

BRITISH COLUMBIA INFLUENZA SURVEILLANCE BULLETIN

2010-11: Number 18, Week 11

March 13 to 19, 2011



BC Centre for Disease Control

An agency of the Provincial Health Services Authority

Prepared by BCCDC Influenza &
Emerging Respiratory Pathogens Team

Declining Influenza Activity in BC

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Summary

During week 11 (March 13 - 19, 2011), influenza surveillance indicators in BC were higher than usual for this time of year but showed a general pattern of decline from previous weeks. The sentinel physician ILI rate significantly decreased over the previous week and was also below the expected level for this time of year. MSP influenza visits also showed indication of decline from previous weeks but were still higher than usually observed at this time of year. Five outbreaks of influenza B (including one where pandemic influenza A/H1N1 was also detected) were reported from schools in Northern HA. Two influenza-positive outbreaks were reported from long-term care facilities (LTCF) during week 11, one from Vancouver Island (influenza A, subtype pending) and one from Interior (influenza B). Pandemic influenza A/H1N1, A/H3N2, and B were detected sporadically throughout the province. Influenza A/H3N2 detections were predominantly from Vancouver Island, while Fraser was the main source of community influenza B detections. At the BC Public Health Microbiology & Reference Laboratory, 285 respiratory specimens were tested for influenza. Influenza was detected in 67 (24%) specimens: pandemic influenza A/H1N1 in 12 (4%), A/H3N2 in 15 (5%), untyped influenza A in 4 (1%), and influenza B in 36 (13%) specimens. Of 285 specimens tested for other respiratory viruses, 47 (17%) RSV, 23 (8%) coronavirus, and 21 (7%) rhino/enterovirus were detected.

Report disseminated March 24, 2011

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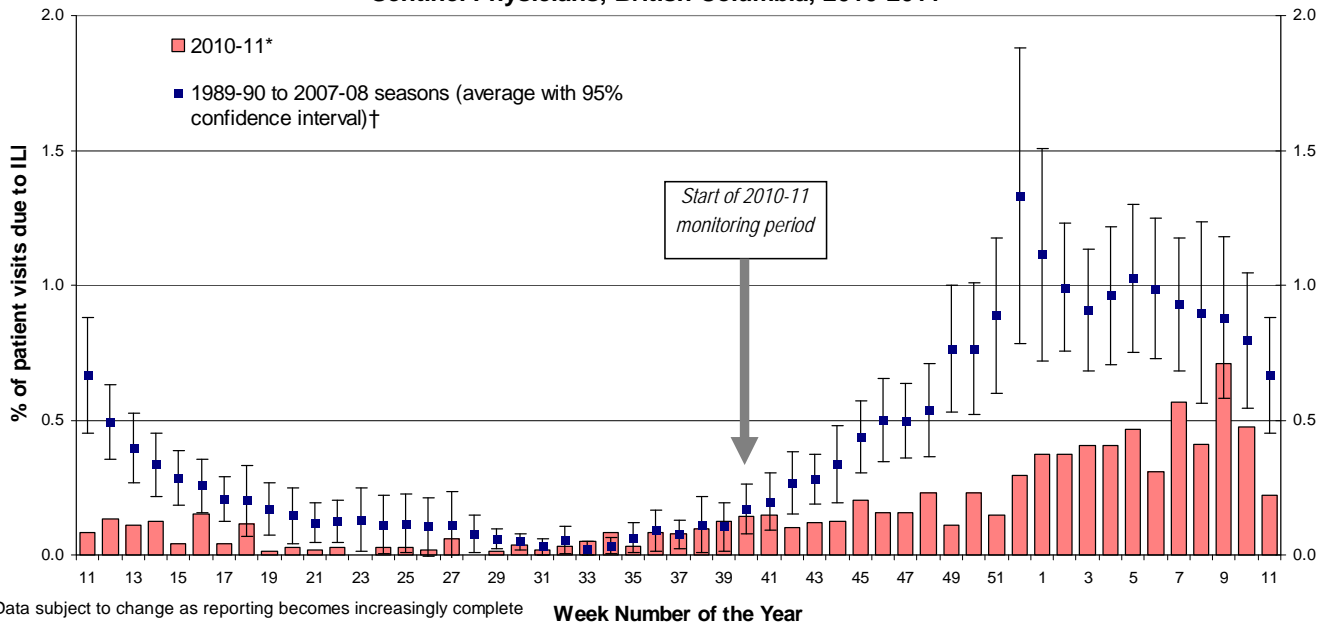
March 13 to 19, 2011

