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WEEKLY SYNTHESIS OF SURVEILLANCE INFORMATION, LITERATURE & GOVERNMENT UPDATES

(WEEK 31- ENDING IN AUGUST 14, 2009)

HOSPITALIZATION & DEATH COUNTS:

The WHO will no longer issue the global tables showing the numbers of confirmed cases for all countries. Thus, the reported cases presented in this table will severely underestimate the true incidence in the country and will not be comparable to counties still recommending laboratory tests of all suspected influenza cases. The following table provides global updates on H1N1-associated deaths. Please see hyperlinks in table for most up to date counts.

COUNTRIES/PROVINCES	DEATHS	HOSPITALIZATIONS*
CANADA (PHAC)	**66**	**1366**
- BC	4	36
- AB	7	122
- SK	4	22
- MB	7	201
- ON**	**21**	**339**
- QC	21	584
- NB	0	2
- NS	1	15
- PEI	0	1
- NL	0	2
- Yukon	0	0
- NWT	0	1
- Nunavut	1	48
U.S. (CDC)	**477**	**7511**
E.U. and EFTA (ECDC)	59	
Mexico	163	
Chile	105	
Argentina	404	
Australia	108	3562
New Zealand	14	
TOTAL (ECDC)	**2,004**	

Note: PHAC numbers updated last at 11:00pm (EST) on August 13; CDC numbers updated last at 11:00 am on August 14; ECDC numbers updated last at 5:00 pm (CEST) on August15 2009.
** Source: PHAC Flu Watch, Week 31 ending August 8 2009.*
*** Source: Ontario Flu Bulletin as of August 12, 2009.*

DEATHS AMONG NOVEL H1N1 INFLUENZA A VIRUS, APRIL 13-AUGUST 12, 2009

- 21 deaths have been reported, representing a population-based mortality rate of 0.16 deaths per 100,000 population.
- Almost all of these fatalities were hospitalized prior to death (86%).
- Age of fatal cases ranged from 6 to 81 years of age; median is 58 years and the average age is 56 years.
- Among confirmed cases that have died, 18 or 86% had underlying chronic medical conditions compared to 62% of hospitalized cases.

HOSPITALIZATIONS AMONG NOVEL H1N1 INFLUENZA A VIRUS CASES

As of August 12, 2009 in Ontario:

- 339 confirmed cases have been hospitalized to date, also representing a population-based hospitalization rate of 2.6 hospital admissions per 100,000 population in Ontario.
- Of these, 294 cases have been discharged.
- The average length of stay was less than 1 day to 80 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).
- 89% of cases that were discharged had a length of stay of at least 2 days
- Of the 44 cases are currently hospitalized, a total of 23 were placed on a ventilator and/or were admitted to ICU.

HOSPITALIZATION STATUS	VENTILATOR AND/OR ICU	NOT IN ICU AND NOT ON VENTILATOR	TOTAL
Number of Currently Hospitalized	23	21	44
Number of Hospitalized and Discharged	43	251	294
Total hospitalized to date	66	272	338*

Source: MOHLTC Ontario Influenza Bulletin, iPHIS data as of 8:30 am, August 12, 2009.
***** Excludes case with a length of stay of less than 24 hours

HOSPITALIZATION STATUS	HOSPITALIZED CASES*	NON-HOSPITALIZED CASES	TOTAL CASES
Less than 20 years	162	2214	2376
Greater than or equal to 20 years	176	1443	1619
Total	338	3657	3995

Source: MOHLTC, iPHIS data as of 8:30 am, August 12, 2009. Age was unknown for 11 cases

GOVERNMENT UPDATES

CENTRE FOR DISEASE CONTROL (CDC)

August 14, 2009: CDC H1N1 Flu Surveillance Update.
http://www.cdc.gov/h1n1flu/update.htm

Weekly Flu View Map and Surveillance Report for Week Ending August 8, 2009. Map includes both seasonal flu and H1N1 flu activity. During week 31, (August 2-8, 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. The proportion of deaths attributed to pneumonia and influenza (P&I) was below the epidemic threshold. Three influenza-associated pediatric deaths were reported and both were associated with novel influenza A (H1N1) virus infection. The proportion of outpatient visits for influenza-like illness (ILI) was below national and region-specific baseline levels.
http://www.cdc.gov/flu/weekly/

August 12, 2009: Novel H1N1 Vaccination Guidance for State, Local, Tribal and Territorial Health Officials
http://www.cdc.gov/h1n1flu/vaccination/statelocal/

