

BRITISH COLUMBIA INFLUENZA SURVEILLANCE BULLETIN

2009-10: Number 26, Weeks 14-16

April 4-24, 2010



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

Prepared by BCCDC Influenza &
Emerging Respiratory Pathogens Team

Influenza Activity Remains Low in BC

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Summary

In weeks 14-16 (April 4-24), influenza activity in BC remained at or below expected levels for this time of year. Sentinel physician and Medical Services Plan ILI indicators both remained consistent with low levels observed in previous weeks. Two ILI outbreaks were reported in schools; no influenza outbreaks were reported in facilities. At the BC Provincial Laboratory, 412 respiratory specimens were tested between April 4 and 24, and 2 influenza viruses (1 pH1N1, 1 influenza B) were detected. Other respiratory virus detections included rhino/enterovirus (15% of specimens tested), RSV (14%), and human metapneumovirus (12%). Of 219 specimens tested at BC Children's Hospital Laboratory, 1 (0.5%) was positive for pH1N1, and 32 (15%) were positive for RSV. Continued sporadic cases of pH1N1 are not unexpected, and similar sporadic detections have been observed in recent weeks in other provinces. To date, there is no evidence of resurgence in community pH1N1 outbreak activity in BC. However, clinicians should keep pH1N1 in mind, including appropriate testing and early treatment among high-risk patients or those with clinically severe presentations of acute respiratory illness. Recent increase in ILI activity has been noted in Chile (with ~12% of sentinel specimens there testing positive for pH1N1 in the most recent reporting week). There is no evidence to date of an increase in community transmission of influenza in Australia or New Zealand. BCCDC will continue to monitor the situation in the southern hemisphere.

Note: Given continued low levels of activity, we are reducing the frequency of these bulletins. As of May 1, we will issue a bulletin monthly—more frequently only as needed.

Report disseminated April 29, 2010

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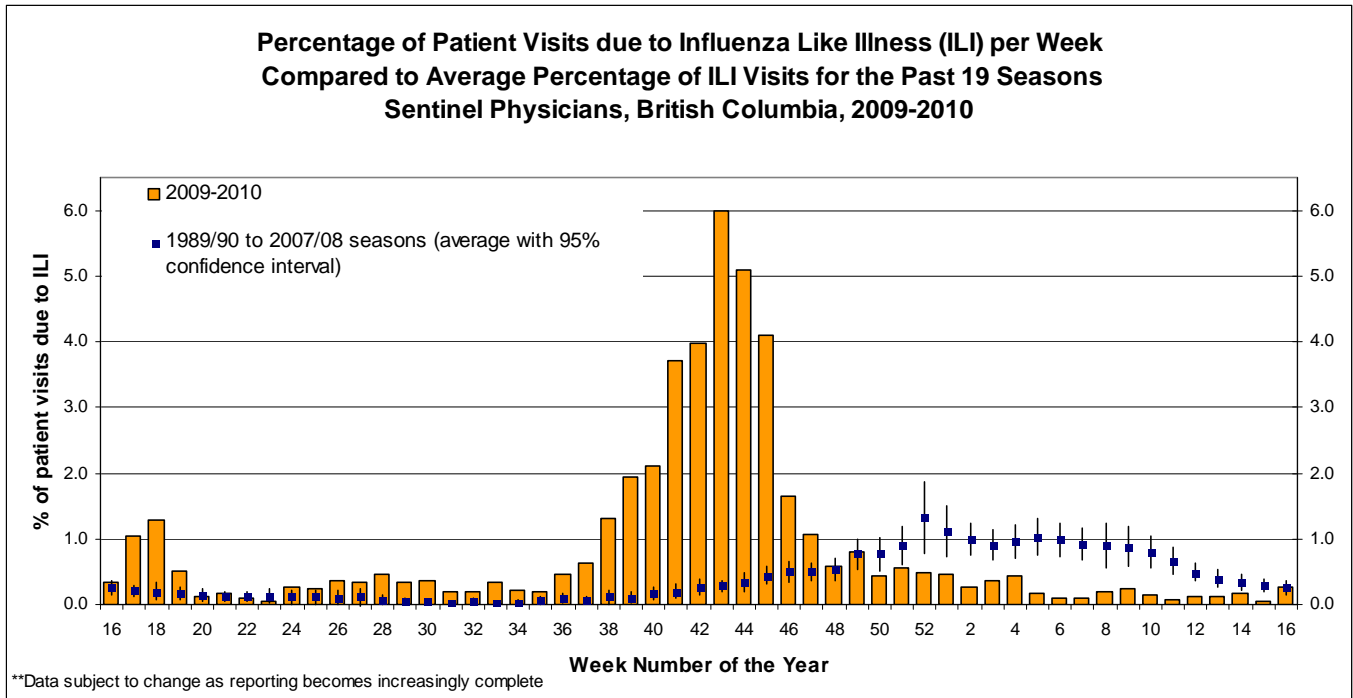
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British Columbia