British Columbia

Sentinel Physicians

During week 11, only 0.2% of patients presenting to sentinel physicians had ILI, which is significantly lower than both that of the previous week and the expected range for this time of year. Sixty five percent (30/46) of sentinel physician sites have reported to-date for week 11.

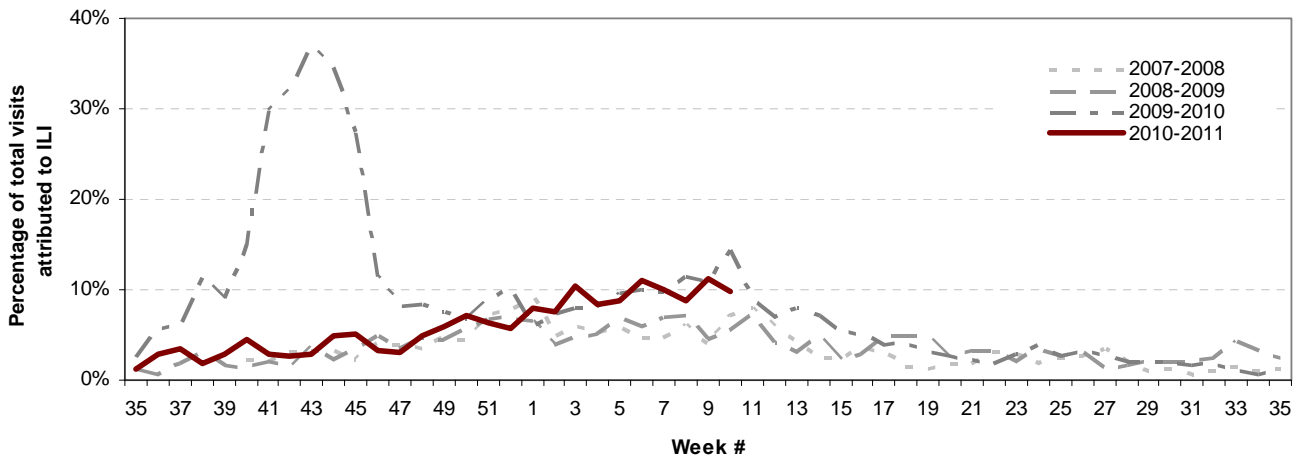
Percentage of Patient Visits due to Influenza Like Illness (ILI) per Week Compared to Average Percentage of ILI Visits for the Past 19 Seasons Sentinel Physicians, British Columbia, 2010-2011



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 week 11 was 9.7%, lower than that reported last week (11.3%).

