

BRITISH COLUMBIA INFLUENZA SURVEILLANCE BULLETIN

2010-11: Number 22, Weeks 18-34

May 1 to August 27, 2011



BC Centre for Disease Control
An agency of the Provincial Health Services Authority

Prepared by BCCDC Influenza &
Emerging Respiratory Pathogens Team

Minimal influenza activity with sporadic detections in BC, Summer 2011

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Summary

During the summer 2011, influenza activity was minimal with sporadic detections as expected in BC. In weeks 18 through 34 (May 1 to August 27, 2011), all surveillance indicators were at low levels. No lab confirmed ILI outbreaks were reported. Influenza was detected only sporadically at the BC Public Health Microbiology & Reference Laboratory, PHSA. Of 783 respiratory specimens tested, six (0.8%) were influenza positive (most recently one pH1N1 and one A/H3N2 in August), and 198 (25.3%) were positive for rhino/enterovirus. No unusual patterns of influenza activity have been reported from the southern hemisphere through the 2011 season to date. Avian influenza H5N1 recently drew public attention related to identification and spread of clade 2.3.2.1 among poultry in Asia, reinforcing the need for ongoing monitoring. Two recent pediatric detections of reassortant swine-origin H3N2 virus in the United States were also reported in August, 2011. See full report for details.

Report disseminated September 2, 2011

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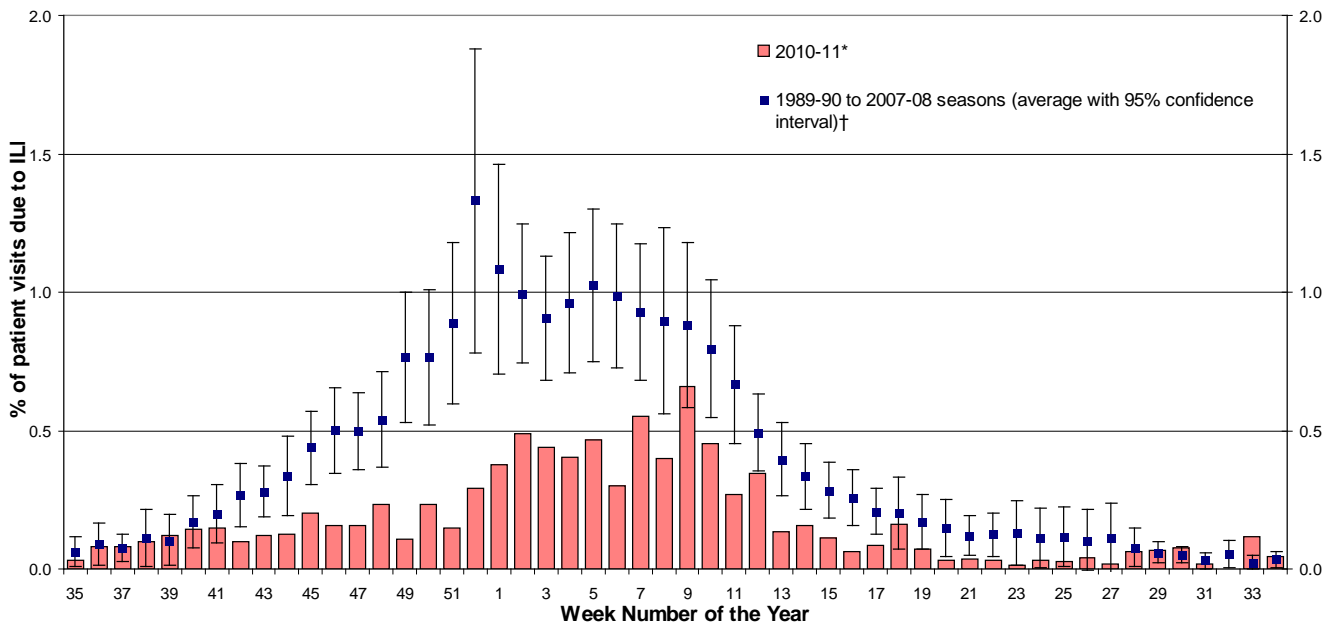
May 1 to August 27, 2011

British Columbia

Sentinel Physicians

During weeks 18-34, the proportion of patients with ILI among those presenting to sentinel physicians was generally low, ranging from 0% to 0.16%. The proportion of sentinel physician sites reporting to-date for weeks 18-34 ranged from 84% (week 24) to 35% (week 34). The minimal apparent rise in week 33 may be due to instability and an artefact of reduced reporting rates during this normally quiet period.

