

- Nothing new on H1N1 since last week.

NEW ENGLAND JOURNAL OF MEDICINE

- NEJM summaries are in last week's synthesis

PLOs ONE

1) Severe Human Influenza Infections in Thailand: Oseltamivir Treatment and Risk Factors for Fatal Outcome (*Wanna Hanshaoworakul, et al*)

<http://www.plosone.org/article/info%3Adoi%2F10.1371%2Fjournal.pone.0006051>

Thailand's National Avian Influenza Surveillance (NAIS) system was used to describe the epidemiology of laboratory-confirmed severe and fatal human influenza infections. A retrospective medical record review conducted on all fatal cases with laboratory confirmed influenza and a sample of hospitalized cases revealed the following risk factors for fatal outcome from human influenza infection: current or former smoking, advanced age, hypertension and underlying cardiovascular, pulmonary or endocrine disease. Treatment with Oseltamivir was statistically associated with survival after controlling for age.

PLOs MEDICINE

1) Can We "Hedge" against the Development of Antiviral Resistance among Pandemic Influenza Viruses? (*David K. Shay, Benjamin J. Ridenhour*)

<http://www.plosmedicine.org/article/info%3Adoi%2F10.1371%2Fjournal.pmed.1000103>

A modeling study predicting that stockpiling a secondary antiviral for use early in a flu pandemic can forestall resistance to the primary stockpiled drug was evaluated. The epidemiology of antiviral resistance has important implications on the use of models in evaluating antiviral strategies. The authors suggest that the inclusion of a term to account for the potential reduction in transmissibility of resistant viruses in the model would provide a more accurate

estimate of attack rates of antiviral resistant influenza. Other suggestions, such as using an age-stratified compartment model to account for patient age impacting the likelihood of developing antiviral resistance, were made.

SCIENCE

1) Tamiflu resistance in swine flu no cause for concern – yet. ScienceInsider, June 30, 2009
<http://blogs.sciencemag.org/scienceinsider/2009/06/tamiflu-resiste.html>

A Danish swine flu patient has developed resistance against oseltamivir, the most widely used influenza drug. The resistance developed during treatment and the patient did not appear to infect others, suggesting that a resistant virus is not yet circulating in the population.

2) With more than a million cases, U.S. prepares for swine flu vaccination campaign. Science Insider, June 29, 2009
<http://blogs.sciencemag.org/scienceinsider/2009/06/with-more-than.html>

Based on epidemiologic modeling, the U.S. Centers for Disease Control and Prevention estimates that at least one million people in the United States are infected with the novel H1N1 flu virus, far more than the official case count of 27,127. States and cities were advised to start planning for a massive vaccination campaign this fall. New data on the age distribution of the patients was presented; the median age of hospitalized A (H1N1) patients in the United States is 19, and the median age of those who have died from an infection is 37.

3) Pandemic influenza: Ferrets shed light on new virus's severity and spread / Eserink, Martin
SCIENCE July 3, 2009
<http://www.sciencemag.org/cgi/content/summary/325/5936/17?rss=1>

Two research teams have infected ferrets with the new pandemic A (H1N1) influenza strain, and their papers published online by Science this week, confirm that new virus is slightly more pathogenic than seasonal influenza but not nearly as dangerous as the 1918 pandemic virus or H5N1 avian influenza. The studies disagree on how easily the virus spreads: one team concludes that it is easily transmissible while the other believes it is only moderately adept.