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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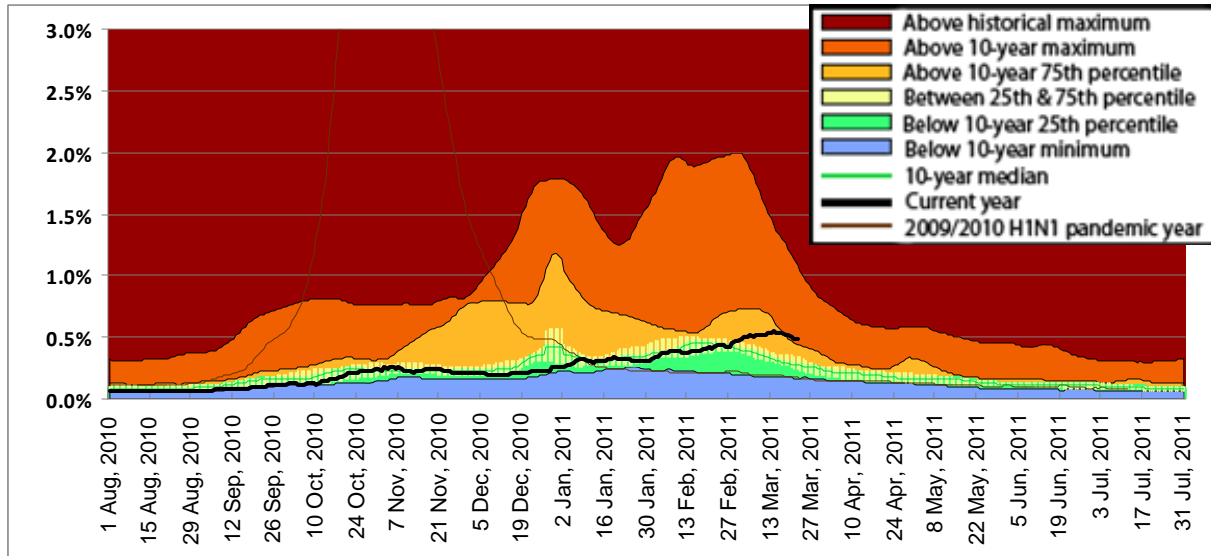
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Medical Services Plan

Influenza illness as a proportion of all submitted BC Medical Services Plan (MSP) claims in week 11 were slightly lower than previous weeks provincially and within most of the health authorities, but were higher than is usually observed at this time of year. The influenza illness level was above the 10-year maximum for this time of year provincially and within VCHA and FHA. 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).

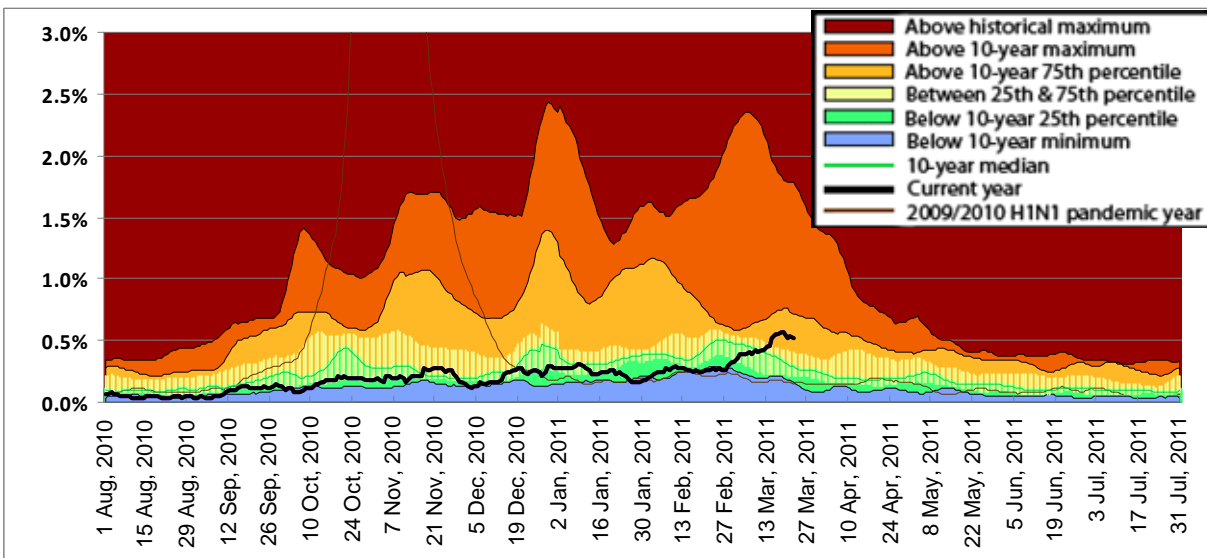
Influenza Illness Claims* British Columbia



* 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, Ministry of Health Services

