



Ontario

Agency for Health  
Protection and Promotion

480 University Avenue, Suite 300  
Toronto, ON M5G 1V2  
T 647.260.7100 F 647.260.7600  
www.oahpp.ca

**WEEKLY SYNTHESIS OF SURVEILLANCE INFORMATION, LITERATURE &  
GOVERNMENT UPDATES**

**(WEEK ENDING NOVEMBER 6, 2009)**

**GOVERNMENT UPDATES**

**CENTRE FOR DISEASE CONTROL (CDC)**

**November 09, 2009: CDC H1N1 Flu Surveillance Update.**

<http://www.cdc.gov/h1n1flu/update.htm>

**Weekly Flu View Map and Surveillance Report for Week Ending November 09, 2009.**

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

Map includes both seasonal flu and H1N1 flu activity. During week 43 (October 25-31, 2009), influenza activity increased in the US, however the proportion of outpatient visits for ILI was above the national baseline.

**Preparing for the Flu: A Communication Toolkit for Community and Faith-based Organizations (November 06, 2009)**

<http://www.cdc.gov/h1n1flu/faithbased/>

**People at High Risk of Developing Flu-Related Complications (November 03, 2009)**

<http://www.cdc.gov/h1n1flu/highrisk.htm>

**2009 H1N1 and People with Asthma (November 04, 2009)**

<http://www.cdc.gov/H1N1flu/asthma/>

**CDC Interim Guidance for Workers who are Employed at Commercial Swine Farms: Preventing the Spread of Influenza A Viruses, Including the 2009 H1N1 Virus (November 3, 2009)**

[http://www.cdc.gov/h1n1flu/guidelines\\_commerical\\_settings\\_with\\_pigs.htm](http://www.cdc.gov/h1n1flu/guidelines_commerical_settings_with_pigs.htm)

**CDC Health Alert Network (HAN) Info Service Message: Key Issues fir Clinicians Concerning Antiviral Treatments for 2009 H1N1 (November 06, 2009)**

<http://www.cdc.gov/H1N1flu/HAN/110609.htm>

**PUBLIC HEALTH AGENCY OF CANADA (PHAC)**

**FluWatch Week 43 (October 25-31, 2009)**

[http://www.phac-aspc.gc.ca/fluwatch/09-10/w43\\_09/index-eng.php](http://www.phac-aspc.gc.ca/fluwatch/09-10/w43_09/index-eng.php)

Nationally, there was a considerable increase in the influenza activity level reported this week with the proportion of positive influenza tests of more than 35%, the national ILI consultation rate higher than 100 per 1,000 visits and over 700 influenza outbreaks reported. This increased activity occurred in almost all provinces and territories.

### **Deaths Associated with Influenza A (H1N1) as of November 05, 2009**

<http://www.phac-aspc.gc.ca/alert-alerte/h1n1/surveillance-eng.php>

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.

### **Mass Immunization Clinics in Remote and Isolated Communities (November 04, 2009)**

[http://www.phac-aspc.gc.ca/alert-alerte/h1n1/mass\\_vacc/index-eng.php](http://www.phac-aspc.gc.ca/alert-alerte/h1n1/mass_vacc/index-eng.php)

### **Addendum – Guidance for Use of Panvax™ H1N1 Vaccine (Unadjuvanted) (November 04, 2009)**

<http://www.phac-aspc.gc.ca/alert-alerte/h1n1/vacc/pdf/Panvax-Addendum-eng.pdf>

### **Guidance for Preparedness and Management of ILI, including pH1N1 2009, in Residential Facilities in Remote and Isolated Communities (November 04, 2009)**

[http://www.phac-aspc.gc.ca/alert-alerte/h1n1/guidance\\_lignesdirectrices/pmfric-pgercei-eng.php](http://www.phac-aspc.gc.ca/alert-alerte/h1n1/guidance_lignesdirectrices/pmfric-pgercei-eng.php)

This guidance document has been prepared to provide guidance to facility managers and planners on preparing for and managing outbreaks of ILI, including pH1N1 2009 in residential facilities (e.g. personal care homes, group homes, women's shelters, homeless shelters, correctional institutions, and addictions facilities) in remote and isolated communities.