Percentage of Patient Visits due to Influenza Like Illness (ILI) per Week Compared to Average Percentage of ILI Visits for the Past 19 Seasons Sentinel Physicians, British Columbia, 2010-2011



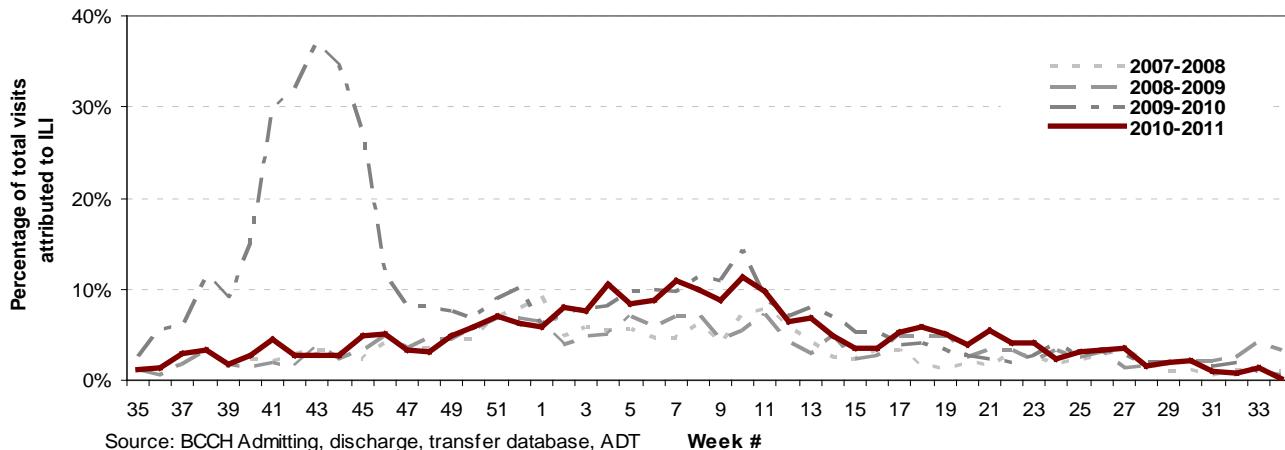
*Data subject to change as reporting becomes increasingly complete

†Historical values exclude 2008-09/2009-10 seasons due to atypical seasonality.

BC Children's Hospital Emergency Room

The percentage of BC Children's Hospital Emergency Room visits attributed to "fever and cough" or flu-like illness during weeks 18-34 gradually declined from 5.9% to 0.1%, consistent with trends observed in previous seasons.

Percentage of Patients Presenting to BC Children's Hospital ER with Presenting Complaint of "Flu," "Influenza," or "Fever/Cough", by Week



Source: BCCH Admitting, discharge, transfer database, ADT

Data provided by Decision Support Services at Children's & Women's Health Centre of BC

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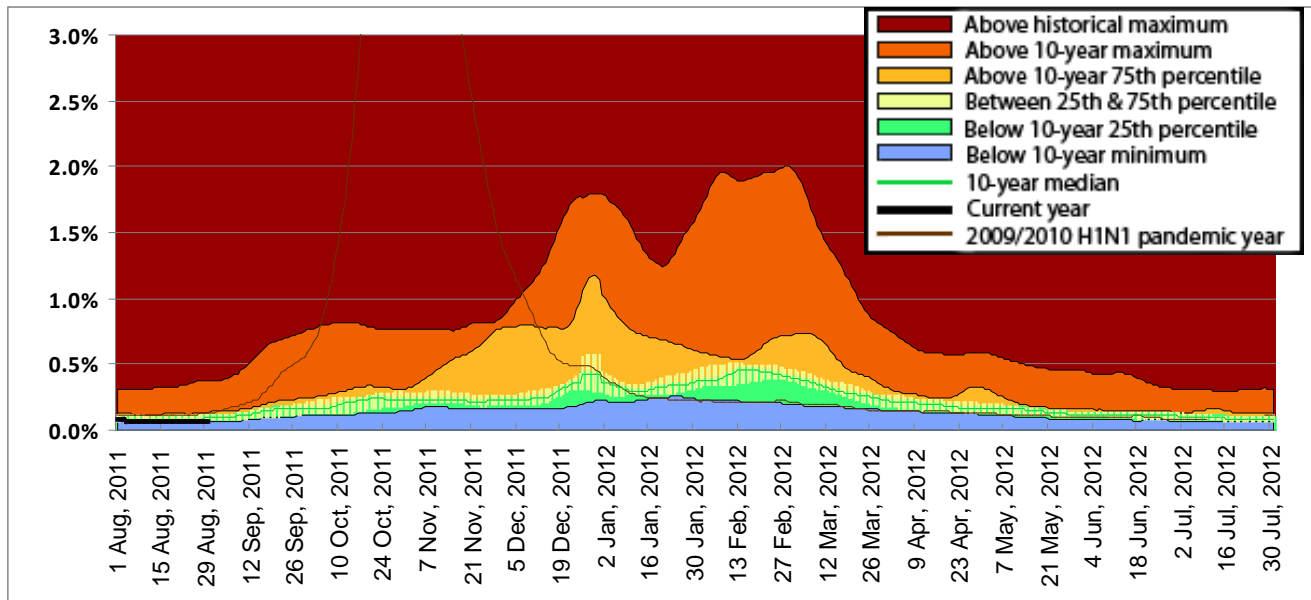
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Medical Services Plan

