

# pH1N1 Flu Virus (Human Swine Influenza) Information Resources

*Current as of April 23, 2010 at 12 pm*

---

## Contents

[Events](#)

[Lessons Learned](#)

### Updates by Jurisdiction

#### Ontario

[Ontario Ministry of Health and Long-Term Care \(MOHLTC\)](#)

[Ontario Agency for Health Promotion and Protection \(OAHPP\)](#)

#### Canada

[Public Health Agency of Canada \(PHAC\)](#)

#### United States

[Centers for Disease Control and Protection \(CDC\)](#)

[Center for Infectious Disease Research & Policy](#)

#### Europe

[United Kingdom's Health Protection Agency \(HPA\)](#)

[European Centre for Disease Control and Prevention \(ECDC\)](#)

#### International

[Australia and New Zealand](#)

[Pan American Health Organization \(PAHO\)](#)

[World Health Organization \(WHO\)](#)

[Research Articles](#)

## Events [\[back to top\]](#)

### Current / Upcoming

[JUN 21-22] [H1N1: The world responds to a 21st century pandemic](#) (London, UK)  
This international conference will bring together scientists, academics and public health professionals to examine what we have learned since the appearance of H1N1 in April 2009, and the knowledge gained from the global effort can be used in preparing for future pandemic response.

### Archived

[ARCHIVED] "H1N1 and Pregnancy: Key Considerations for Vaccination and Management": Online learning program for health professionals

To access the program, go to:

[www.mdBriefCase.com](http://www.mdBriefCase.com) (for physicians)

[www.rxBriefCase.com](http://www.rxBriefCase.com) (for pharmacists)

[www.AdvancingIn.com](http://www.AdvancingIn.com) (for nurses and other healthcare professionals)

[ARCHIVED] [COCA conference calls](#)

[ARCHIVED] U.S. DHHS [H1N1 Video Briefing archive](#)

[ARCHIVED] [Know what to do about the flu](#): webcast series from the U.S flu.gov

## Lessons Learned [\[back to top\]](#)

Presentations from the Public Health Ethics Workshop in Montréal, March 17, 2010: [Public Health Ethics in Practice: Impact and relevance of ethical frameworks on decision-making during the H1N1 pandemic](#)

[Survey of pandemic plans and related policy statements containing frameworks for ethical decision-making](#)

Christopher W. McDougall, National Collaborating Centre for Healthy Public Policy

[Enhancing the Legitimacy of Pandemic Response through the Lens of Public Health Ethics](#)

Cécile Bensimon, University of Toronto Joint Centre for Bioethics

[Ethics in influenza preparedness and response plans](#)

Pilar Ramón-Pardo, Pan American Health Organization

[Ethics and Pandemic Flu: a Perspective from the UK](#)

Lindsay Wilkinson, UK Department of Health

[2009 H1N1 Influenza Pandemic Debrief](#)

Eve Cheuk, National Collaborating Centre for Infectious Disease

Report from the Canadian National Collaborating Centre for Healthy Public Policy: [Case studies of ethics during a pandemic.](#)

[Nature News: Portrait of a year-old pandemic: 'Swine flu' isn't over yet, but it already holds lessons for the future](#)

One year ago this month, the world watched with trepidation as a novel influenza A virus, to which the global population had little or no immunity, emerged in Mexico and the United States. In the weeks that followed, the H1N1 'swine flu' virus spread rapidly to countries worldwide, leading the World Health Organization (WHO) on 11 June 2009 to officially declare the first flu pandemic in more than 40 years. Nature looks at the lessons learnt from H1N1, and how they will help scientists and health authorities to handle the next flu pandemic.

Globe and Mail: [H1N1 review calls for special perspective](#)

[Health and Human Services \(HHS\) Secretary Kathleen Sebelius speech at the 44th National Immunization Conference, Atlanta, GA, April 19, 2010](#)

Health and Human Services (HHS) Secretary Kathleen Sebelius yesterday thanked those "on the front lines" fighting H1N1 flu and highlighted successes. Among them: investing in preparedness, declaring a public health emergency quickly, mobilizing health workers for vaccination, relaying prevention messages, reaching out to other nations, ensuring vaccine safety, defining vaccine priority groups, and employing creative distribution. She said HHS needs to better engage minorities and physicians.

[Reports support usefulness of school-based flu vaccination](#)

Some reports released during the National Immunization Conference this week support the idea that school-based influenza vaccination programs are a workable way to get flu doses into the arms and noses of more school children faster.

Report 1: [School-Based H1N1 Vaccination in New York City](#)

Report 2: [School-Located Seasonal and 2009 H1N1 Influenza Vaccine Initiative](#)

Report 3: [Monroe County School Kids Influenza Prevention Project \(MCSKIPP\): Obtaining Parental Consent](#)

[Preventing the Spread of Infection in Faith Communities Toolkit \(WI\)](#)

Describes a toolkit and subsequent pilot study involving 30 faith-based organizations to better understand overall emergency preparedness and the usefulness of the toolkit materials.