Notes: MSP week beginning 13 Mar 2010 corresponds to sentinel ILI week 11
Data current to Mar 24, 2011

Northern

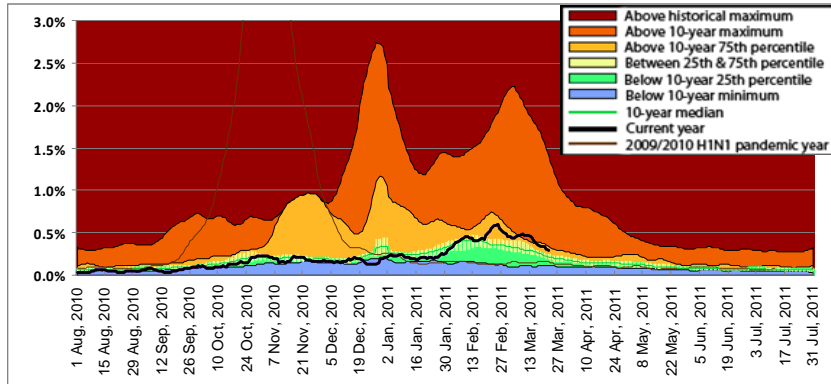


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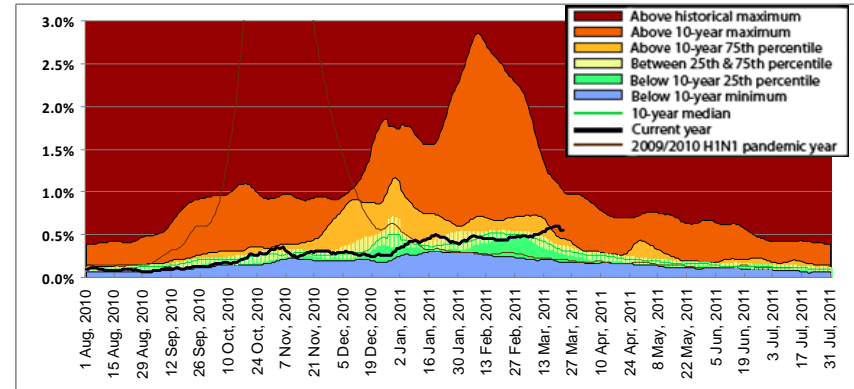
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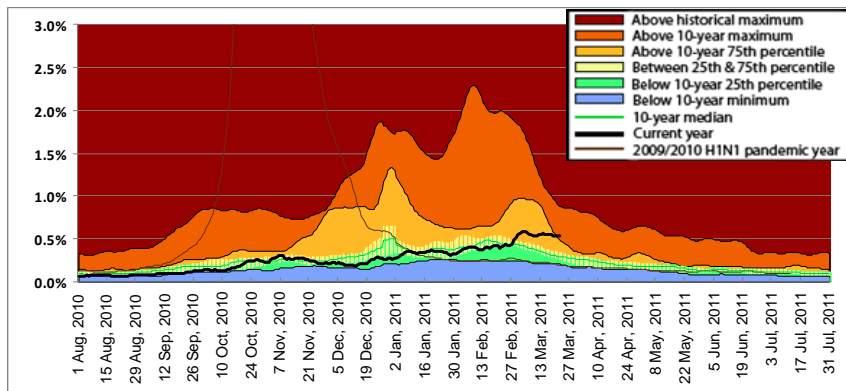
Interior