Influenza illness as a proportion of all submitted BC Medical Services Plan (MSP) claims was generally stable at low levels and below the 10 year median during weeks 18-34. To better reveal current low-level trends, the ~9% peak in MSP claims of late October/early November 2009 is not shown in the graphs below (consult earlier bulletins).

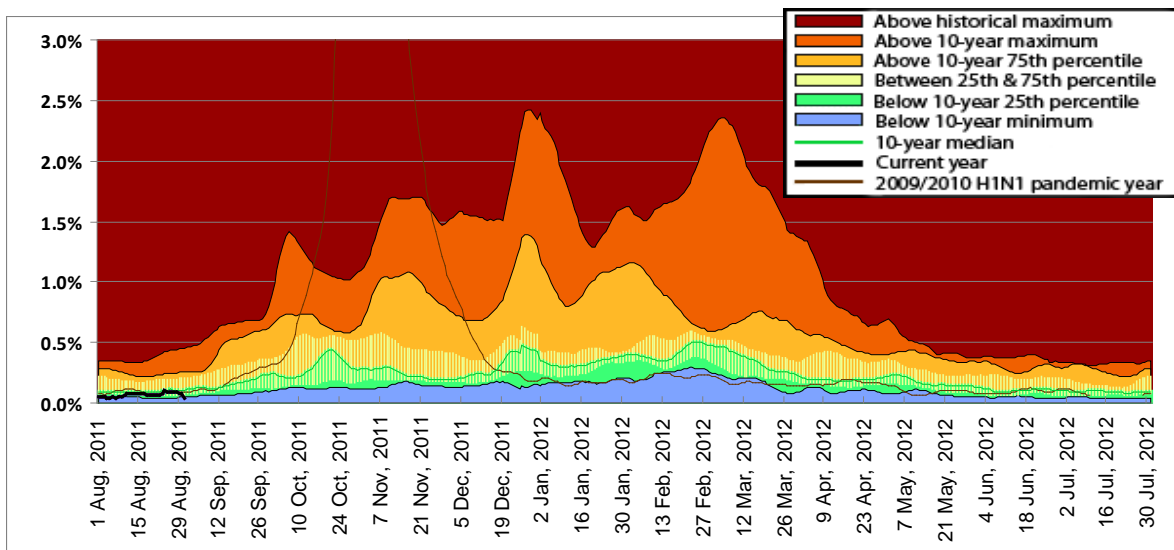
Influenza Illness Claims* British Columbia



* Influenza illness is tracked as the percentage of all submitted MSP general practitioner claims with ICD-9 code 487 (influenza). Data provided by Population Health Surveillance and Epidemiology, BC Ministry of Health Services

Notes: MSP week beginning 15 August, 2011 corresponds to sentinel ILI week 33
Data current to August 30, 2011