[H1N1 Vaccination Media Campaign Launched \(NY\)](#)

Describes a broad-based, collaborative, and accessible media campaign focused on consistent messages about vaccination.

[Low Acceptability of A/H1N1 Pandemic Vaccination in French Adult Population: Did Public Health Policy Fuel Public Dissonance?](#)

Schwarzinger M, Flicoteaux R, Cortarenoda S, Obadia Y, Moatti J-P. 2010. PLoS ONE. 5(4): e10199. doi:10.1371/journal.pone.0010199.

[Disproportionate impact of pandemic \(H1N1\) 2009 influenza on Indigenous people in the Top End of Australia's Northern Territory](#)

Flint SM, Davis JS, Su JY, et al. eMJA. Published online ahead of print 2010 Apr 22.

[Omission bias and vaccine rejection by parents of healthy children: Implications for the influenza A/H1N1 vaccination programme](#)

Brown KF, Kroll JS, Hudson MJ, et al. Vaccine. Published online ahead of print 2010 Apr 21.

**Ministry of Health and Long-Term Care** [[back to top](#)]

[Ontario Influenza Bulletin: Surveillance Week 14 \(April 4, 2010– April 10, 2010\)](#)

- Influenza activity in Ontario was similar compared to the previous reporting period (Mar. 28 to April 3, 2010).
- Slightly more patients reporting influenza-like symptoms consulted sentinel physicians during this week than during last week.
- The rate of influenza-like illness (ILI) in patients seen by sentinel physicians is lower than what is expected based on the average rate at this time of year for past seasons.
- No health units reported localized influenza activity for the current reporting period. One health unit reported sporadic influenza activity and 31 reported no influenza activity. The remaining four health units did not report.
- April 1, 2009 and March 13, 2010, there were 8,759 laboratory confirmed cases of H1N1 flu virus reported in Ontario, through the integrated Public Health System (iPHIS).

[ARCHIVED] [Previous MOHLTC updates and news conference video footage](#)

**Ontario Agency for Health Protection and Promotion** [[back to top](#)]

[Laboratory Pandemic Influenza Surveillance Report: Information current as of: April 19, 2010](#)

[ARCHIVED] [Swine influenza outbreak page](#)

**Public Health Agency of Canada (PHAC)** [[back to top](#)]

*No items of interest this week.*

[ARCHIVED] [Previous PHAC documents and updates](#)

**Centers for Disease Control and Prevention (CDC)  
& US Department of Health and Human Services** [[back to top](#)]

[UPDATE: Weekly FluView Map and Surveillance Report for Week Ending April 17, 2010](#)

During week 15 (April 11-17, 2010), influenza activity decreased in the U.S. 37 (2.1%) specimens tested by U.S. World Health Organization (WHO) and National Respiratory and Enteric Virus Surveillance System (NREVSS) collaborating laboratories and reported to CDC/Influenza Division were positive for influenza.

[NEW: Question & Answer: 2009 H1N1 and Pregnancy](#)

This document provides updated information on pregnancy as a risk factor for serious 2009 H1N1-related complications based on findings from a recent study.

## [UPDATE: CDC estimates of 2009 H1N1 related cases, hospitalizations and deaths in the United States from April 2009 - March 13, 2010.](#)

CDC has again updated its estimates of the total number of 2009 H1N1 cases, hospitalizations and deaths in the United States since April, 2009. The new estimates incorporate an additional four weeks of flu data from the previous estimates released on March 12, 2010.

[ARCHIVED] [Previous CDC documents and updates](#)

## **Center for Infectious Disease Research and Policy** [\[back to top\]](#)

### [International group renews push to fight avian, pandemic flu](#) (April 22, 2010)

An international avian and pandemic flu meeting in Hanoi concluded yesterday, with health ministers and top officials from more than 70 countries agreeing on a set of strategies for responding to future disease threats. [Read CIDRAP article...](#)

### [Alabama reporting 1 H1N1 death per week](#) (April 22, 2010)

One fourth of Alabama's 52 pandemic flu deaths have occurred this year, health officials report, and over the past several weeks the death toll has risen. The *Montgomery Advertiser* reports today that, after recording five H1N1 deaths in January and February, the state has already seen eight in March and April. "It looked like it [death rate] had peaked and was reaching the lower end of the bell curve," said Dr. Jim McVay of the Alabama Department of Public Health. "Then it increased." [\[Apr 22 Montgomery Advertiser story\]](#)

### [Study highlights bacterial complications in kids](#) (April 22, 2010)

Researchers studying children hospitalized with parapneumonic empyema from 2004 to 2009 compared rates of the condition before and during the H1N1 pandemic and found an increase in pneumonia complicated by empyema during the pandemic. The study, published in the *Pediatric Infectious Disease Journal*, found infection with *Streptococcus pneumoniae* and *S pyogenes* associated with H1N1 flu. The authors call for better understanding of bacterial complications of pandemic flu. [\[Apr 19 Ped Infect Dis J abstract\]](#)