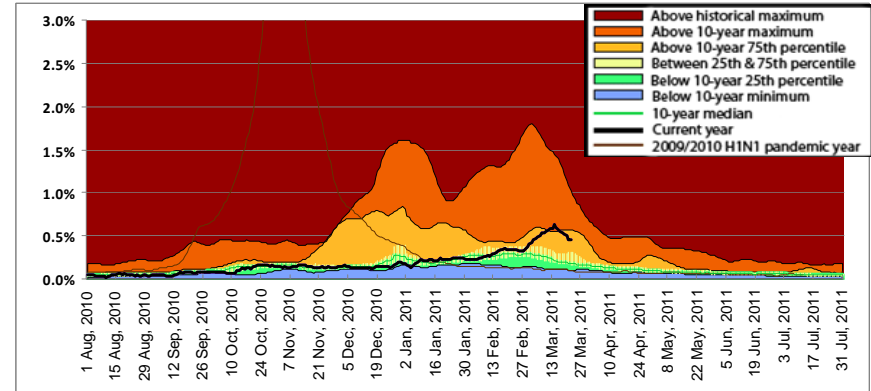
Vancouver Coastal



Fraser



Vancouver Island



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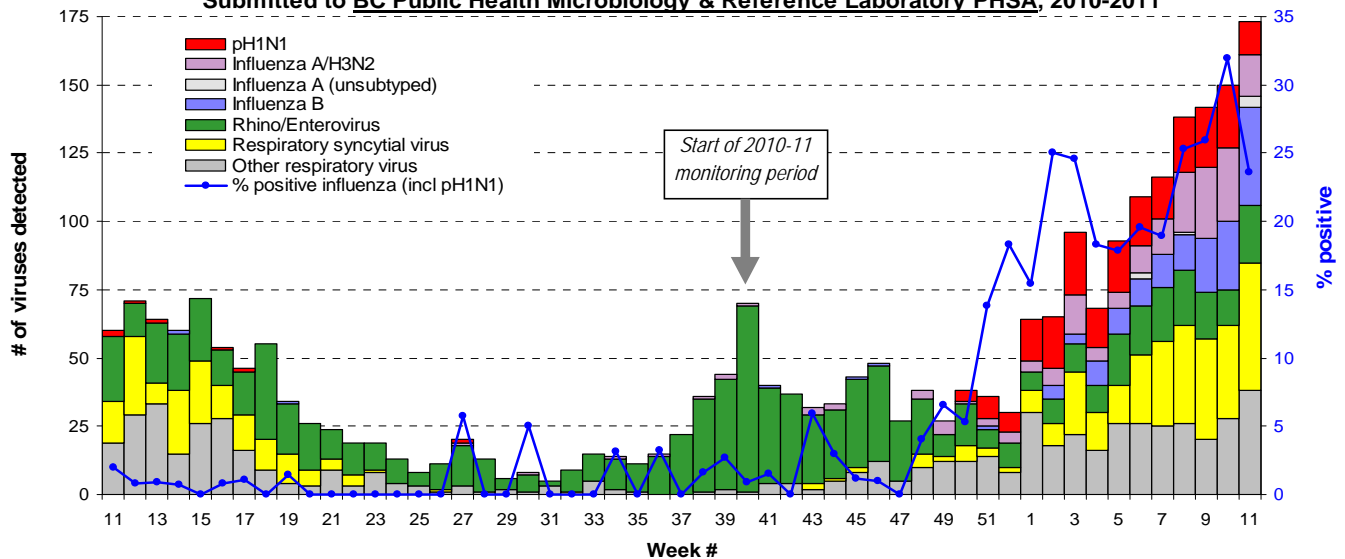
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Laboratory Reports

Two hundred and eighty five respiratory specimens were tested at the BC Public Health Microbiology & Reference Laboratory in week 11. Influenza was detected in 67 (23.5%) of submitted specimens: Twelve (4.2% of submitted specimens) were pandemic A/H1N1, 15 (5.3%) were A/H3N2, 36 (12.6%) were type B, and 4 (1.4%) were untyped influenza A. Influenza B (14 specimens) were detected as part of four school outbreak investigations submitted from Northern HA, including one outbreak in which pandemic A/H1N1 was detected in one specimen. In addition there were sporadic detections of influenza B from all HAs but predominantly from Interior and Fraser, A/H3N2 from all HAs except Interior and notably from Vancouver Island, and pandemic A/H1N1 from all HAs except Interior and Northern. During this week, of 285 specimens tested for other respiratory viruses, 47 (16.5%) were positive for RSV, 23 (8.1%) for coronavirus, and 21 (7.4%) for rhino/enterovirus. Other respiratory viruses were also sporadically detected.