### **Weekly Distribution of H1N1 Flu Vaccine (November 05, 2009)**

<http://www.phac-aspc.gc.ca/alert-alerte/h1n1/vacc/dist-eng.php>

### **Guidance: Infection prevention and control measures for Health Care Workers Providing Care or Service in the Home (November 05, 2009)**

[http://www.phac-aspc.gc.ca/alert-alerte/h1n1/guidance\\_lignesdirectrices/prevention1102-eng.php](http://www.phac-aspc.gc.ca/alert-alerte/h1n1/guidance_lignesdirectrices/prevention1102-eng.php)

### **Assembly of First Nations and Health Canada to Co-host a Virtual Summit on H1N1 Preparedness November 10th, 2009 (November 6, 2009)**

[http://www.hc-sc.gc.ca/ahc-asc/media/nr-cp/2009/2009\\_181-eng.php](http://www.hc-sc.gc.ca/ahc-asc/media/nr-cp/2009/2009_181-eng.php)

## **ONTARIO**

### **Ontario Influenza Bulletin 2009-2010, Surveillance Week 43 (October 25- 31, 2009)**

[http://www.health.gov.on.ca/english/providers/program/pubhealth/flu/flu\\_09/bulletins/flu\\_bul\\_01\\_20091106.pdf](http://www.health.gov.on.ca/english/providers/program/pubhealth/flu/flu_09/bulletins/flu_bul_01_20091106.pdf)

Overall, influenza activity in Ontario during week 43, 2009, was higher as compared to week 42. The rate of ILI in patients seen by sentinel physicians was much higher than the range that is expected for this time of the year based on the average ILI rate reported in week 43 from the past 3 years.

### **Do you or your Child have the flu? Self-Assessment Tool (November 1, 2009)**

<http://www.health.gov.on.ca/en/ccom/flu/h1n1/public/tools/assessment/default.aspx>

### **Flu Assessment Centres Updated (November 4, 2009)**

[http://www.health.gov.on.ca/en/ccom/flu/h1n1/public/assess\\_clinics.aspx](http://www.health.gov.on.ca/en/ccom/flu/h1n1/public/assess_clinics.aspx)

**Clinics Updated (November 5, 2009)**

<http://www.health.gov.on.ca/en/ccom/flu/h1n1/public/clinics.aspx>

**Business Continuity Planning for Primary Care Settings (November 4, 2009)**

[http://www.health.gov.on.ca/en/ccom/flu/h1n1/pro/docs/primary\\_care\\_bcp\\_20091104.pdf](http://www.health.gov.on.ca/en/ccom/flu/h1n1/pro/docs/primary_care_bcp_20091104.pdf)

**Guidance in Child Care Settings (November 4, 2009)**

[http://www.health.gov.on.ca/en/ccom/flu/h1n1/pro/docs/child\\_care\\_settings\\_guidance\\_20091104.pdf](http://www.health.gov.on.ca/en/ccom/flu/h1n1/pro/docs/child_care_settings_guidance_20091104.pdf)

**Important Health Notice (IHN): Information for Family Physicians pH1N1- Primary Health Care Services and Supports (November 02, 2009)**

[http://www.health.gov.on.ca/english/providers/program/emu/health\\_notices/ihn\\_20091102.pdf](http://www.health.gov.on.ca/english/providers/program/emu/health_notices/ihn_20091102.pdf)

**Kingston, Frontenac and Lennox & Addington (KFL&A): Regional Syndromic Surveillance Influenza Report (October 28-November 3, 2009)**

<http://www.quesst.ca/report/Syndromic%20Surveillance%20Weekly%20Flu%20Report%2020091104.pdf>

**BC CENTER FOR DISEASE CONTROL (BC CDC):**

**BC CDC: H1N1 flu virus update (October 30, 2009)**

[http://www.bccdc.ca/resourcematerials/newsandalerts/healthalerts/2009HealthAlerts/Oct\\_30\\_H1N1\\_vaccine.htm](http://www.bccdc.ca/resourcematerials/newsandalerts/healthalerts/2009HealthAlerts/Oct_30_H1N1_vaccine.htm)

**Weekly BC Pandemic H1N1 Surveillance Report Week 43 (October 25-31, 2009)**

<http://www.bccdc.ca/dis-cond/DiseaseStatsReports/influSurveillanceReports.htm>

**WORLD HEALTH ORGANIZATION (WHO)**

**Global Situation Update<sup>73</sup>, November 1, 2009**

[http://www.who.int/csr/don/2009\\_11\\_06/en/index.html](http://www.who.int/csr/don/2009_11_06/en/index.html)