Northern

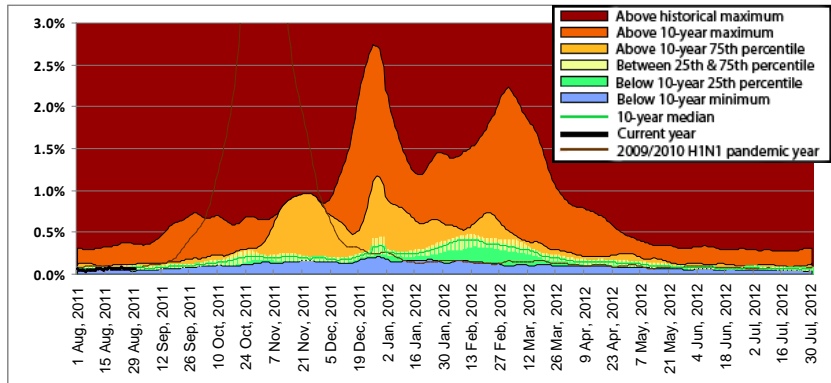


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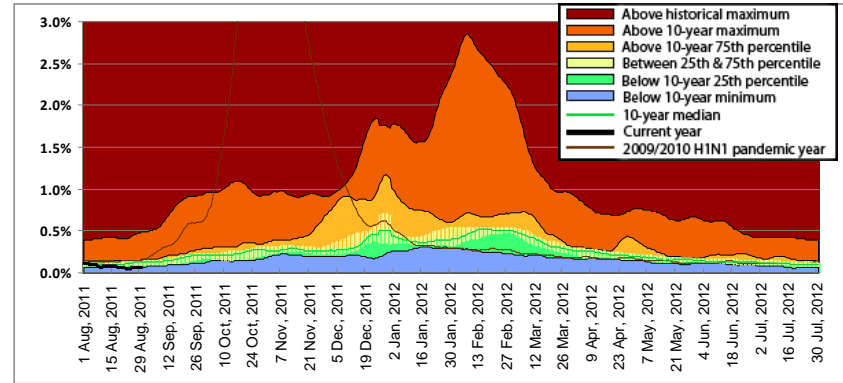
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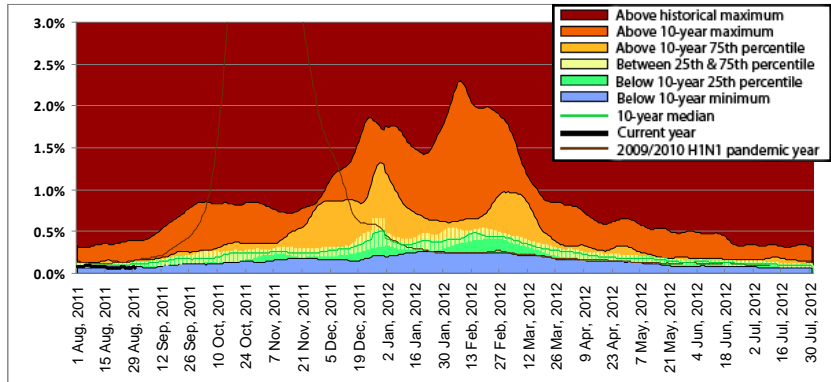
Interior