### [British Columbia tries to recoup loss of expired vaccine](#) (April 22, 2010)

British Columbia hopes to get back at least some of the \$20 million it paid for 2.5 million doses of adjuvanted H1N1 vaccine that is becoming ineffective long before its expiration date, CBC News reported. The vaccine was supposed to last 18 months but had only a 6-month shelf life. Provincial health minister Ida Chong said officials are seeing what they can do "to find out if there is any kind of recovery." The province, which had a 40% vaccination rate, has some unadjuvanted vaccine available. [\[Apr 21 CBC News report\]](#)

### [WHO advisors stay course on H1N1 vaccine, Rotarix](#) (April 21, 2010)

The World Health Organization's (WHO's) vaccine advisory group recently agreed to keep in place its guidance on pandemic H1N1 vaccines and discussed contamination issues related to the Rotarix rotavirus vaccine. [Read CIDRAP article...](#)

### [Campus flu activity remains low](#) (April 21, 2010)

For the week that ended Apr 16, the American College Health Association (ACHA) today reported continued low levels of influenza-like illness (ILI) at colleges, with only a slight increase in cases. The ACHA reported 229 new ILI cases and no hospitalizations or deaths. Thirty-eight percent of 177 colleges reported new cases, compared with 36% the previous week. The attack rate was 1.1 cases/10,000 students, 10% higher than the previous week, with no evidence of a third pandemic wave. [\[Apr 21 ACHA surveillance report\]](#)

### [Bangladesh sees H1N1 cases surge](#) (April 21, 2010)

After a quiet start to the year, Bangladesh is reporting rapid spread of pandemic flu this month and has placed health officials across the country on alert, according to the Philippine newspaper *Balita*. "The virus sustained at a lower level in Bangladesh during January-March period, but it showed rising trend since the beginning of this month," a health official said, adding that April through September is typically the busiest season for flu. He did not specify case numbers. [\[Apr 20 Balita story\]](#)

### [Qatar ponders swapping H1N1 vaccine](#) (April 21, 2010)

Faced with surplus pandemic vaccine, Qatar's Supreme Council of Health (SCH) plans to negotiate with vaccine manufacturers for other vaccines in exchange for unused doses. The country had planned to receive up to 200,000 doses of H1N1 vaccine a month throughout the winter. "We are considering the possibilities of exchanging the orders which have not been delivered with other vaccines that are being used in the country," an SCH official said, without specifying the vaccines being sought. [\[Apr 21 Gulf Times story\]](#)

### [Nigeria still unable to get vaccine](#) (April 21, 2010)

Nigeria has yet to receive any H1N1 pandemic vaccine and is concerned that cases may grow as nearby Ghana is reporting an outbreak, according to a *Nigerian Bulletin* story. Nigeria has confirmed 11 cases and 2 pandemic deaths. The story quoted unnamed experts as saying global demand for the vaccine has outpaced supply, making it difficult for developing countries to obtain doses. [\[Apr 20 Nigerian Bulletin story\]](#)

### [Early antivirals mean fewer ICU visits for pregnant pandemic flu patients](#) (April 20, 2010)

In the biggest and most detailed look yet at pandemic flu infections in pregnant women, researchers from the US Centers for Disease Control and Prevention (CDC) reported today that early antiviral treatment was linked to fewer intensive care unit (ICU) admissions and that severe illnesses and deaths are more likely to occur during the third trimester. [Read CIDRAP article...](#)

### [CDC raises estimates of H1N1 toll slightly](#) (April 20, 2010)

The US Centers for Disease Control and Prevention (CDC) yesterday updated its estimates for the number of pandemic H1N1 illnesses, hospitalizations, and deaths, adding another month of data and bumping up the totals slightly. [Read CIDRAP article...](#)

### [Sebelius cites H1N1 success stories](#) (April 20, 2010)

Health and Human Services (HHS) Secretary Kathleen Sebelius yesterday thanked those "on the front lines" fighting H1N1 flu and highlighted successes. Among them: investing in preparedness, declaring a public health emergency quickly, mobilizing health workers for vaccination, relaying prevention messages, reaching out to other nations, ensuring vaccine safety, defining vaccine priority groups, and employing creative distribution. She said HHS needs to better engage minorities and physicians. [\[Sebelius's Apr 19 speech\]](#)

### [Volcanic ash smothers New Zealand's vaccinations](#) (April 20, 2010)

New Zealand's Ministry of Health has halted clinic and workplace influenza vaccinations because of supply issues related to the volcanic ash cloud over Europe, according to Radio New Zealand. Although demand for seasonal influenza vaccine, which includes the pandemic strain, has been "unprecedented" for this time of year, the ash cloud has disrupted vaccine shipments from Paris. An immunization manager said the country has 80,000 vaccine doses in stock. [\[Apr 20 Radio New Zealand report\]](#)

### [Alberta seeks reimbursement for unused vaccine](#) (April 20, 2010)

Alberta, Canada, is recalling more than 650,000 unused doses of H1N1 vaccine and seeking a refund from its maker, GlaxoSmithKline (GSK), according to the Ontario-based *National Post*.