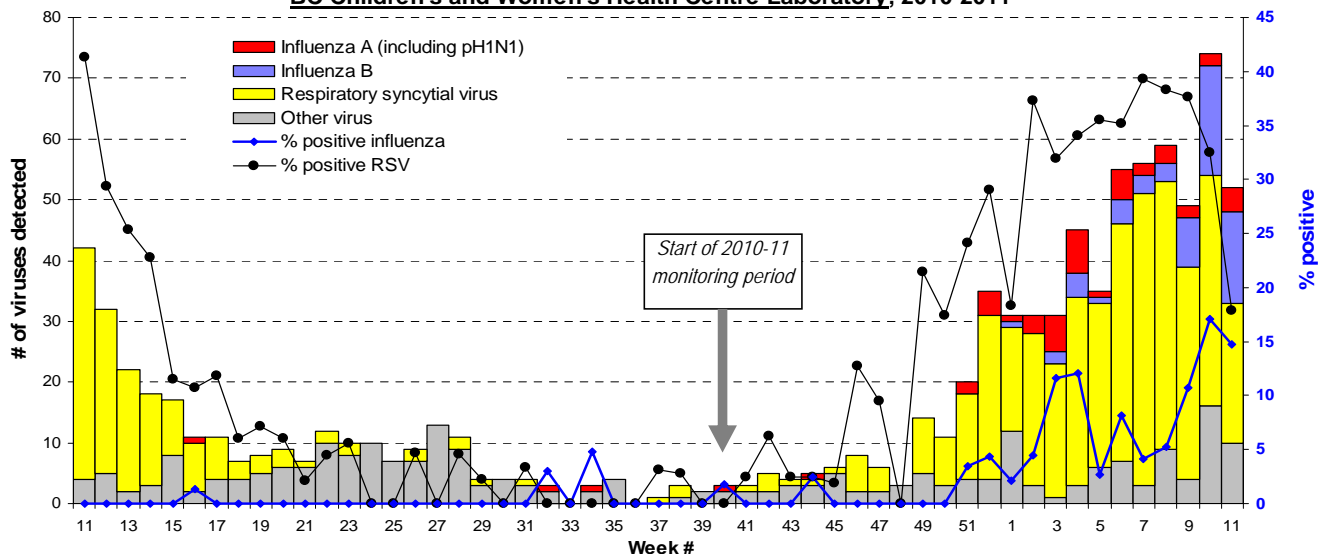
Influenza and Other Virus Detections Among Respiratory Specimens Submitted to BC Public Health Microbiology & Reference Laboratory PHSA, 2010-2011



Before week 14 testing for other viruses was performed on a subset of specimens.