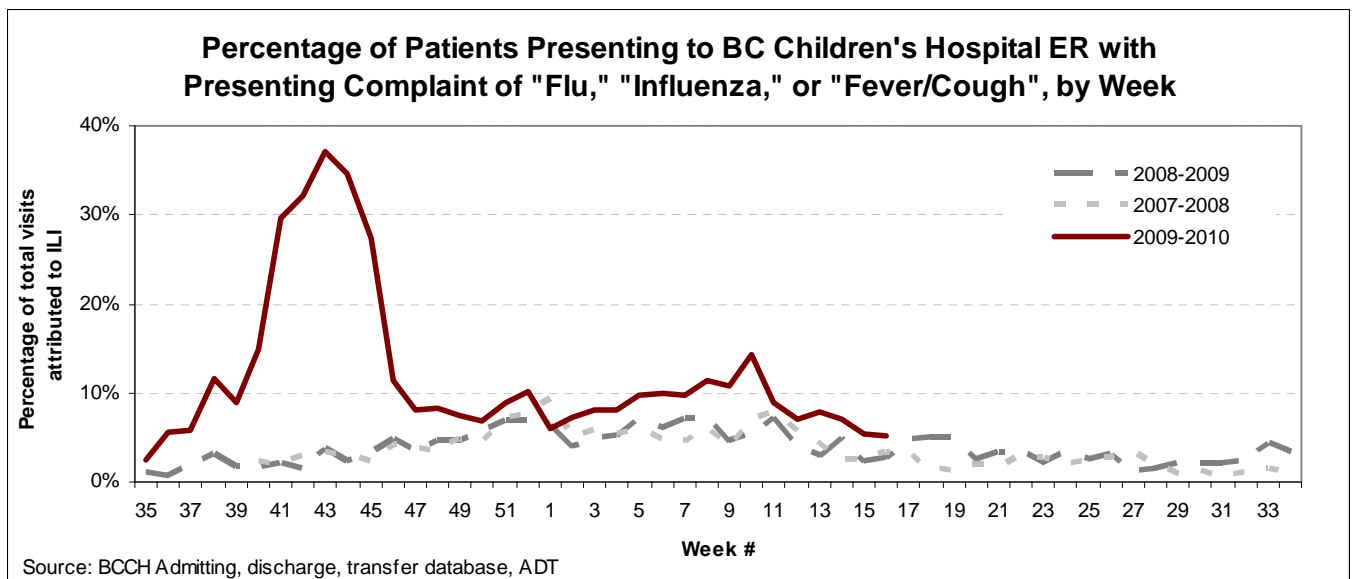
Sentinel Physicians

During weeks 14-16, 0.1-0.3% of patients presenting to sentinel physicians had ILI, which is at or below the expected range for this time of year. Sixty-four percent (32/50) of sentinel physician sites have reported to-date for week 14, 62% (31/50) for week 15, and 44% (22/50) for week 16.



BC Children's Hospital Emergency Room

The percentage of BC Children's Hospital ER visits attributed to "fever and cough" or flu-like illness has decreased further in recent weeks, from ~7-8% in weeks 12-14 to ~5% in weeks 15-16. The peak observed in week 10 corresponds to a peak in RSV positivity at BC Children's Hospital laboratory (see graph on page 6).