PUBLIC HEALTH AGENCY OF CANADA (PHAC)

FluWatch Week 31 (August 2-8, 2009)
The overall influenza activity decreased this week; the national ILI consultation rate (15 consultations per 1,000) is lower compared to the last week. The proportion of influenza positive tests decreased this week (5.5% vs. 9.9%), the overall number of influenza outbreaks increased (4 vs. 0).
http://www.phac-aspc.gc.ca/fluwatch/08-09/w31_09/index-eng.php

August 12, 2009: Interim Guidance: Prevention and management of cases of ILI that may be due to pandemic (H1N1) 2009 virus on cruise ships
http://www.phac-aspc.gc.ca/alert-alerte/h1n1/hp-ps/cs-pc-eng.php

August 13, 2009: Deaths Associated with H1N1 Flu Virus in Canada
The Public Health Agency of Canada (PHAC) is committed to sharing information about the impact of the H1N1 flu virus in Canada. Every Tuesday and Thursday at 4 p.m., the Agency will issue national updates on H1N1-associated deaths. In addition, PHAC will issue special reports on any unusual cases or clusters.
http://www.phac-aspc.gc.ca/alert-alerte/h1n1/surveillance-eng.php

WORLD HEALTH ORGANIZATION (WHO)

August 12, 2009: WHO offices issue pandemic flu surveillance updates. The World Health Organization (WHO) recently posted surveillance and status updates for regions where the pandemic H1N1 is just gaining a foothold, including the Mideast, Africa, and parts of Asia and the Pacific, which showed Southeast Asia as the hardest hit of those areas.
http://www.who.int/csr/don/2009_08_12/en/index.html

EUROPEAN CENTRE FOR DISEASE PREVENTION & CONTROL (ECDC)

August 14, 2009: ECDC situation report (daily surveillance report).
http://ecdc.europa.eu/en/healthtopics/Documents/090814_Influenza_AH1N1_Situation_Report_1700hrs.pdf

August 13, 2009: Studies in a pandemic: fourth meeting of a SSiaP working group
http://ecdc.europa.eu/en/publications/Publications/0908_MER_Surveillance_and_Studies_in_a_Pandemic_Meeting_Report.pdf

ECDC release: Interim guidance: Use of specific pandemic influenza vaccines during H1N1 2009 pandemic.
http://www.ecdc.europa.eu/en/publications/Publications/0908_GUI_Pandemic_Influenza_Vaccines_during_the_H1N1_2009_Pandemic.pdf

HEALTH/SURVEILLANCE BULLETINS:

Countries reporting first case(s) of pandemic H1N1

August 17 2009- The Democratic Republic of Congo reported its first novel flu case, in a South African mining official employed by a US firm in Katanga province. The man, who is recovering, had recently returned from a vacation in South Africa, and so far none of his family contacts have had flu-like symptoms.

Southern Hemisphere

Australia

As of August 15, 2009: Total confirmed cases are 29,833; Total deaths associated with pandemic H1N1 influenza is 108. Currently, there are 451 hospitalized cases of pandemic H1N1 and 97 of these are in ICUs. The total number of hospitalizations in Australia since H1N1 Influenza was identified is 3562.

Australia Influenza Surveillance Summary Report, No. 13, 2009, reporting period: August 1-7 2009.
http://www.healthemergency.gov.au/internet/healthemergency/publishing.nsf/Content/ozflucurrent.htm

Indigenous Australians are approximately 5 times more likely than non-Indigenous Australians to be hospitalized for Pandemic (H1N1) 2009, representing 10.4% of all hospitalizations. Most cases had underlying medical conditions, including cancer, diabetes mellitus and morbid obesity. With a 20% clinical attack rate and no intervention; it has been projected by the end of winter 1 in 5 Australians (4.3 million could become infected with the pandemic virus, leading to 40-80, 000 hospitalizations, and 6,000 deaths. Over the last week, the average proportion of hospitalized cases in an ICU on any given day was 27%, this is the same as the previous week. Highest hospitalization rate occurred in young children less than 5 years of age, and higher among people aged 50-60 years of age.