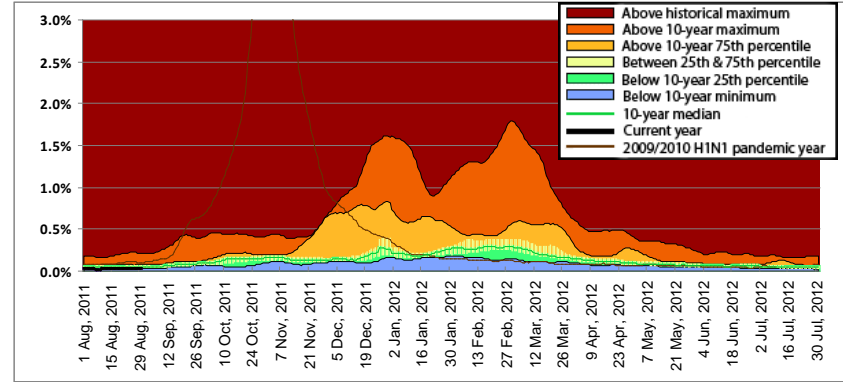
Vancouver Coastal



Fraser



Vancouver Island



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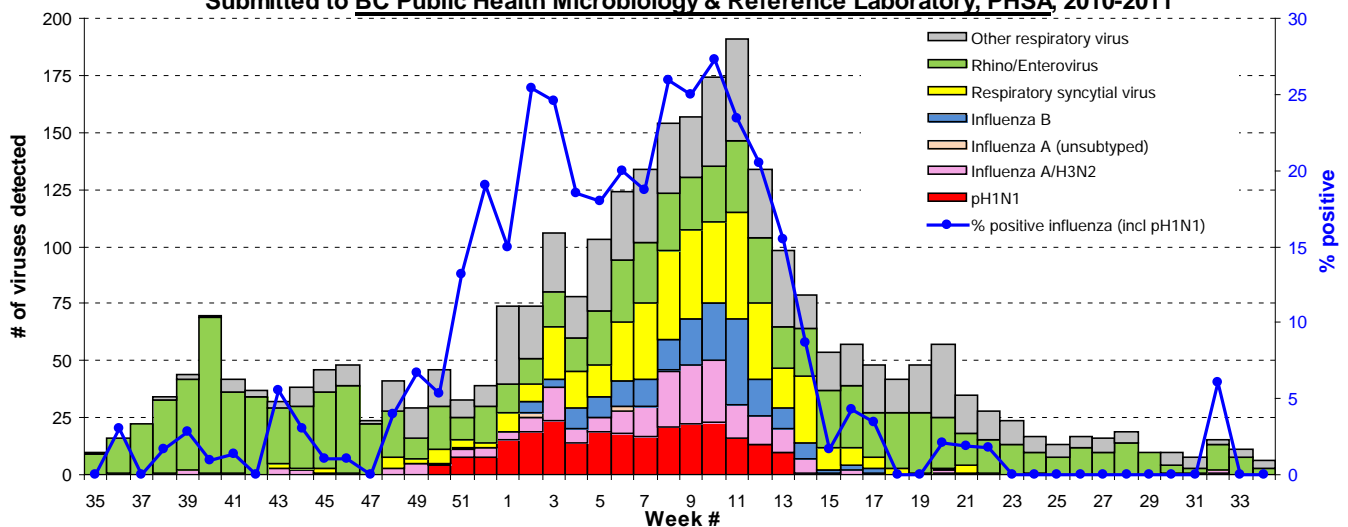
May 1 to August 27, 2011

Laboratory Reports

Seven hundred and eighty-three respiratory specimens were tested at the BC Public Health Microbiology & Reference Laboratory, PHSA, during weeks 18-34. Influenza was sporadically detected in 6 (0.8%) submitted specimens: two were seasonal A/H3N2 from Vancouver Coastal and Vancouver Island HAs; two were pH1N1 from Northern and Vancouver Island Health Authorities; and two were influenza B from Vancouver Coastal and Vancouver Island HAs. Of these, one seasonal A/H3N2 and one pH1N1 were detected in August and the rest were detected earlier in this reporting period.

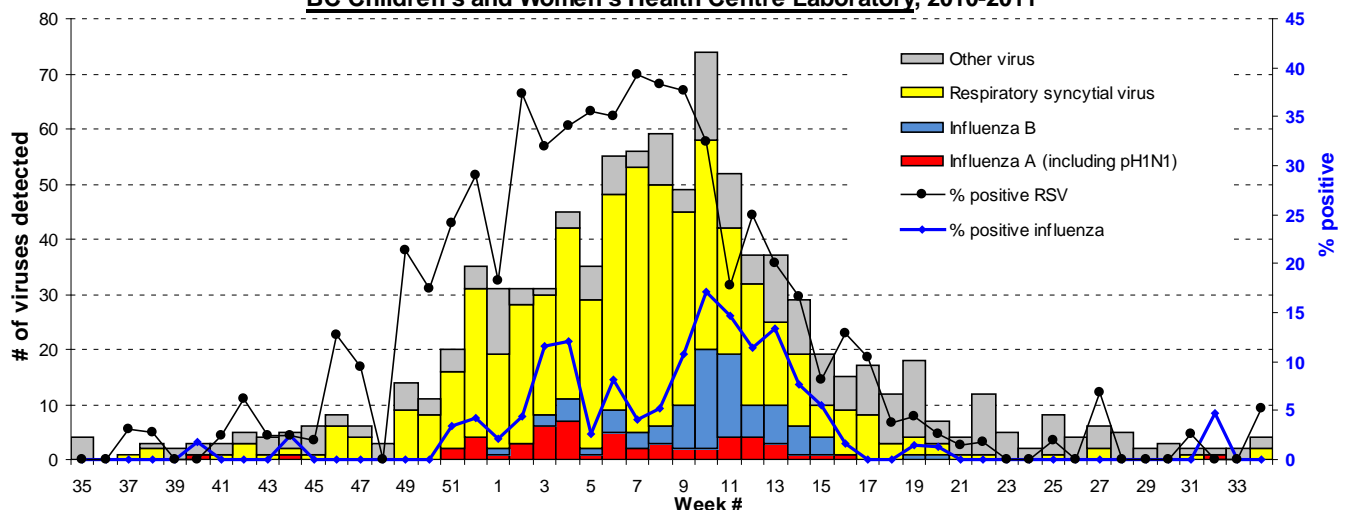
During weeks 18-34, of 783 specimens tested for other respiratory viruses, 198 (25.3%) were positive for rhino/enterovirus, 54 (6.9%) for parainfluenza viruses, 32 (4.1%) for human metapneumovirus, 31 (3.9%) for coronavirus, 24 (3.1%) for human bocavirus. Other respiratory viruses were also sporadically detected.