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

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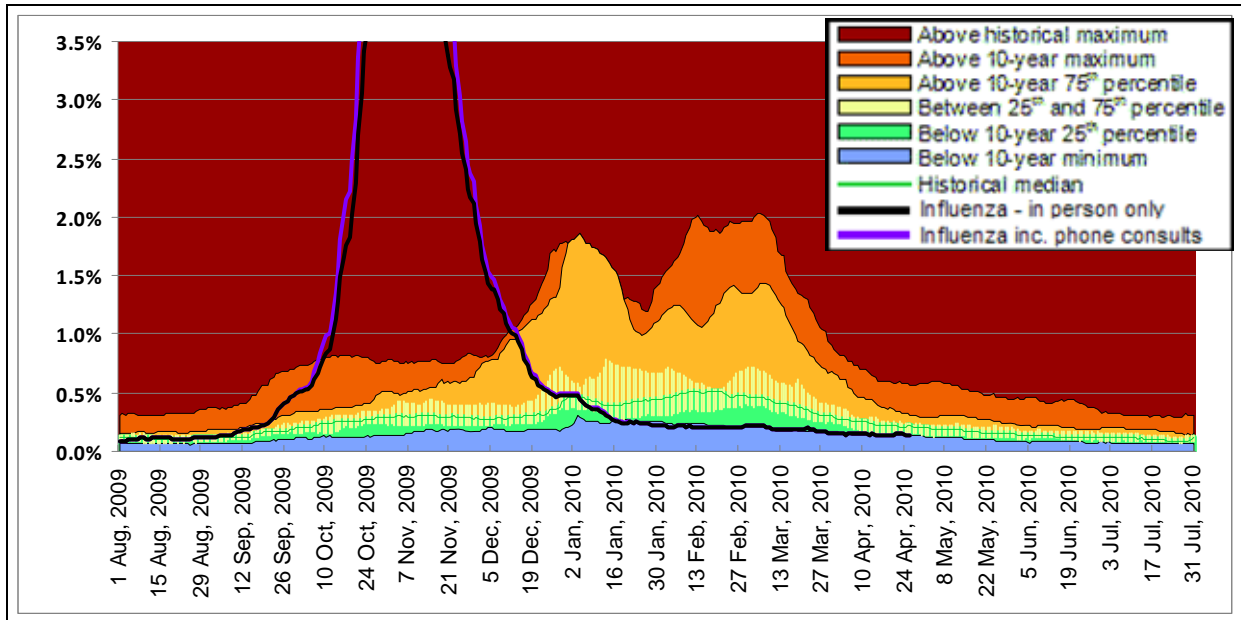
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Medical Services Plan

Influenza illness as a proportion of all submitted BC Medical Services Plan (MSP) claims remained low in the last three weeks, consistent with the decrease over the past few months, and below the expected range for this time of year. Proportions in all 5 RHAs remain near the 10-year minimums. To better reveal current low-level trends, the ~9% peak in MSP claims of late October/early November is not shown in the graphs below (consult earlier bulletins).

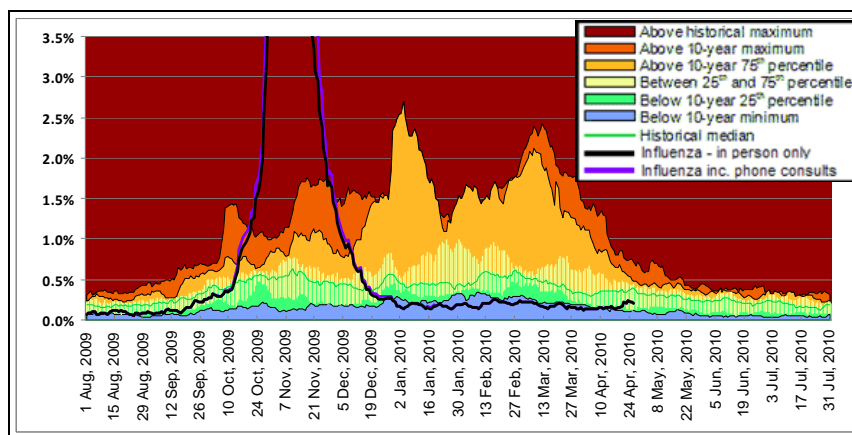
Influenza Illness Claims* British Columbia



* 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 Healthy Living & Sport

Notes: MSP week 27 Sep 2009 corresponds to sentinel ILI week 39.
Data current to April 26, 2010