During week 11, BC Children's and Women's Health Centre Laboratory tested 129 respiratory specimens. Four (3.1%) were positive for influenza A and 15 (11.6%) were positive for type B. Twenty-three specimens (17.8%) were positive for 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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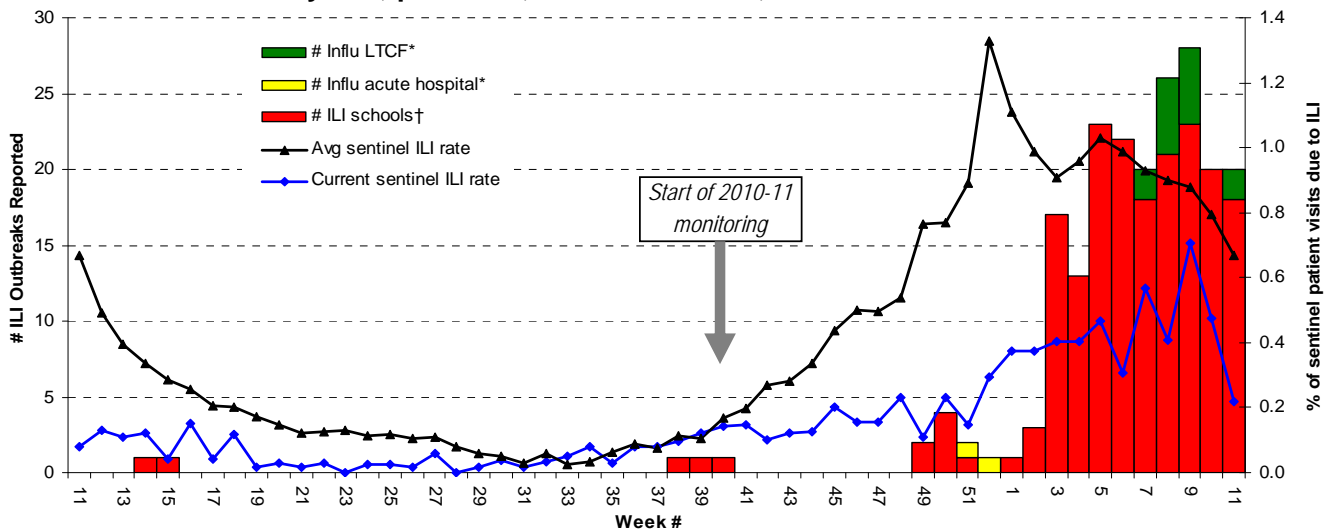
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ILI Outbreaks

During week 11, 14 new school ILI outbreaks were reported from schools in Interior (1), Fraser (2), Vancouver Coastal (2), and Northern (9) HAs. Influenza B was identified in five of these 14 school outbreaks; pandemic A/H1N1 was also detected in one of the influenza B outbreaks reported from NHA. The remaining school outbreaks were not tested for respiratory viruses. Three new ILI outbreaks were reported from long-term care facilities (LTCF): two in VIHA (one unsubtype influenza A, and one in which lab results are pending), and one in IHA (influenza B).

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.

CANADA

FluWatch

The influenza activity level during week 10 ending March 12, 2011 is on the decline in many parts of the country. All influenza indicators including the number of outbreaks, the proportion of positive influenza detections, adult and paediatric hospitalizations, and the ILI consultation rate have declined in week 10. The influenza-like illness (ILI) consultation rate per 1,000 patient visit in week 10 was lower than the previous week (25.3 vs. 37.7), and slightly below the expected rate for this time of year. Eight hundred and thirty-three (14.9%) specimens in week 10 tested positive for influenza, a slight decrease from the previous week (15.9%): 282 (33.9%) as A/H3N2, 66 (7.9%) as pandemic H1N1, 284 (34.0%) as unsubtype influenza A, and 201 (24.1%) influenza B. Twenty-one outbreaks were reported during this week. In addition, 21 new paediatric hospitalizations and 11 new adult hospitalizations related to influenza were reported through IMPACT and CNISP networks in week 10 (a decrease for both paediatric hospitalizations and adult hospitalizations over previous weeks). The influenza activity in week 10 was mainly concentrated in Quebec, Saskatoon, and eastern Ontario. www.phac-aspc.gc.ca/fluwatch/

National Microbiology Laboratory (NML): Strain Characterization

Between September 1, 2010 and March 17, 2011, three hundred and eighty-eight influenza isolates were collected from provincial and hospital labs and characterized at the NML as follows:

189 A/Perth/16/2009 (H3N2)-like[¶] from QC, ON, MB, SK, AB & BC;

86 A/California/07/2009 (H1N1)-like* from NB, QC, ON, AB & BC;

113 B/Brisbane/60/2008 (Victoria lineage)-like[†] from NB, QC, ON, SK, AB & BC;

8 B/Wisconsin/01/2010-like (Yamagata lineage)-like[‡] from 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

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NML: Antiviral Resistance

Drug susceptibility testing at the NML between September 1, 2010 and March 17, 2011 indicated that all but one A/H3N2 and all pandemic H1N1 isolates were resistant to amantadine. All the isolates (165 A/H3N2, 77 pandemic H1N1, 112 type B) tested for zanamivir showed susceptibility. Oseltamivir resistance testing found that all but one pandemic H1N1, all A/H3N2 and all type B isolates were susceptible.