Health Canada has reduced the expiration date for adjuvanted vaccine only from 18 to 6 months, which has left the province with \$2.2 million worth of about-to-expire vaccine. An Alberta official said there will be discussions with federal officials, regulators, and GSK about reimbursement. [\[Apr 15 National Post story\]](#)

#### [Most Australians willing to take vaccine during pandemic](#) (April 20, 2010)

An Australian survey found that most participants would accept pandemic H1N1 vaccine, though their perceived risk for the disease was low. Vaccine became available there Sep 30, 2009; 627 people were surveyed from Sep 5 to Oct 3: 53% perceived their risk of H1N1 as very low to low; 55% were willing to accept vaccine. Other findings: 25% thought H1N1 would affect their health very seriously or extremely, and 49% had made one or more behavior changes (eg, avoiding crowds, frequent hand washing). [\[Apr 19 BMC Infect Dis abstract\]](#)

#### [French show low acceptance of H1N1 vaccine](#) (April 20, 2010)

A survey of over 2,000 people conducted in France 1 week before the country's November H1N1 peak found the H1N1 vaccine as acceptable by only 17% of respondents. Acceptance was highest among pregnant women, people with chronic diseases, and those who had been formally advised to get vaccine. Of those refusing vaccination, 71% noted safety concerns. H1N1 was perceived as a severe disease by 36%. France began a mass vaccination campaign last July, but it did not involve primary care physicians. [\[Apr 16 PLoS ONE study\]](#)

#### [South Africa feels vaccine pinch](#) (April 19, 2010)

Just weeks before it hosts the World Cup, South Africa is reporting a shortage of H1N1 vaccine, *West Cape News* reported today. Doctors and pharmacies have run out of the vaccine, imported from Australia, and say no more is available. The country received 1.3 million doses, which are being used for "front line" port-of-entry workers and certain HIV patients. A further 3.5 million doses donated by the World Health Organization (WHO) will be used on pregnant women and others at high risk. [\[Apr 19 West Cape News story\]](#)

#### [Chile reports low vaccine uptake](#) (April 19, 2010)

Health officials in Chile are concerned that only 600,000 of a hoped-for 4 million people have received the H1N1 vaccine in a country that saw 300,000 cases and 1,800 hospitalizations last year, *The Santiago Times* reported. And this year a Feb 27 earthquake destroyed 5,000 hospital beds in the central region. One university faculty member explained that getting the shot early is essential to prevent overloading of hospitals, because immunity takes about 2 weeks to build. [\[Apr 18 Santiago Times report\]](#)

#### [Australian seasonal flu vaccine delayed](#) (April 19, 2010)

Australia's efforts to get the seasonal influenza vaccine to as many high-risk people as possible have been met with low availability of doses, at least in part because H1N1 vaccine production has taken precedence, according to Australia's *The Morning Bulletin*. Health officials are advising patients to get free H1N1 vaccine now, and then a separate seasonal flu shot as soon as it becomes available, which may be in the coming weeks. [\[Apr 19 Morning Bulletin article\]](#)

#### [WHO: H1N1 activity low in most countries](#) (April 16, 2010)

Circulation of the 2009 H1N1 pandemic virus persists only in tropical zones of the Americas, Africa, and Southeast Asia, the World Health Organization (WHO) reported today. B strains of seasonal flu are circulating in East Asia, along with sporadic seasonal A/H3N2 flu in Asia, Eastern Europe, and Eastern Africa; the most recent H3N2 reports were in Indonesia and Tanzania. A few seasonal H1N1 viruses, not the pandemic strain, were recorded last week in the Russian Federation and Northern China. [\[Apr 16 WHO update\]](#)

#### [CDC: US H1N1 activity still declining](#) (April 16, 2010)

Visits to doctors, lab-confirmed hospitalizations, and the proportion of deaths attributed to



pneumonia and influenza all declined in the United States last week, the Centers for Disease Control and Prevention (CDC) reported today. However, 3 pediatric deaths were reported in the last week. One report was from a previous season, but 2 were from the current flu season, of which one was due to the 2009 H1N1 strain and the other to an influenza A strain that was not typed further. [\[Apr 16 CDC update\]](#)

#### [Structural analysis confirms 1918, 2009 pandemic links](#) (April 16, 2010)

Structural analysis of the hemagglutinin of the 2009 H1N1 pandemic flu virus, and comparison of the structure with the recovered 1918 pandemic flu virus, reveals a shared epitope in both viruses, US researchers report today in *Science*. That antigenic similarity may explain repeated observations over the past year that those old enough to have been exposed to descendants of the 1918 virus possess some degree of protection against the 2009 strain. [\[Apr 16 Science abstract\]](#)