Northern

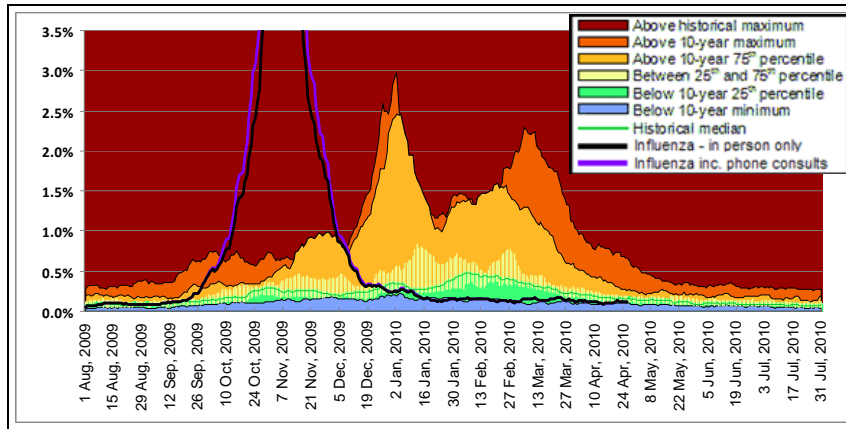


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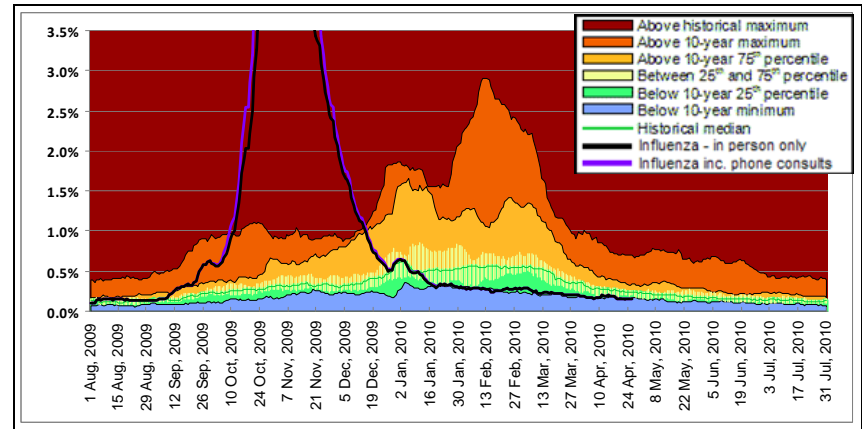
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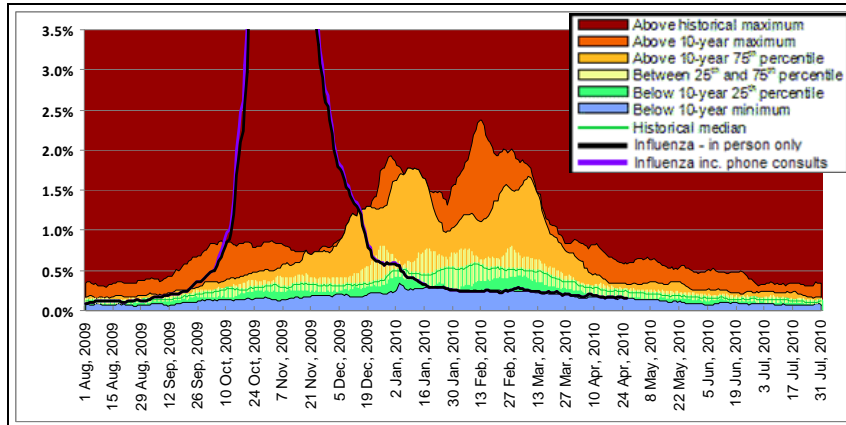
Interior