Influenza and Other Virus Detections Among Respiratory Specimens Submitted to BC Public Health Microbiology & Reference Laboratory, PHSA, 2010-2011



During weeks 18-34, BC Children's and Women's Health Centre Laboratory tested 750 respiratory specimens. One was positive for influenza A (in August) and 2 were positive for influenza B (earlier in the reporting period). Ninety-five (10.5%) were positive for other respiratory viruses, including 48 (6.4%) parainfluenza viruses, 31 (4.1%) adenovirus, and 16 (2.1%) RSV.

Influenza and Other Virus Detections Among Respiratory Specimens Submitted to BC Children's and Women's Health Centre Laboratory, 2010-2011



Data provided by Virology Department at Children's & Women's Health Centre of BC

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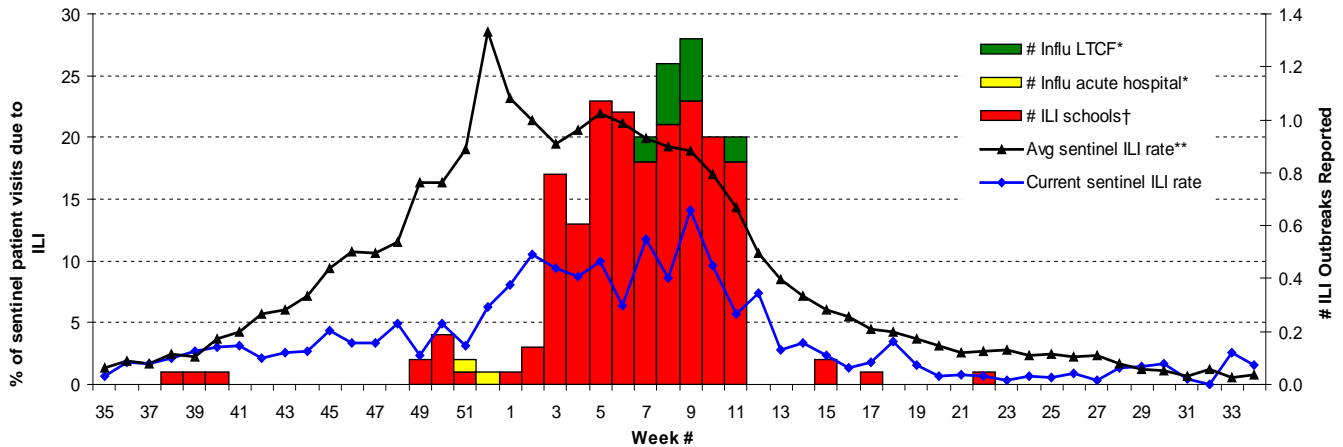
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ILI Outbreaks

During weeks 18-34, three long-term care facility (LTCF) outbreaks were reported in Fraser and Northern HAs. Laboratory testing showed that the outbreaks were caused by rhinoviruses or parainfluenza viruses.

Number of Influenza and Influenza-Like Illness (ILI) Outbreaks Reported, Compared to Current Sentinel ILI Rate and Average Sentinel ILI Rate for past 19 years, per Week, British Columbia, 2010-2011 season



* Facility influenza outbreak defined as 2 or more ILI cases within 7-day period, with at least one case laboratory-confirmed as influenza.

† School ILI outbreak defined as >10% absenteeism on any day, most likely due to ILI.