Australia, New South Wales: Weekly Summary (as of August 12, 2009)
http://www.emergency.health.nsw.gov.au/swineflu/resources/pdf/case_statistics_120809.pdf

New Zealand

August 15, 2009: New Zealand now has 3038 laboratory-confirmed pH1N1 cases. The level of illness would be much higher than the number of laboratory-confirmed cases reported daily. Testing is now done only in the management of severe cases. http://www.moh.govt.nz/moh.nsf/indexmh/influenza-a-h1n1-update-135-150809

New Zealand: Weekly Summary (August 3 - 9, 2009)
There has been a continuing decline in consultations for influenza-like illness through sentinel surveillance in week 32 (August 3-9 2009). However, the weekly ILI consultation rate is still higher than previous years for the same week. The highest weekly ILI rates were reported from Hutt, Otago and Wanganui health districts. So far, the highest ILI consultation rates have been reported among children and teenagers aged 0 to 19 years.
http://www.surv.esr.cri.nz/PDF_surveillance/Virology/FluWeekRpt/2009/FluWeekRpt200932.pdf

South America & the Americas

Argentina: In the previous 3 weeks, a downward trend in the number of cases is observed in 18 of 24 provinces. The epi reported during weeks 20 to 30 have shown that there was significant increase in the pH1N1 up to a peak in week 25 however, in the past 2 weeks, influenza A detections have been declining, and the greater proportion of viral circulation has been from RSV. Of the deaths associated with the pH1N1, the most affected age group is those 50-59 years of age, and 47% of the cases have a history of underlying medical conditions or chronic illness. For both sexes, the most common risk factors are obesity (18%), heart disease (8%) and COPD (7%). *Source: PHAC, FluWatch Week 31.*

Chile: There has been a decline in the incidence of pH1N1 and a decrease in ILI cases. Of the confirmed pH1N1 cases, 45% of these cases had an underlying chronic disease. The rate of severe infection has been declining since the peak in week 27 (127.8 per 100,000) to 10.1 per 100,000 in week 30. In the past two weeks, the proportion of pH1N1 has decline from 34 to 20% of all respiratory virus detections. However, there has been an increase in the RSV and parainfluenza detections. *Source: PHAC, FluWatch Week 31.*

CENTER FOR INFECTIOUS DISEASE RESEARCH AND POLICY (CIDRAP)

August 14, 2009: Oseltamivir resistance in two immunosuppressed H1N1 patients- Oseltamivir (Tamiflu) resistance developed in two immunosuppressed patients in Seattle who were treated with the drug for novel H1N1 flu. Both patients, a teenage boy and a woman in her 40s, were receiving immunosuppressive therapy for leukemia, and both had prolonged viral shedding. The cases were not epidemiologically linked. The CDC said clinicians caring for such patients should be aware of the potential for antiviral resistance and prolonged viral shedding.
http://www.cdc.gov/mmwr/preview/mmwrhtml/mm58d0814a1.htm?s_cid=mm58d0814a1_e/?date=081409

August 12, 2009: Officials close schools in Bombay- Government officials in India's Maharashtra state have ordered all schools and colleges in Bombay to close for a week to slow the spread of novel flu. The state has the country's highest number of confirmed pandemic H1N1 cases and has reported four deaths over the past 10 days. The health minister told reporters this week other diseases are more serious and costly.
http://health.yahoo.com/news/afp/indiahealthflueducation_20090812093724.html

August 12, 2009: Seven members of the native Amazonian Matsigenka tribe tested positive for pandemic and have recovered.
http://www.reuters.com/article/middleeastCrisis/idUSN12120370

OTHER:

1) Proceedings from the Workshop on Personal Protective Equipment for Healthcare Workers in the Workplace Against Novel H1N1 Influenza A *(August 11-13, 2009)*
http://www.iom.edu/CMS/3740/71769/71867.aspx
Experts discussed:

- the emerging science and clinical experience base associated with nH1N1 criteria used to delineate infection control guidelines
- criteria used to assess risk to the healthcare workforce
- what's known about the effectiveness of medical masks, respirators, gowns, gloves, and eye protection in preventing nH1N1 and seasonal influenza transmission

2) Update to U.K. Flu Survey
Includes treatment-seeking behaviours and map of cases
http://www.flusurvey.org.uk/index.php?option=com_content&task=view&id=307&Itemid=274

3) WHO: Transparency during public health emergencies: from rhetoric to reality / P O'Malley, J Rainford & A Thompson
http://www.who.int/bulletin/volumes/87/8/08-056689/en/index.html

Unlike many other public health indicators, transparency by public health authorities can be difficult to track. Definitions of transparency may vary, measurement norms are ill-defined and, ultimately, assessments may be subjective. The strong sense among those closely involved, however, is that transparent public communication during crisis situations remains an elusive goal. Indeed, interviews conducted with WHO communication staffs who were involved in various high profile public health emergencies between 2004 and 2008 reflect several persistent challenges.