Intense and persistent influenza transmission continues to be reported in North America without evidence of a peak in activity. The proportion of sentinel physician visits due to ILI (8%) has exceeded levels seen over the past 6 influenza seasons; 42% of respiratory samples tested were positive for influenza and 100% of sub-typed influenza A viruses were pandemic H1N1 2009. Rates of ILI, proportions of respiratory samples testing positive for influenza, and numbers of outbreaks in educational settings continues to increase sharply in Canada as activity spreads eastward. Significantly more cases of pandemic H1N1 have been recorded in Mexico since September than were observed during the initial springtime epidemic.

**EUROPEAN CENTRE FOR DISEASE PREVENTION & CONTROL (ECDC)**

**November 9, 2009: ECDC Daily Update, Pandemic (H1N1) 2009**

[http://ecdc.europa.eu/en/healthtopics/Documents/091109\\_Influenza\\_AH1N1\\_Situation\\_Report\\_0900hrs.pdf](http://ecdc.europa.eu/en/healthtopics/Documents/091109_Influenza_AH1N1_Situation_Report_0900hrs.pdf)

**ECDC Weekly Influenza surveillance overview (November 06, 2009)**

[http://ecdc.europa.eu/en/publications/Publications/091106\\_EISN\\_Weekly\\_Influenza\\_Surveillance\\_Overview.pdf](http://ecdc.europa.eu/en/publications/Publications/091106_EISN_Weekly_Influenza_Surveillance_Overview.pdf)

## **HEALTH/SURVEILLANCE BULLETINS:**

### Australia

**Australia Influenza Surveillance Summary Report, No. 24, 2009, reporting period: October 17-23 2009 (October 23, 2009)**

<http://www.healthemergency.gov.au/internet/healthemergency/publishing.nsf/Content/ozflucurrent.htm>

Nationally, most jurisdictions have reported that pandemic H1N1 2009 activity has decreased peaked and is decreasing nationally with a number of regions reporting no new notifications in the last week, indicating that the first wave of the pandemic has subsided.

### New Zealand

**New Zealand: Weekly 44 Summary (October 26-01, 2009)**

[http://www.surv.esr.cri.nz/PDF\\_surveillance/Virology/FluWeekRpt/2009/FluWeekRpt200944.pdf](http://www.surv.esr.cri.nz/PDF_surveillance/Virology/FluWeekRpt/2009/FluWeekRpt200944.pdf)

There has been a decrease in consultations for ILI through sentinel surveillance in week 44. However, the weekly ILI consultation rate is still higher than previous years for the same week. So far, the highest ILI consultation rates have been reported among children and teenagers aged 0 to 19 years.

### **CENTER FOR INFECTIOUS DISEASE RESEARCH AND POLICY (CIDRAP)**

**Saudis to begin mass flu vaccinations as hajj nears (Nov 2, 2009)**

<http://www.google.com/hostednews/afp/article/ALeqM5iCMtbri8Vh4wV9o79q6Siju7ZKKg>

**Studies reaffirm 2 vaccine doses in kids, show safety in pregnant women (Nov 2, 2009)**

<http://www.cidrap.umn.edu/cidrap/content/influenza/swineflu/news/nov0209vaccine-jw.html>

**Obesity risk stands out in study of California's sickest H1N1 patients (Nov 3, 2009)**

<http://www.cidrap.umn.edu/cidrap/content/influenza/swineflu/news/nov0309california-br.html>

**Germany approves cell-based pandemic vaccine (Nov 5, 2009)**

<http://www.novartis.com/newsroom/media-releases/en/2009/1352736.shtml>

**WHO warns countries not to underestimate pandemic virus (Nov 5, 2009)**

<http://www.cidrap.umn.edu/cidrap/content/influenza/swineflu/news/nov0509global-jw.html>

**Infection of farmed animals with the pandemic virus (Nov 6, 2009)**

[http://www.who.int/csr/disease/swineflu/notes/briefing\\_20091105/en/index.html](http://www.who.int/csr/disease/swineflu/notes/briefing_20091105/en/index.html)