#### [H1N1 virus found to damage heart](#) (April 16, 2010)

A previously healthy 11-year-old girl died of heart failure, caused by compression of the heart by fluid in its outer sac, that appears to have been caused by H1N1 flu infection. Italian researchers report in the *Journal of Clinical Microbiology* that H1N1 viral sequences were found in the girl's heart tissue and pericardial fluid, suggesting direct damage by the flu virus. They warn that myopericarditis may be an underappreciated result of H1N1 infection. [\[Apr 14 J Clin Microbiol abstract\]](#)

#### [Malaysia orders school monitoring for H1N1](#) (April 16, 2010)

Malaysia's Education Ministry has directed school principals in the country to monitor student bodies for influenza-like illness and to immediately isolate any students who may be suffering from novel H1N1 flu. Eleven new clusters of illness have been reported by the Health Ministry. The Education Ministry wishes to preserve school closures as a last resort, *The Star* of Malaysia reported today. [\[Apr 16 Star article\]](#)

[ARCHIVED] [Current overview and older updates from CIDRAP](#)

## Health Protection Agency (UK) [\[back to top\]](#)

*Due to low influenza activity the National Influenza Report will be published fortnightly, with a short summary of activity provided in alternate weeks. Should activity increase again the report will return to a weekly schedule. The next full report will be published on Thursday 15 April 2010.*

### [Weekly Epidemiological Update Summary for 22 April 2010 \(Week 16\)](#)

Influenza activity is very low and stable across the UK.

[ARCHIVED] [Swine Influenza page](#)

[ARCHIVE] [DH Pandemic Flu site](#)

## European Centre for Disease Prevention and Control [\[back to top\]](#)

### [Weekly influenza surveillance overview Main surveillance developments in week 15/2010 \(12 Apr 2010 – 18 Apr 2010\)](#)

- All reporting countries experienced low intensity of influenza activity for the seventh consecutive week and reported sporadic activity at most.
- Few sentinel specimens (15 of 160, 9.4%) tested positive for influenza virus. Influenza B viruses predominated, accounting for 32 of 49 (65%) influenza viruses detected in sentinel and non-sentinel specimens.



- To date, very few (2.5%) tested 2009 pandemic viruses have shown resistance to oseltamivir and none were resistant to zanamivir. All 2009 pandemic viruses tested were resistant against M2 inhibitors.
- The weekly reported number of severe acute respiratory infections (SARI) due to pandemic influenza has reached a very low level.
- **Even though, globally, the world remains in pandemic Phase 6, influenza activity caused by the 2009 pandemic influenza A(H1N1) virus is well past its winter peak in EU/EEA countries.** However, sporadic cases continue to occur whilst most cases of influenza-like illness in EU/EEA countries are not due to influenza virus infection.

[ARCHIVE] [Maps, surveillance summaries and previous ECDC updates](#)

[ARCHIVE] [European Union Influenza H1N1 page](#)

## Australia and New Zealand [\[back to top\]](#)

### [Pandemic Influenza H1N1 2009 \(swine flu\) – Special Update 181 : 20 April 2010](#)

- **Icelandic volcanic eruption and possibility of short term delays in influenza vaccine supplies from France.**
- New Zealand has delivered around 772,000 doses of flu vaccine so far this season - more than in the entire 2008 flu season and around 100,000 more than at the same time last year.
- However a volcanic eruption in Iceland, which has disrupted air traffic in Europe, may interrupt our supply of vaccine over the next week or so.
- The seasonal flu vaccine is produced in (and distributed from) Paris, France - where flights are currently grounded.
- The Ministry of Health is currently reviewing the situation, and is working with primary care providers to ensure they are kept up to date as this situation evolves.

### [Influenza Surveillance Report No. 14 for the week ending 9 April 2010 \(PDF 260 KB\)](#)

- In 2010, as at 9 April, there have been 57 confirmed cases of pandemic (H1N1) 2009 influenza reported in Australia, bringing the total of confirmed cases to 37,693 since May 2009. There have been no new confirmed cases of pandemic (H1N1) 2009 influenza reported in Australia during this reporting period.
- Of the 357 confirmed cases of influenza diagnosed during 2010 up to 9 April, 16% have been sub-typed as pandemic (H1N1) 2009, 1% have been sub-typed as A/H3N2 and 71% have been type A not sub-typed. A further 11% have been sub-typed as influenza type B.
- From 1 January to 30 March 2010, there have been 14 hospitalisations and 0 deaths associated with pandemic (H1N1) 2009 influenza, as reported by jurisdictions.

[ARCHIVED] [New Zealand's H1N1 page](#)

[ARCHIVED] [Australia's H1N1 Update Bulletins](#)

## Pan-American Health Organization (PAHO) [\[back to top\]](#)

### [Regional Update, Pandemic \(H1N1\) 2009. \(Published on April 19, 2010\)](#)

- In North America, acute respiratory disease activity remained stable and is lower than expected in most areas.
- Caribbean countries reported unchanged or decreasing trends in acute respiratory disease.