JOURNALS SCANNED:

- American Journal of Public Health
- British Medical Journal
- Clinical Infectious Diseases
- Emerging Infectious Diseases
- Eurosurveillance
- Journal of the American Medical Association (added this week)
- Journal of Infectious Diseases
- Journal of Virology (added this week)
- Lancet

- MMWR
- Nature
- New England Journal of Medicine
- PLoS One
- Science

AMERICAN JOURNAL OF PUBLIC HEALTH

- Nothing new on H1N1 this week

BRITISH MEDICAL JOURNAL

1) Neuraminidase inhibitors for treatment and prophylaxis of influenza in children: systematic review and meta-analysis of randomised controlled trials *(Matthew Shun-Shin, et al., August 10, 2009)*
http://www.bmj.com/cgi/content/full/339/aug10_1/b3172

This article provides a systematic review and mete-analysis of data from published and non-published randomized control trials. Neuraminidase inhibitors provide a small benefit by shortening the duration of illness in children with seasonal influenza and reducing household transmission. They have little effect on asthma exacerbations or the use of antibiotics. Their effects on the incidence of serious complications, and on the current A/H1N1 influenza strain remain to be determined.

2) Is Tamiflu useful in children or not? *(Tom Nolan, August 11, 2009)*
http://blogs.bmj.com/bmj/2009/08/11/tom-nolan-is-tamiflu-useful-in-children-or-not/?q=w_pandemic_flu

Why did the operator at the National Pandemic Flu Service give the child Tamiflu? The cynics will say because the algorithm told him to, but the real answer, according to the UK government, is that it's the safest thing to do to prevent severe infections. New research in the BMJ questions that policy and looks likely to cause confusion among the public and doctors alike.

3) Officials watch events in southern hemisphere as swine flu rates in UK slow down *(Oona Mashta, August 7, 2009)*
http://www.bmj.com/cgi/content/full/339/aug07_2/b3263

Experts are closely monitoring how A/H1N1 influenza in the southern hemisphere, where the death rate from the virus is rising in some countries, to help predict what might happen in the United Kingdom over the winter months. The first wave of swine flu in England has passed its peak in recent days indicate figures from the Health Protection Agency that show a substantial decrease in the overall number of new cases, doctors' consultations, and use of the pandemic flu service. The number of confirmed deaths has risen to 337 in the past week in Argentina. There are also indications that Mexico, which was the first country to peak, has a second wave of the virus.

4) Communicating with patients on swine flu (Podcast) *(Helen Morant, August 10, 2009)*
http://podcasts.bmj.com/pandemic-flu/2009/08/10/communicating-with-patients/?q=w_pandemic_flu

CLINICAL INFECTIOUS DISEASES

- Nothing new on H1N1 this week.

EMERGING INFECTIOUS DISEASES

1) Genomic diversity of oseltamivir-resistant influenza virus A (H1N1), Luxembourg, 2007–08 *(N.A. Gerloff et al.)*
http://www.cdc.gov/eid/content/15/9/pdfs/09-0452.pdf

Investigation of the genetic diversity in all 8 gene segments of representative oseltamivir-sensitive viruses and oseltamivir resistant viruses collected during December 2007–March 2008 by the National Influenza Sentinel Surveillance System in Luxembourg.

EUROSURVEILLANCE

1) Epidemiological and transmissibility analysis of influenza A(H1N1)v in a southern hemisphere setting: Peru *(C V Munayco et al, July 31, 2009)*
http://www.eurosurveillance.org/ViewArticle.aspx?ArticleId=19299

A preliminary analysis of 1,771 confirmed cases of influenza A(H1N1)v reported in Peru by 17 July 2009 including the frequency of the clinical characteristics, the spatial and age distribution of the cases and the estimate of the transmission potential. Age-specific frequency of cases was highest among school age children and young adults, with the lowest frequency of cases among seniors, a pattern that is consistent with reports from other countries. Estimates of the reproduction number lie in the range of 1.2 to 1.7, which is broadly consistent with previous estimates for this pandemic in other regions.