**HHS Orders Intravenous Antiviral Flu Medication to Help Patients Hospitalized with 2009 H1N1 (Nov 6, 2009)**

<http://www.cidrap.umn.edu/>

**Pandemic flu keeps strong grip on US (Nov 6, 2009)**

<http://www.cidrap.umn.edu/cidrap/content/influenza/swineflu/news/nov0609flustatus.html>

## **JOURNALS SCANNED:**

- American Journal of Public Health
- British Medical Journal
- Canadian Medical Association Journal
- Clinical Infectious Diseases
- Emerging Infectious Diseases
- Eurosurveillance
- Journal of the American Medical Association JAMA (added this week)
- Journal of Infectious Diseases
- MMWR
- Nature
- New England Journal of Medicine
- PLoS One
- PLoS Currents

### **AMERICAN JOURNAL OF PUBLIC HEALTH**

- Nothing new on H1N1 this week

### **BRITISH MEDICAL JOURNAL**

1) Number of swine flu patients going into intensive care is rising (Nayanah Siva, November 3, 2009)

[http://www.bmj.com/cgi/content/full/339/nov02\\_2/b4528](http://www.bmj.com/cgi/content/full/339/nov02_2/b4528)

#### **Abstract**

In the week to 28 October 157 of 751 hospitalised patients with the illness (21%) had to go into intensive care, up from 63 of 840 patients (7.5%) in the last week of July, when the epidemic reached a peak before the school holidays began.

### **CANADIAN MEDICAL ASSOCIATION JOURNAL**

- Nothing new on H1N1 this week

### **CLINICAL INFECTIOUS DISEASES**

- Nothing new on H1N1 this week

### **EMERGING INFECTIOUS DISEASES**

1) Respiratory Infection in Institutions during Early Stages of Pandemic (H1N1) 2009, Canada (Alex Marchand-Austin, D. J. Farrell, F. B. Jamieson, N. Lombardi, E. Lombos, S. Narang, H. Akwar, D. E. Low, and J. B. Gubbay)

<http://www.cdc.gov/eid/content/15/12/pdfs/09-1022.pdf>

#### **Abstract**

Outbreaks of respiratory infection in institutions in Ontario, Canada were studied from April 20 to June 12, 2009, during the early stages of influenza A pandemic (H1N1) 2009. Despite widespread presence of influenza in the general population, only 2 of 83 outbreaks evaluated by molecular methods were associated with pandemic (H1N1) 2009.

2) Pandemic Influenza as 21st Century Urban Public Health Crisis (David M. Bell et al., November 5, 2009)

<http://www.cdc.gov/eid/content/15/12/pdfs/09-1232.pdf>

#### Abstract

Crowded urban areas in developing and industrialized countries are uniquely vulnerable to public health crises and face daunting challenges in surveillance, response, and public communication. The revised International Health Regulations require all countries to have core surveillance and response capacity by 2012. Innovative approaches are needed because traditional local-level strategies may not be easily scalable upward to meet the needs of huge, densely populated cities, especially in developing countries. The responses of Mexico City and New York City to the initial appearance of influenza A pandemic (H1N1) 2009 virus during spring 2009 illustrate some of the new challenges and creative response strategies that will increasingly be needed in cities worldwide.

3) Genomic Signatures of Influenza A Pandemic (H1N1) 2009 Virus (Guang-Wu Chen and Shin-Ru Shih, November 5, 2009)

<http://www.cdc.gov/eid/content/15/12/pdfs/09-0845.pdf>

#### Abstract

Adaptive mutations that have contributed to the emergence of influenza A pandemic (H1N1) 2009 virus, which can replicate and transmit among humans, remain unknown. We conducted a large-scale scanning of influenza protein sequences and identified amino acid-conserving positions that are specific to host species, called signatures. Of 47 signatures that separate avian viruses from human viruses by their nonglycoproteins, 8 were human-like in the pandemic (H1N1) 2009 virus. Close examination of their amino acid residues in the recent ancestral swine viruses of pandemic (H1N1) 2009 virus showed that 7 had already transitioned to human-like residues and only PA 356 retained an avian-like K; in pandemic (H1N1) 2009 virus, this residue changed into a human-like R. Signatures that separate swine viruses from human viruses were also present. Continuous monitoring of these signatures in nonhuman species will help with influenza surveillance and with evaluation of the likelihood of further adaptation to humans.