- In Central America, Guatemala and El Salvador reported increasing trends in acute respiratory disease.
- South American countries reported unchanged or decreasing trends in acute respiratory disease except Ecuador which reported an increasing trend.
- In Canada, Chile and the United States, the 99% of all subtyped influenza A viruses were pandemic (H1N1) 2009.
- 45 new confirmed deaths in 7 countries were reported; in total there have been 8,309 cumulative confirmed deaths.

[ARCHIVED] [PAHO Influenza A \(H1N1\) Portal](#)

## World Health Organization (WHO) [[back to top](#)]

[Pandemic \(H1N1\) 2009 – Update 97](#)

[ARCHIVED] [WHO H1N1 Guidance Documents](#)

[ARCHIVED] [Older WHO Updates](#)

## Research Articles (1 week backfile) [[back to top](#)]

*What's new today, plus a one week backfile. Articles with an asterisk (\*) indicate that a subscription is required to view the full text. Contact your library for access to full text articles.*

[Medline literature search on H1N1](#) (current as of today)

[Public Sources of Information and Information Needs for Pandemic Influenza A\(H1N1\)\\*](#)

Wong LP, Sam IC. J Community Health. 2010 Apr 22. [Epub ahead of print]

[Occurrence of haemagglutinin mutation D222G in pandemic influenza A\(H1N1\) infected patients in the West of Scotland, United Kingdom, 2009-10\\*](#)

Miller RS, MacLean AR, Gunson RN, Carman WF. Euro Surveill. 2010;15(16):pii=19546.

[The effects of respiratory failure on delivery in pregnant patients with H1N1 2009 influenza\\*](#)

Jafari A, Langen ES, Aziz N, Blumenfeld YJ, Mihm F, Druzin ML. Obstet Gynecol. 2010 May; 115(5):1033-5.

[Quantifying the Early Immune Response and Adaptive Immune Response Kinetics in Mice Infected by Influenza A Virus\\*](#)

Miao H, Hollenbaugh JA, Zand MS, Holden-Wiltse J, Mosmann TR, Perelson AS, Wu H, Topham DJ. J Virol. 2010 Apr 21. [Epub ahead of print]

[Cytotoxic T Lymphocytes Established by Seasonal Human Influenza Cross-react against 2009 Pandemic H1N1 Influenza Virus](#)

Tu W, Mao H, Zheng J, et al. J Virol. 2010 Apr 21. [Epub ahead of print]

[Risk factors for the evolutionary emergence of pathogens](#)

Alexander HK, Day T. J R Soc Interface. 2010 Apr 21. [Epub ahead of print]

[Influenza and respiratory disease surveillance: the US military's global laboratory-based network\\*](#)

Jeremy Sueker J, Blazes DL, Johns MC, et al; DoD Influenza Working Group. Influenza Other Respi Viruses. 2010 May 1;4(3):155-61.

[Population-based surveillance for 2009 pandemic influenza A \(H1N1\) virus in Guatemala, 2009\\*](#)

Reyes L, Arvelo W, Estevez A, et al. Influenza Other Respi Viruses. 2010 May 1;4(3):129-40.

[Prior infection with classical swine H1N1 influenza viruses is associated with protective immunity to the 2009 pandemic H1N1 virus\\*](#)

Kash JC, Qi L, Dugan VG, Jagger BW, Hrabal RJ, Memoli MJ, Morens DM, Taubenberger JK. Influenza Other Respi Viruses. 2010 May 1;4(3):121-7.

[Pandemic influenza A \(H1N1\) 2009 with neurological manifestations, a case series\\*](#)

Noriega LM, Verdugo RJ, Araos R, et al. Influenza Other Respi Viruses. 2010 May 1;4(3):117-20.

[Co-benefits and 'no regrets' benefits of influenza pandemic planning\\*](#)

Wilson N, Howden-Chapman P, Baker MG. Influenza Other Respi Viruses. 2010 May 1;4(3):113-5. No abstract available.

[Contagious Period for Pandemic \(H1N1\) 2009](#)

De Serres G, Rouleau I, Hamelin ME, et al. Emerging Infectious Diseases. 2010 May;16(5):783-788.

[Influenza Outbreaks during World Youth Day 2008 Mass Gathering](#)

Blyth CC, Foo H, van Hal SJ, et al. Emerging Infectious Diseases. 2010 May;16(5):809-815.

[Rapid Influenza Antigen Test for Pandemic \(H1N1\) 2009](#)

Louie JK, Guevara H, Boston E. Emerging Infectious Diseases. 2010 May;16(5):824-826.

[Transmission of Mutant Strain of Pandemic \(H1N1\) 2009 Virus](#)

Puzelli S, Facchini M, Spagnolo D. Emerging Infectious Diseases. 2010 May;16(5):863-865.

Letter: [Pandemic \(H1N1\) 2009 Virus with Oseltamivir Resistance](#)

Mandelboim M, Hindiyeh M, Meningher T, Mendelson E. Emerging Infectious Diseases. 2010 May;16(5):873-874.