2) What will the next influenza season bring about: seasonal influenza or the new A(H1N1)v? An analysis of German influenza surveillance data *(H Upphoff et al., August 11, 2009)*
http://www.eurosurveillance.org/ViewArticle.aspx?ArticleId=19303

For the next influenza season (winter 2009-10) the relative contributions to virus circulation and influenza-associated morbidity of the seasonal influenza viruses A(H3N2), A(H1N1) and B, and the new influenza A(H1N1)v are still unknown. The study estimated the chances of seasonal influenza to circulate during the upcoming season using data of the German influenza sentinel scheme from 1992 to 2009. We calculated type and subtype-specific indices for past exposure and the corresponding morbidity indices for each season. For the upcoming season 2009-10 our model suggests that it is unlikely that influenza A(H3N2) will circulate with more than a low intensity, seasonal A(H1N1) with more than a low to moderate intensity, and influenza B with more than a low to median intensity. The probability of a competitive circulation of seasonal influenza A with the new A(H1N1)v is low, increasing the chance for the latter to dominate the next influenza season in Germany.

JAMA

- Nothing new on H1N1 this week

JOURNAL OF INFECTIOUS DISEASES

1) Safety and Immunogenicity of a Novel Influenza Subunit Vaccine Produced in Mammalian Cell Culture *(Agnieszka Szymczakiewicz-Multanowska, et al., August 12, 2009)*
http://www.journals.uchicago.edu/doi/full/10.1086/605505

Immunization remains the best prevention strategy for influenza, but production constraints for egg-based influenza vaccines have prompted the development of innovative cell culture manufacturing processes. In this study, the authors describe a novel cell culture–derived influenza vaccine (CCIV) was produced in Madin-Darby canine kidney cells. CCIV was well tolerated and highly immunogenic in adults 18 years of age or older. Cell culture may offer greater flexibility of supply during periods of high demand for both seasonal and pandemic vaccines.

2) Subunit Influenza Vaccines Produced from Cell Culture or in Embryonated Chicken Eggs: Comparison of Safety, Reactogenicity, and Immunogenicity *(Keith S. Reisinger, et al., August 12, 2009)*
http://www.journals.uchicago.edu/doi/full/10.1086/605506

This study assessed the safety, reactogenicity, and immunogenicity of an injectable cell culture–derived influenza vaccine (CCIV), compared with those of an injectable egg-based trivalent inactivated influenza vaccine (TIV). There was no clinically relevant difference between the safety and reactogenicity profiles of the 2 vaccines. The immunogenicity of CCIV was demonstrated to be noninferior to that of TIV on the basis of the ratio of postvaccination GMTs between the 2 vaccines. GMTs, seroprotection rates, and seroconversion rates were comparable between the 2 vaccines.

3) Influenza Vaccine Manufacture: Keeping up with Change *(Kathleen M. Neuzil & Rick A. Bright, August 12, 2009)*
http://www.journals.uchicago.edu/doi/full/10.1086/605507

Until the time when influenza vaccines with broad-spectrum and long-lasting immunity are available, improvements that allow for enhanced immunogenicity, speed of production, and cross-reactivity are needed. US efforts in pandemic preparedness have resulted in an improved overall production capacity and manufacturer readiness, yet the ability to respond remains encumbered by the current realities of the influenza vaccine manufacturing process.

JOURNAL OF VIROLOGY

-Nothing new on H1N1 this week

LANCET

- Nothing new on H1N1 this week

LANCET INFECTIOUS DISEASES

1) Prescription of anti-influenza drugs for healthy adults: a systematic review and meta-analysis *(Jane Burch, et al., August 8, 2009)*
http://www.thelancet.com/journals/laninf/article/PIIS1473-3099(09)70199-9/abstract

In publicly funded health systems with finite resources, management decisions are based on assessments of clinical effectiveness and cost-effectiveness. The UK National Institute for Health and Clinical Excellence commissioned a systematic review to inform their 2009 update to guidance on the use of antiviral drugs for the treatment of influenza. We searched databases for studies of the use of neuraminidase inhibitors for the treatment of seasonal influenza. We present the results for healthy adults (ie, adults without known comorbidities) and people at-risk of influenza-related complications.