4) Cost-effectiveness Analysis of Hospital Infection Control Response to an Epidemic Respiratory Virus Threat (Yock Young Dan, et al., November 5, 2009)

<http://www.cdc.gov/eid/content/15/12/pdfs/09-0902.pdf>

#### Abstract:

The outbreak of influenza A pandemic (H1N1) 2009 prompted many countries in Asia, previously strongly affected by severe acute respiratory syndrome (SARS), to respond with stringent measures, particularly in preventing outbreaks in hospitals. We studied actual direct costs and cost-effectiveness of different response measures from a hospital perspective in tertiary hospitals in Singapore by simulating outbreaks of SARS, pandemic (H1N1) 2009, and 1918 Spanish influenza. Protection measures targeting only infected patients yielded lowest incremental cost/death averted of \$23,000 (US\$) for pandemic (H1N1) 2009. Enforced protection in high-risk areas (Yellow Alert) and full protection throughout the hospital (Orange Alert) averted deaths but came at an incremental cost of up to \$2.5 million/death averted.

### **EUROSURVEILLANCE**

1) Surveillance of the first 205 confirmed hospitalised cases of pandemic H1N1 influenza in Ireland, 28 April-3 October 2009 (G Cullen, et al., November 5, 2009)

<http://www.eurosurveillance.org/ViewArticle.aspx?ArticleId=19389>

Abstract:

From 28 April 2009 to 3 October 2009, 205 cases of confirmed pandemic H1N1 influenza were hospitalised in Ireland. Detailed case-based epidemiological information was gathered on all hospitalised cases. Age-specific hospitalisation rates were highest in the age group of 15 to 19 year-olds and lowest in those aged 65 years and over. Nineteen hospitalised cases (9%) were admitted to intensive care units (ICU) where the median length of stay was 24 days. Four hospitalised cases (2%) died. Fifty-one percent of hospitalised cases and 42% of ICU cases were not in a recognised risk group. Asthma was the most common risk factor among cases; however, people with haemoglobinopathies and immunosuppression were the most over-represented groups.

2) Measures against transmission of pandemic H1N1 influenza in Japan in 2009: simulation model (H Yasuda, K Suzuki, November 5, 2009)

<http://www.eurosurveillance.org/ViewArticle.aspx?ArticleId=19385>

Abstract:

The first outbreak of pandemic H1N1 influenza in Japan was contained in the Kansai region in May 2009 by social distancing measures. Modelling methods are needed to estimate the validity of these measures before their implementation on a large scale. We estimated the transmission coefficient from outbreaks of pandemic H1N1 influenza among school children in Japan in summer 2009; using this transmission coefficient, we simulated the spread of pandemic H1N1 influenza in a virtual community called the virtual Chuo Line which models an area to the west of metropolitan Tokyo. Measures evaluated in our simulation included: isolation at home, school closure, post-exposure prophylaxis and mass vaccinations of school children. We showed that post-exposure prophylaxis combined with isolation at home and school closure significantly decreases the total number of cases in the community and can mitigate the spread of pandemic H1N1 influenza, even when there is a delay in the availability of vaccine.

3) Interpreting “Google Flu Trends” data for pandemic H1N1 influenza: The New Zealand experience (N Wilson, November 5, 2009)

<http://www.eurosurveillance.org/ViewArticle.aspx?ArticleId=19386>

Abstract:

For the period of the spread of pandemic H1N1 influenza in New Zealand during 2009, we compared results from Google Flu Trends with data from existing surveillance systems. The patterns from Google Flu Trends were closely aligned with (peaking a week before and a week after) two independent national surveillance systems for influenza-like illness (ILI) cases. It was much less congruent with (delayed by three weeks) data from ILI-related calls to a national free-phone Healthline and with media coverage of pandemic influenza. Some patterns were unique to Google Flu Trends and may not have reflected the actual ILI burden in the community. Overall, Google Flu Trends appears to provide a useful free surveillance system but it should probably be seen as supplementary rather than as an alternative.