For your information, an updated influenza antiviral guidance document entitled "The Use of Antiviral Drugs for Influenza: Guidance for Practitioners, 2010-11" has been posted on the Association of Medical Microbiology and Infectious Disease, Canada (AMMI Canada) website available at the following link: www.ammi.ca/index.php. This document is also available on the Public Health Agency of Canada FightFlu.ca website at: www.fightflu.ca/health_professionals-eng.html

INTERNATIONAL

Northern Hemisphere: During week 10 ending March 12, 2011, influenza activity decreased in the United States www.cdc.gov/flu/weekly/. One thousand three hundred and forty six (21.1% out of the 6,384 specimens) tested positive for influenza in week 10: 288 (29.4%) pandemic H1N1, 386 (39.3%) A/H3, 307 (31.3%) unsubtype influenza A, and 365 (27.1%) type B. The proportion of outpatient visits for ILI was 3.0%, which was above the national baseline of 2.5%. The CDC further reported that the proportion of deaths attributed to pneumonia and influenza in week 10 (8.6%) was above the epidemic threshold (8.0%) for the seventh consecutive week in USA.

Europe and Other Areas: Updated reports are pending. According to WHO (http://www.who.int/csr/disease/influenza/latest_update_GIP_surveillance/en/index.html) as of 11 March 2011, influenza activity is decreasing in the majority of European countries, notably in the west. In Western Europe the number of influenza infections with severe outcome has also declined but remained high in Greece. The overall percentage of sentinel specimens testing positive for influenza in the whole of Europe (36% of 525 specimens collected) is also declining. Influenza B is the dominant subtype (51%). Of influenza A viruses subtyped, 95% were pandemic H1N1 and 5% were H3N2. Severe and fatal

cases of influenza vary by country, in particular, between the countries of the European Economic Area (EEA) and the rest of the Europe Region. Data from 11 countries of the EEA indicate that pandemic H1N1 is much more commonly detected in severe cases than in outpatients.

In North Africa and the Middle East, influenza activity and positive influenza cases remains low. Pandemic H1N1 and B are co-circulating in most of the region. In Northern Asia, influenza activity is continuously decreasing or stable at low level with the majority of cases involving pandemic H1N1. Northern China, the Republic of Korea, and Japan reported declining ILI activity. Mongolia reported an increased ILI activity during early February. In most countries of northern Asia, pandemic H1N1 has become predominant over A/H3N2 in recent weeks.

Avian Influenza: Two confirmed cases of influenza A/H5N1 were recently reported by WHO. A 38 year old Egyptian female who was believed to have had contact with sick poultry was hospitalized and died on 11 March. A 16 month old female from Bangladesh presented with symptoms on March 8 and subsequently recovered. As of March 16, the cumulative number of confirmed human cases of avian influenza A/H5N1 in 2011 is 24, with 10 (56%) deaths. Details can be found in the latest WHO reports at: http://www.who.int/csr/disease/avian_influenza/en/index.html

WHO Recommendations for 2011-12 Northern Hemisphere Influenza Vaccine

On February 17, 2011 the WHO announced the recommended strain components for the 2011-12 northern hemisphere trivalent influenza vaccine (TIV):

- A/California/7/2009 (H1N1)-like virus
- A/Perth/16/2009 (H3N2)-like virus
- B/Brisbane/60/2008 (Victoria lineage)-like virus

All three recommended components are the same as for northern hemisphere seasonal TIV vaccines produced and administered in 2010-11. For further details, see:

http://www.who.int/csr/disease/influenza/recommendations_2011_12north/en/index.html

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Contact Us:

Epidemiology Services : BC Centre for Disease Control (BCCDC)

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List of Acronyms

ACF: Acute Care Facility

AI: Avian Influenza

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:

www.healthemergency.gov.au/internet/healthemergency/publishing.nsf/Content/ozflucurrent.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