MORBIDITY AND MORTALITY REPORT (MMWR)

- Nothing new on H1N1 since last week

NATURE

1) In vitro and in vivo characterization of new swine-origin H1N1 influenza viruses *(Y Itoh et al., July 13, 2009)*
http://www.nature.com/nature/journal/vnfv/ncurrent/pdf/nature08260.pdf

To assess of the risk posed by the new swine-origin H1N1 influenza virus, the authors characterized one of the first US S-OIV (swine-origin influenza virus) isolates, A/California/04/09 (H1N1; CA04), as well as several other S-OIV isolates, in vitro and in vivo. In mice and ferrets, CA04 and other S-OIV isolates tested replicate more efficiently than a currently circulating human H1N1 virus. In addition, CA04 replicates efficiently in non-human primates, causes more severe pathological lesions in the lungs of infected mice, ferrets and non-human primates. The authors also show that CA04 is sensitive to approved and experimental antiviral drugs, suggesting that these compounds could function as a first line of defence against the recently declared S-OIV pandemic.

NEW ENGLAND JOURNAL OF MEDICINE

1) Letter: Rapid-test sensitivity for novel swine-origin Influenza A (H1N1) virus in humans *(Faix, Sherman and Waterman, August 13, 2009)*
http://content.nejm.org/cgi/content/full/361/7/728?query=TOC

S-OIV continues to cocirculate with seasonal influenza strains but may be differentially detected by rapid influenza tests. The findings of this study suggest that rapid-test sensitivity may vary according to the influenza A subtype. Further investigation is needed to confirm this finding and evaluate possible explanations. This finding has implications for the diagnosis and treatment of patients with influenza-like illness now and during the next influenza season. As seasonal and zoonotic influenza viruses continue to drift and shift, we must continuously assess the sensitivity and specificity of available diagnostic tests.

2) Letter: Vaccine refusal and the risks of vaccine-preventable diseases *(Denis G. Gill)*
http://content.nejm.org/cgi/content/full/361/7/723?query=TOC

Does a developed, educated democracy such as that in the United States still need compulsory vaccination laws to achieve target compliance rates of 90 to 95%? Most member states of the European Union, especially the Scandinavian countries, achieve high levels of compliance with the use of information, education, persuasion, and subtle coercion — but not compulsion. The European Academy of Paediatrics is campaigning to make access to immunization a stated right of children. Surely compulsory immunization is anticonstitutional with respect to parental autonomy?

3) Severe respiratory disease concurrent with the circulation of H1N1 Influenza (G. Chowell et al., August 13, 2009)
http://content.nejm.org/cgi/content/full/361/7/674?query=TOC

During the early phase of this influenza pandemic, there was a sudden increase in the rate of severe pneumonia and a shift in the age distribution of patients with such illness, which was reminiscent of past pandemics and suggested relative protection for persons who were exposed to H1N1 strains during childhood before the 1957 pandemic. If resources or vaccine supplies are limited, these findings suggest a rationale for focusing prevention efforts on younger populations.

4) Pneumonia and respiratory failure from swine-origin Influenza A (H1N1) in Mexico *(R. Perez-Padilla et al., August 13, 2009)*
http://content.nejm.org/cgi/content/full/361/7/680?query=TOC

The authors describe the clinical and epidemiologic characteristics of persons hospitalized for pneumonia at the national tertiary hospital for respiratory illnesses in Mexico City who had laboratory-confirmed Swine-origin influenza virus (S-OIV) infection, also known as swine flu. The authors used retrospective medical chart reviews to collect data on the hospitalized patients. S-OIV infection was confirmed in specimens with the use of a real-time reverse-transcriptase–polymerase-chain-reaction assay. S-OIV infection can cause severe illness, the acute respiratory distress syndrome, and death in previously healthy persons who are young to middle-aged. None of the secondary infections among health care workers were severe.

5) Poverty, wealth and access to pandemic influenza vaccines *(Tadataka Yamada, August 12, 2009)*
http://content.nejm.org/cgi/content/full/NEJMp0906972?query=TOC

In contemplating equal access to such a vaccine, it is important to consider three key issues: manufacturing capacity, cost, and delivery. Only a few countries in the world have plants for manufacturing influenza vaccine, and three companies — GlaxoSmith-Kline, Sanofi-Aventis, and Novartis — account for most of the world's manufacturing capacity. The number of doses of vaccine against H1N1 influenza that could be produced with the existing capacity is very large, but the sobering truth is that even if production were switched over completely from seasonal influenza vaccine to pandemic influenza vaccine, there would not be nearly enough for everyone in the world.

PLoS One

- Nothing new on H1N1 this week.

Science

- Nothing new on H1N1 this week.