4) “I-MOVE” towards monitoring seasonal and pandemic influenza vaccine effectiveness: lessons learnt from a pilot multi-centric case-control study in Europe, 2008-9 (E Kissling, et al., November 5, 2009)

<http://www.eurosurveillance.org/ViewArticle.aspx?ArticleId=19388>

Abstract:

Within I-MOVE (European programme to monitor seasonal and pandemic influenza vaccine effectiveness (IVE)) five countries conducted IVE pilot case-control studies in 2008-9. One

hundred and sixty sentinel general practitioners (GP) swabbed all elderly consulting for influenza-like illness (ILI). Influenza confirmed cases were compared to influenza negative controls. We conducted a pooled analysis to obtain a summary IVE in the age group of  $\geq 65$  years. We measured IVE in each study and assessed heterogeneity between studies qualitatively and using the I<sup>2</sup> index. We used a one-stage pooled model with study as a fixed effect. We adjusted estimates for age-group, sex, chronic diseases, smoking, functional status, previous influenza vaccinations and previous hospitalisations. The pooled analysis included 138 cases and 189 test-negative controls. There was no statistical heterogeneity (I<sup>2</sup>=0) between studies but ILI case definition, previous hospitalisations and functional status were slightly different. The adjusted IVE was 59.1% (95% CI: 15.3-80.3%). IVE was 65.4% (95% CI: 15.6-85.8%) in the 65-74, 59.6% (95% CI: -72.6 -90.6%) in the age group of  $\geq 75$  and 56.4% (95% CI: -0.2-81.3%) for A(H3). Pooled analysis is feasible among European studies. The variables definitions need further standardisation. Larger sample sizes are needed to achieve greater precision for subgroup analysis. For 2009-10, I-MOVE will extend the study to obtain early IVE estimates in groups targeted for pandemic H1N1 influenza vaccination.

5) Influenza-like illness surveillance using a deputising medical service corresponds to surveillance from sentinel general practices (M Coory, K Grant, H Kelly, November 5, 2009) <http://www.eurosurveillance.org/ViewArticle.aspx?ArticleId=19387>

Abstract:

Standard sources of data for influenza surveillance include notifications of laboratory-confirmed cases and notifications from sentinel general practices. These data are not always available in a timely fashion, leading to proposals to use more immediate data sources such as over-the-counter drug sales, ambulance call-outs and web searches to monitor influenza-like illness (ILI). We aimed to assess data from a deputising medical service as another source of data for timely syndromic influenza surveillance. We measured the extent of agreement between the weekly percentage of patients with ILI reported from sentinel general practices and the corresponding weekly percentage reported from a deputising medical service in Victoria, Australia over ten years, from 1999 to 2008. There was good agreement between the two data sources, with suitably narrow limits of agreement. The deputising medical service did not use a standardised definition of ILI and is not supplemented by laboratory confirmation of suspected cases. Nevertheless, the results of this study show that such data can provide low cost and timely ILI surveillance.

**JOURNAL OF THE AMERICAN MEDICAL ASSOCIATION**

1) Surgical Mask vs N95 Respirator for Preventing Influenza Among Health Care Workers: A Randomized Trial (Mark Loeb et al., November 3, 2009) <http://jama.ama-assn.org/cgi/content/full/302/17/1865>

Abstract:

Given the likelihood that N95 respirators will be in short supply during a pandemic and not available in many countries, knowing the effectiveness of the surgical mask is of public health importance. Among nurses in Ontario tertiary care hospitals, use of a surgical mask compared with an N95 respirator resulted in noninferior rates of laboratory-confirmed influenza.

2) Critically Ill Patients With 2009 Influenza A(H1N1) Infection in Canada (Anand Kumar et al., November 3, 2009) <http://jama.ama-assn.org/cgi/content/full/302/17/1872>

Abstract:

Critical illness due to 2009 influenza A(H1N1) in Canada occurred rapidly after hospital admission, often in young adults, and was associated with severe hypoxemia, multisystem organ failure, a requirement for prolonged mechanical ventilation, and the frequent use of rescue therapies.

3) Critically Ill Patients With 2009 Influenza A(H1N1) in Mexico (Guillermo Domínguez-Cherit et al., November 3, 2009)

<http://jama.ama-assn.org/cgi/content/full/302/17/1880>

Abstract:

Critical illness from 2009 influenza A(H1N1) in Mexico occurred in young individuals, was associated with severe acute respiratory distress syndrome and shock, and had a high case-fatality rate.