Letter: [Cross-Reactive Antibodies to Pandemic \(H1N1\) 2009 Virus, Singapore](#)

Tang JW, Tambyah PA, Wilder-Smith A. Emerging Infectious Diseases. 2010 May;16(5):874-876.

Letter: [Co-infection with Dengue Virus and Pandemic \(H1N1\) 2009 Virus](#)

Rodriguez EL, Tomashek KM, Gregory CJ. Emerging Infectious Diseases. 2010 May;16(5):882-884.

[Omission bias and vaccine rejection by parents of healthy children: Implications for the influenza A/H1N1 vaccination programme](#)

Brown KF, Kroll JS, Hudson MJ, et al. Vaccine. Published online ahead of print 2010 Apr 21.

Letter: [Pandemic influenza A \(H1N1\) 2009 in an urban Aboriginal medical service](#)

Herceg A, Sharp PG, Arthur CG, Tongs JA. Medical Journal of Australia. Published online ahead of print 2010 Apr 22.

[Disproportionate impact of pandemic \(H1N1\) 2009 influenza on Indigenous people in the Top End of Australia's Northern Territory](#)

Flint SM, Davis JS, Su JY, et al. Medical Journal of Australia. Published online ahead of print 2010 Apr 22.

[Association of 2009 Pandemic Influenza A \(H1N1\) Infection and Increased Hospitalization With Parapneumonic Empyema in Children in Utah\\*](#)

Ampofo K, Herbener A, Blaschke AJ, et al. Pediatr Infect Dis J. 2010 Apr 19. [Epub ahead of print]

[Aerosol and nasal delivery of vaccines and antiviral drugs against seasonal and pandemic influenza\\*](#)

Wong JP, Christopher ME, Viswanathan S, Schnell G, Dai X, Van Loon D, Stephen ER. Expert Rev Respir Med. 2010 Apr;4(2):171-7.

[Pandemic 2009 Influenza A\(H1N1\) Virus Illness Among Pregnant Women in the United States\\*](#)

Siston AM, Rasmussen Sa, Honein MA. JAMA. 2010;303(15):1517-1525.

[Low Acceptability of A/H1N1 Pandemic Vaccination in French Adult Population: Did Public Health Policy Fuel Public Dissonance?](#)

Schwarzinger M, Flicoteaux R, Cortarenoda S, Obadia Y, Moatti J-P. 2010. PLoS ONE. 5(4): e10199. doi:10.1371/journal.pone.0010199.

[Cardiac tamponade and heart failure due to myopericarditis as a presentation of infection with the pandemic H1N1 2009 influenza A virus](#)

Puzelli S, Buonaguro FM, Facchini M, et al. J. Clin. Microbiol. doi:10.1128/JCM.00418-10. Published online ahead of print on 14 April 2010.

[Anticipated Behaviors of Emergency Prehospital Medical Care Providers during an Influenza Pandemic\\*](#)

Tippett VC, Watt K, Raven SG, Kelly HA, Coory M, Archer F, Jamrozik K. Prehosp Disaster Med. 2010 Jan-Feb;25(1):20-5.

[Attitudes to Living and Working in Pandemic Conditions among Emergency Prehospital Medical Care Personnel\\*](#)

Watt K, Tippett VC, Raven SG, Jamrozik K, Coory M, Archer F, Kelly HA. Prehosp Disaster Med. 2010 Jan-Feb;25(1):13-9.

[Novel influenza A \(H1N1\) encephalitis in a 3-month-old infant\\*](#)

Sánchez-Torrent L, Triviño-Rodríguez M, Suero-Toledano P, et al. Infection. 2010 Apr 20. [Epub ahead of print]

[Prophylactic and therapeutic efficacy of avian antibodies against influenza virus H5N1 and H1N1 in mice](#)

Nguyen HH, Tumpey TM, Park HJ, et al. PLoS One. 2010 Apr 13;5(4):e10152.

[Antigenic variations of human influenza virus in Shiraz, Iran\\*](#)

Moattari A, Ashrafi H, Kadivar MR, et al. Indian J Med Microbiol. 2010 Apr-Jun;28(2):114-9.

[Prophylactic Activity of Intramuscular Peramivir in Mice Infected with a Recombinant Influenza A/WSN/33 \(H1N1\) Virus Containing the H274Y Neuraminidase Mutation](#)

Abed Y, Simon P, Boivin G. Antimicrob Agents Chemother. 2010 Apr 19. [Epub ahead of print]

[Temporal changes in psychobehavioral responses during the 2009 H1N1 influenza pandemic\\*](#)

Wong LP, Sam IC. Prev Med. 2010 Apr 16. [Epub ahead of print]

[Safety and immunogenicity of pre-pandemic H5N1 influenza vaccines: A systematic review of the literature\\*](#)

Prieto-Lara E, Méndez AL. Vaccine. 2010 Apr 16. [Epub ahead of print]

[Influenza A viral loads in respiratory samples collected from patients infected with pandemic H1N1, seasonal H1N1 and H3N2 viruses](#)