** Historical values exclude 2008-09/2009-10 seasons due to atypical seasonality.

CANADA

FluWatch

From week 18 to week 32 (ending August 13, 2011), all indicators of influenza activity had been declining to baseline level by week 24, and maintained at these low inter-seasonal levels with very few laboratory detections since. Detection of other respiratory viruses continues, including rhinoviruses, parainfluenza, and adenovirus. (www.phac-aspc.gc.ca/fluwatch/)

National Microbiology Laboratory (NML): Strain Characterization

Between September 1, 2010 and July 13, 2011, one thousand and twenty-one influenza isolates were collected from provincial and hospital labs and characterized at the NML as follows:

284 A/Perth/16/2009 (H3N2)-like[¶] from NFLD, NS, NB, QC, ON, MB, SK, ALTA, BC, NT & NU;

151 A/California/07/2009 (H1N1)-like* from NS, NB, QC, ON, SASK, ALTA & BC;

557 B/Brisbane/60/2008 (Victoria lineage)-like[†] from NFLD, NS, NB, QC, ON, MB, SK, ALTA, BC, NT & NU;

29 B/Wisconsin/01/2010-like (Yamagata lineage)-like[‡] from NFLD, NS, NB, QC, ON & BC

[¶] indicates a strain match to the recommended H3N2 component of the 2010-11 northern hemisphere trivalent influenza vaccine

* indicates a strain match to the recommended H1N1 component of the 2010-11 northern hemisphere trivalent influenza vaccine

[†] indicates a strain match to the recommended influenza B component of the 2010-2011 northern hemisphere trivalent influenza vaccine

[‡] indicates a strain match to the recommended influenza B component of the 2008-2009 northern hemisphere trivalent influenza vaccine

NML: Antiviral Resistance

Drug susceptibility testing at the NML between September 1, 2010 and July 13, 2011 indicated that all but one A/H3N2 and all pH1N1 isolates were resistant to amantadine. All the isolates of A/H3N2, pH1N1, and all but one B tested for zanamivir sensitivity showed susceptibility. Oseltamivir resistance testing found that all but one pH1N1, all but one A/H3N2, and all but one B isolates were susceptible.

WHO Recommendations for 2011-12 Northern Hemisphere Influenza Vaccine

The WHO-recommended strain components for the 2011-12 northern hemisphere trivalent influenza vaccine (TIV) will be the same as for 2010-11, namely: A/California/7/2009 (H1N1)-like virus; A/Perth/16/2009 (H3N2)-like virus; and B/Brisbane/60/2008 (Victoria lineage)-like virus.

For further details, see: http://www.who.int/csr/disease/influenza/recommendations_2011_12north/en/index.html

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INTERNATIONAL

Northern Hemisphere: During weeks 18-33 ending August 20, 2011, influenza activity remained at or below baseline level in the United States www.cdc.gov/flu/weekly/. Very few specimens (less than 2.1%) tested positive for influenza. The proportion of outpatient visits for ILI was less than 1.2%, which was below the national baseline of 2.5%. The CDC further reported that the proportion of deaths attributed to pneumonia and influenza from week 18 to week 33 had been below or at the epidemic threshold.

Other Areas: The last seasonal influenza update posted by the WHO was August 26, 2011. No unusual patterns of seasonal influenza activity have been described. In the northern hemisphere temperate regions, influenza activity remains low or undetectable. Countries in the tropical zone mostly reported low influenza activity but with some transmission reported in countries of the Americas, western Africa, and southern Asia. In South America, the reported influenza season has been mild, with variation in the predominant type and subtype by country. In Australia, ILI consultations and laboratory-confirmed cases show recent increase with a mix of influenza A/H1N1 and influenza B, which are unevenly distributed across the country. To week 34, ILI activity in New Zealand has been near or slightly above baseline levels, but generally below those observed during this period last year. The majority of viruses detected in New Zealand have been influenza B and A/H3N2. Detailed information is available at: http://www.who.int/influenza/surveillance_monitoring/updates/latest_update_GIP_surveillance/en/index.html

AVIAN INFLUENZA

In the news: On August 29, 2011, the United Nations Food and Agriculture Organization (FAO) underscored the importance of ongoing surveillance and preparedness with the recent expansion of an avian influenza H5N1 variant called clade 2.3.2.1 in Vietnam and China against which existing poultry vaccines would be less effective.