4) Extracorporeal Membrane Oxygenation for 2009 Influenza A(H1N1) Acute Respiratory Distress Syndrome (The Australia and New Zealand Extracorporeal Membrane Oxygenation (ANZ ECMO) Influenza Investigators, November 3, 2009)

<http://jama.ama-assn.org/cgi/content/full/302/17/1888>

Abstract:

During June to August 2009 in Australia and New Zealand, the ICUs at regional referral centers provided mechanical ventilation for many patients with 2009 influenza A(H1N1)-associated respiratory failure, one-third of whom received ECMO. These ECMO-treated patients were often young adults with severe hypoxemia and had a 21% mortality rate at the end of the study period.

**JOURNAL OF INFECTIOUS DISEASES**

- Nothing new on H1N1 this week

**MORBIDITY AND MORTALITY REPORT (MMWR)**

1) Introduction and Transmission of 2009 Pandemic Influenza A (H1N1) Virus - Kenya, June-July 2009 (October 23, 2009)

<http://www.cdc.gov/mmwr/preview/mmwrhtml/mm5841a1.htm>

Abstract:

Surveillance activities in Kenya detected four separate introductions of the virus into the country. The introductions provided an opportunity to study transmission of the virus (including calculation of secondary household attack rates) in a virus-naive population that had not yet initiated the use of antiviral drugs. This report describes the four introductions and the accompanying analysis.

**NEW ENGLAND JOURNAL OF MEDICINE (NEJM)**

1) Emergency Use Authorization of Peramivir for Treatment of 2009 H1N1 (Debra Birnkrant, and Edward Cox, November 2, 2009)

<http://content.nejm.org/cgi/content/full/NEJMp0910479?query=TOC>

Abstract:

The FDA determined that despite the limited data on efficacy and safety, the criteria for an EUA for peramivir had been met for the treatment of certain patients hospitalized with known or suspected 2009 H1N1 influenza. Specifically, it is reasonable to believe that peramivir may be effective in patients with the pandemic virus on the basis of the limited

results available from trials in patients with seasonal influenza. Furthermore, the serious, and potentially fatal, nature of the disease observed to date in patients who have been hospitalized because of 2009 H1N1 influenza infection and the lack of alternative treatment options (i.e., an intravenous antiviral agent with activity against influenza) for many of these patients led to issuance of the EUA for peramivir.

2) Mandatory Vaccination of Health Care Workers (Alexandra M. Stewart, November 4, 2009)

<http://content.nejm.org/cgi/content/full/NEJMp0910151?query=TOC>

Abstract:

Certainly, courts must take into account Constitutional guarantees of personal autonomy, freedom of contract, and freedom of religion when reviewing the current lawsuits. These rights, however, have been constrained when they conflict with government measures that are intended to protect the community's health and safety. Health care workers have a profound effect on patients' health. Although they have the same rights as all private citizens, it is likely that courts will continue to make the health and safety of patients the priority in permitting exceptions to individual rights.

3) Novel H1N1 Influenza and Respiratory Protection for Health Care Workers (Kenneth I. Shine, Bonnie Rogers, and Lewis R. Goldfrank., November 5, 2009)

<http://content.nejm.org/cgi/content/full/361/19/1823?query=TOC>

Abstract:

The IOM committee has recommended that current CDC guidelines for respiratory protection be maintained. (see [www.cdc.gov/h1n1flu/guidelines\\_infection\\_control.htm](http://www.cdc.gov/h1n1flu/guidelines_infection_control.htm).) Until more data are available, the committee recommends that clinicians reach for the N95 respirator when confronting patients with influenza-like illnesses, particularly in enclosed spaces.

## **PLoS ONE**

1) Novel pandemic influenza A (H1N1) viruses are potently inhibited by DAS181, a Sialidase fusion protein (Gallen B. Triana-Baltzer, et al., November 6, 2009)

<http://www.plosone.org/article/info%3Adoi%2F10.1371%2Fjournal.pone.0007788>

Abstract:

Resistance to antivirals can be a formidable problem as evidenced by the currently widespread oseltamivir- and adamantane-resistant seasonal influenza A viruses (IFV). Additional antiviral approaches with novel mechanisms of action are needed to combat novel and resistant influenza strains. DAS181 (Fludase™) is a sialidase fusion protein in early clinical development with *in vitro* and *in vivo* preclinical activity against a variety of seasonal influenza strains and highly pathogenic avian influenza strains (A/H5N1). Here, we use *in vitro*, *ex vivo*, and *in vivo* models to evaluate the activity of DAS181 against several pandemic influenza A(H1N1) viruses.