Ngaosuwanikul N, Noisumdaeng P, Komolsiri P, et al. Virol J. 2010 Apr 20;7(1):75. [Epub ahead of print]

[Why do I need it? I am not at risk! Public perceptions towards the pandemic \(H1N1\) 2009 vaccine](#)

Seale H, Heywood AE, McLaws ML, Ward KF, Lowbridge CP, Van D, Macintyre CR. BMC Infect Dis. 2010 Apr 19;10(1):99. [Epub ahead of print]

[Recent Progress on Computer-Aided Inhibitor Design of H5N1 Influenza A Virus\\*](#)

Guo X, Wang JF, Zhu Y, Wei DQ. Curr Comput Aided Drug Des. 2010 Apr 6. [Epub ahead of print]

[The novel swine-origin H1N1 influenza A virus riddle: is it a domestic bird H1N1-derived virus?](#)

Babakir-Mina M, Dimonte S, Ciccozzi M, Perno CF, Ciotti M. New Microbiol. 2010 Jan;33(1):77-81.

[A systematic review to inform institutional decisions about the use of extracorporeal membrane oxygenation during the pH1N1 influenza pandemic\\*](#)

Mitchell MD, Mikkelsen ME, Umscheid CA, Lee I, Fuchs BD, Halpern SD. Crit Care Med. 2010 Apr 15. [Epub ahead of print]

[\[Necrotizing community-acquired pneumonia secondary to influenza a \(H1N1\) super-infected by an invasive group A streptococcus.\]](#)

Casalegno JS, Escuret V, Celard M, Bouscambert M, Frobert E, Mekki Y, Lina G, Lina B. Med Mal Infect. 2010 Apr 16. [Epub ahead of print] French. No abstract available.

[Evaluation of QuickVue influenza A+B rapid test for detection of pandemic influenza A/H1N1 2009\\*](#)

Velasco JM, Montesa-Develos ML, Jarman RG, et al. J Clin Virol. 2010 Apr 14. [Epub ahead of print]

[Activated protein C ameliorates coagulopathy but does not influence outcome in lethal H1N1 influenza: a controlled laboratory study](#)

Schouten M, van der Sluijs KF, Gerlitz B, et al. Crit Care. 2010 Apr 14;14(2):R65. [Epub ahead of print]

[Canadian family physicians and paediatricians knowledge, attitudes and practices regarding A\(H1N1\) pandemic vaccine](#)

Dube E, Gilca V, Sauvageau C, et al. BMC Res Notes. 2010 Apr 14;3(1):102. [Epub ahead of print]

Letter: [Timely Administration of Antivirals for Pandemic \(H1N1\) 2009 Influenza\\*](#)

Vasoo S, Crank CW, Singh K. Clin Infect Dis. 2010 May 15;50(10):1428-9. No abstract available.

Editorial: [Of ferrets and humans: influenza pathogenesis\\*](#)

Whitley RJ. J Infect Dis. 2010 Apr 1;201(7):976-7. No abstract available.

Editorial: [Lessons from Queens](#)

Lynfield R. J Infect Dis. 2010 Apr 1;201(7):973-5. No abstract available.

[The emergence of oseltamivir-resistant pandemic influenza A\(H1N1\) 2009 virus amongst hospitalised immunocompromised patients in Scotland, November-December, 2009](#)

Harvala H, Gunson R, Simmonds P, et al. Euro Surveill. 2010 Apr 8;15(14). pii: 19536.

Letter: [Association of D222G substitution in haemagglutinin of 2009 pandemic influenza A \(H1N1\) with severe disease](#)

Mak GC, Au KW, Tai LS, et al. Euro Surveill. 2010 Apr 8;15(14). pii: 19534; [author reply pii/19535](#). No abstract available.

[Potent Immunity to Low Doses of Influenza Vaccine by Probabilistic Guided Micro-Targeted Skin Delivery in a Mouse Model](#)

Fernando GJP, Chen X, Prow TW, et al. PLoS ONE. 2010;5(4):e10266. doi:10.1371/journal.pone.0010266

[Influenza H1N1 A/Solomon Island/3/06 Virus Receptor Binding Specificity Correlates with Virus Pathogenicity, Antigenicity, and Immunogenicity in Ferrets](#)

Xu Q, Wang W, Cheng X, Zengel J, Jin H. J. Virol. 2010;84:4936-4945.

[Influenza Virus M2 Ion Channel Protein Is Necessary for Filamentous Virion Formation](#)

Rossman JS, Jing X, Leser GP, Balannik V, Pinto LH, Lamb RA. J. Virol. 2010;84:5078-5088.

[Novel Type II Transmembrane Serine Proteases, MSPL and Tmprss13, Proteolytically Activate Membrane Fusion Activity of the Hemagglutinin of Highly Pathogenic Avian Influenza Viruses and Induce Their Multicycle Replication](#)

Okumura Y, Takahashi E, Yano M. J. Virol. 2010;84:5089-5096.