On August 30, 2011 (http://www.who.int/influenza/human_animal_interface/avian_influenza/h5n1-2011_08_30/en/index.html), the WHO indicated that monitoring for the expected evolution of influenza viruses, including H5N1, is ongoing. The WHO Global Influenza Surveillance and Response System recognized the new H5N1 clade 2.3.2.1 in February 2011. Based on available information, its identification does not change the current public health implications of the H5N1 virus as a zoonotic threat to humans. Human cases could occur wherever these viruses are present in poultry and when humans might be exposed to infected birds or contaminated environments. Human cases of H5N1 infection remain rare and sporadic but important events, occurring mostly in areas of Asia where H5N1 viruses circulate regularly in poultry and for which surveillance thus remains important.

Epidemiologic update: Since January 2011, 49 human cases of H5N1 have been reported to the WHO: Bangladesh (2), Cambodia (8), Egypt (32), and Indonesia (7). Of these, 25 (51.0%) have died. In total, 8 cases of H5N1 infection were reported from Cambodia in 2011, including the most recent fatal case of August 7, 2011, a young girl reported to have had contact with sick poultry. All cases reported from Cambodia in 2011 were in people under 19 years of age and all were fatal. On July 12, 2011, Egypt also reported a confirmed case who recovered after hospitalization.

Both Egypt and Indonesia have officially declared the H5N1 virus endemic in poultry, and information from the FAO suggests the H5N1 virus is also circulating endemically in poultry in China, India, Viet Nam, and Bangladesh. No other countries reported Highly Pathogenic Avian influenza H5N1 in poultry or wild birds since the last summary.

Current epidemiologic information indicates only limited human-to-human transmission since H5N1 virus emerged in 2003, with no community-level spread detected. Details can be found in the latest WHO reports (http://www.who.int/csr/disease/avian_influenza/en/index.html).

SWINE INFLUENZA

In a September 2nd, 2011 early release [60(Early Release);1-4] posted to Morbidity and Mortality Weekly Report (MMWR), two pediatric infections due to swine-origin influenza A/H3N2 virus are described. Both viruses, which are similar but not identical, have been uniquely characterized as a novel reassortment between swine-origin H3N2 virus with one gene segment (matrix gene) acquired from the 2009 pH1N1 virus. No epidemiologic link between these children has been identified. Direct exposure to swine was identified for one child and for the other limited transmission through a caretaker exposed to swine is suggested. Vigilance for possible swine-origin influenza in those exposed to swine is underscored in this report. Further details available at: <http://www.cdc.gov/mmwr/preview/mmwrhtml/mm60e0902a1.htm>

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Contact Us:

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List of Acronyms

ACF: Acute Care Facility

AI: Avian Influenza

FAO: Food and Agriculture Organization

FHA: Fraser Health Authority

HBoV: Human bocavirus

HMPV: Human metapneumovirus

HSDA: Health Service Delivery Area

IHA: Interior Health Authority

ILI: Influenza-Like Illness

LTCF: Long Term Care Facility

MSP: BC Medical Services Plan

NHA: Northern Health Authority

NML: National Microbiological Laboratory

pH1N1: Pandemic H1N1 influenza

RSV: Respiratory syncytial virus

VCHA: Vancouver Coastal Health Authority

VIHA: Vancouver Island Health Authority

WHO: World Health Organization

Web Sites

1. Influenza Web Sites

Canada – Flu Watch: www.phac-aspc.gc.ca/fluwatch/

Washington State Flu Updates: www.doh.wa.gov/FLUNews/

USA Weekly Surveillance reports: www.cdc.gov/flu/weekly/

European Influenza Surveillance Scheme: www.eiss.org

WHO – Global Influenza Programme: www.who.int/csr/disease/influenza/mission/

WHO – Weekly Epidemiological Record: www.who.int/wer/en/

Influenza Centre (Australia): www.influenzacentre.org/

Australian Influenza Report: <http://www.health.gov.au/internet/main/publishing.nsf/Content/cda-surveil-ozflu-flucurr.htm>

New Zealand Influenza Surveillance Reports: www.surv.esr.cri.nz/virology/influenza_weekly_update.php

2. Avian Influenza Web Sites

World Health Organization – Avian Influenza: www.who.int/csr/disease/avian_influenza/en/

World Organization for Animal Health: www.oie.int/eng/en_index.htm

3. This Report On-line: www.bccdc.ca/dis-cond/DiseaseStatsReports/influSurveillanceReports.htm