2) Inhibition of neuraminidase inhibitor-resistant influenza virus by DAS181, a novel Sialidase fusion protein (Gallen B. Triana-Baltzer, et al., November 6, 2009)

<http://www.plosone.org/article/info%3Adoi%2F10.1371%2Fjournal.pone.0007838>

Abstract:

DAS181 (Fludase®), a sialidase fusion protein, has been shown to have inhibitory activity against a large number of seasonal influenza strains and a highly pathogenic avian

influenza (HPAI) strain (H5N1). Here, we examine the *in vitro* activity of DAS181 against a panel of 2009 oseltamivir-resistant seasonal H1N1 clinical isolates.

3) Inducible costimulator expression regulates the magnitude of Th2-mediated airway inflammation by regulating the number of Th2 cells (Bryan S. Clay et al. (November 4, 2009)

<http://www.plosone.org/article/info%3Adoi%2F10.1371%2Fjournal.pone.0007525>

**Abstract:**

Inducible Costimulator (ICOS) is an important regulator of Th2 lymphocyte function and a potential immunotherapeutic target for allergy and asthma. A SNP in the *ICOS* 5' promoter in humans is associated with increased atopy and serum IgE in a founder population and increased ICOS surface expression and Th2 cytokine production from peripheral blood mononuclear cells. However, it is unknown if increased ICOS expression contributes to disease progression or is a result of disease pathology.

**PLoS CURRENTS**

1) Knol: Antiviral usage for H1N1 treatment: pros, cons and an argument for broader prescribing guidelines in the United States (Edward Goldstein, Marc Lipsitch, October 31, 2009)

<http://knol.google.com/k/edward-goldstein/antiviral-usage-for-h1n1-treatment->

**Abstract:**

In the current situation in the US, with an elevated and evidently growing burden of influenza hospitalizations and mortality, a high percentage of individuals infected with influenza (with almost all of those carrying the H1N1pdm strain) among those who exhibit ILI and get tested for influenza virus, very low levels of antiviral resistance and little time left for antiviral resistance to take off before large quantities of vaccine become available, we think it is worthwhile to consider a revision to the current antiviral usage recommendations, such that physicians would be encouraged to consider prescribing antivirals to individuals with moderate to severe symptoms who present for treatment.

2) Knol: Rapid Development of an Efficacious Swine Vaccine for Novel H1N1 (Ryan Vander Veen et al., October 31, 2009)

<http://knol.google.com/k/ryan-vander-veen/rapid-development-of-an->

**Abstract:**

Recombinant hemagglutinin (HA) from a novel H1N1 influenza strain was produced using an alphavirus replicon expression system. The recombinant HA vaccine was produced more rapidly than traditional vaccines, and was evaluated as a swine vaccine candidate at different doses in a challenge model utilizing the homologous influenza A/California/04/2009 (H1N1) strain. Vaccinated animals showed significantly higher specific antibody response, reduced lung lesions and viral shedding, and higher average daily gain when compared to non-vaccinated control animals.

3) Knol: Mining the NCBI Influenza Sequence Database: adaptive grouping of BLAST results using precalculated neighbor indexing (Leonid Zaslavsky and Tatiana Tatusova, November 1, 2009)

<http://knol.google.com/k/leonid-zaslavsky/mining-the-ncbi-influenza->

Abstract:

The Influenza Virus Resource and other Virus Variation Resources at NCBI provide enhanced visualization web tools for exploratory analysis for influenza sequence data. Despite the improvements in data analysis, the initial data retrieval remains unsophisticated, frequently producing huge and imbalanced datasets due to the large number of identical and nearly-identical sequences in the database. We propose a data mining algorithm to organize reported sequences into groups based on their relatedness to the query sequence and to each other.

4) Knol: Quantifying the transmissibility of human influenza and its seasonal variation in temperate regions (James Truscott et al., November 3, 2009)

<http://knol.google.com/k/james-truscott/quantifying-the-transmissibility->

Abstract:

These results give some insight into the extent to which transmissibility of the H1N1pdm pandemic virus may increase in Northern Hemisphere temperate countries in winter 2009. We find that the timescale for waning of immunity to current circulating seasonal influenza strain is between 4 and 8 years, consistent with studies of the antigenic variation of influenza, and that inter-subtype cross-immunity is restricted to low levels.