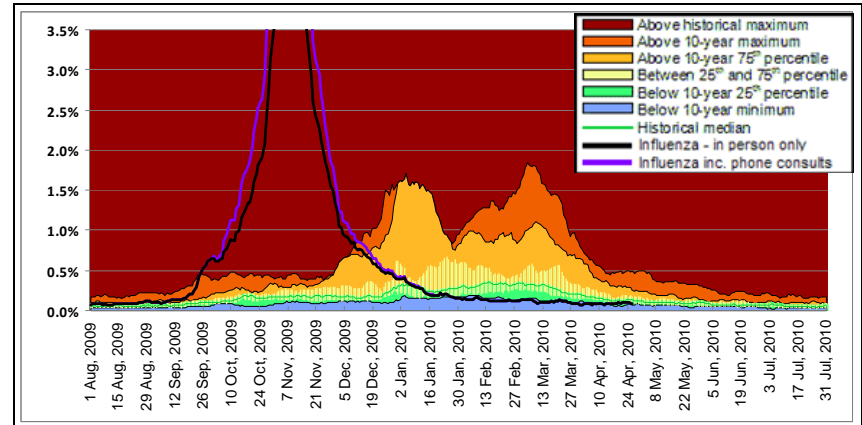
Vancouver Coastal



Fraser



Vancouver Island



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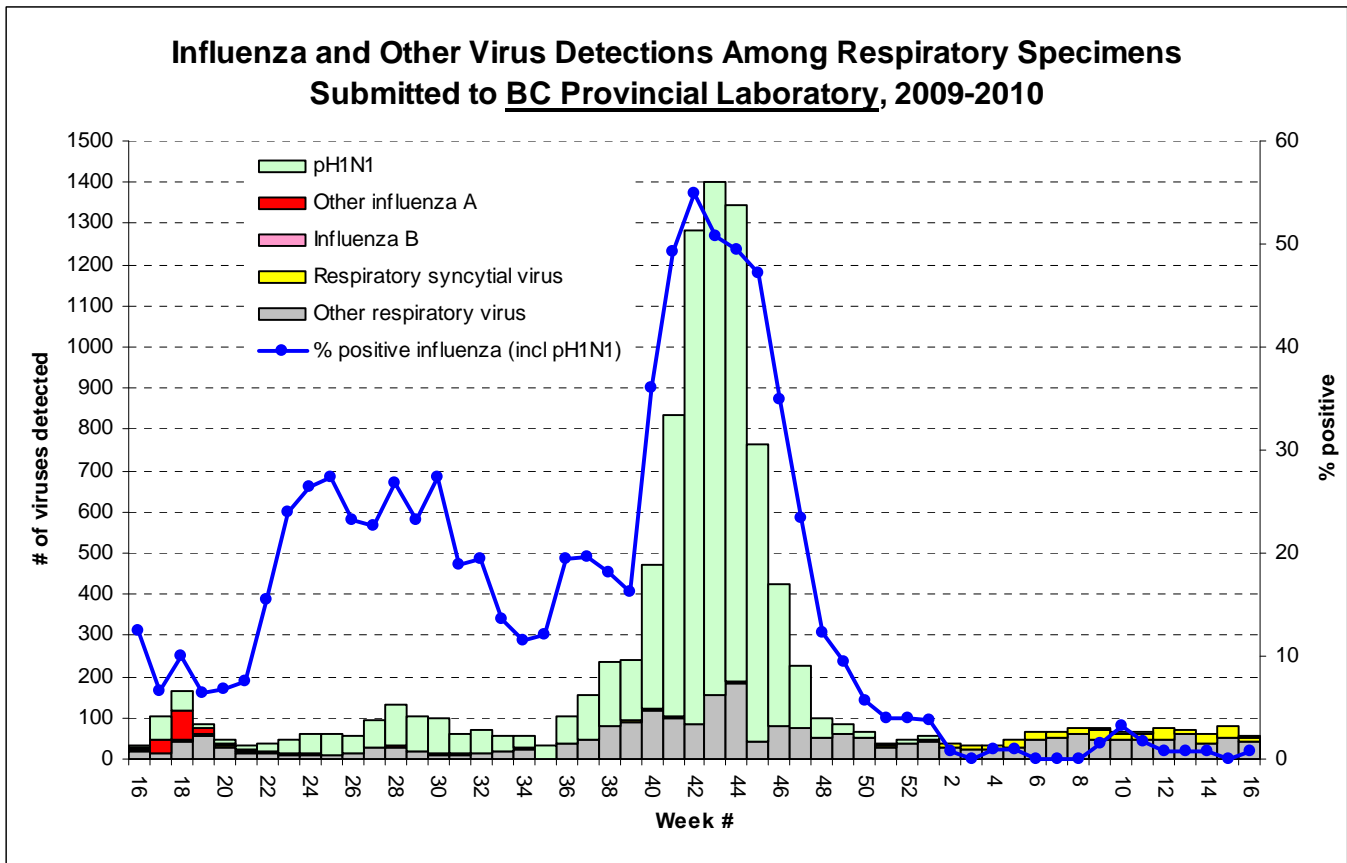
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Laboratory Reports

Four hundred and twelve respiratory specimens were submitted for testing at the BC Provincial Laboratory in weeks 14-16. Two were positive for influenza: 1 influenza B (week 14) and 1 pH1N1 (week 16). Since week 35 (September 1, 2009), >99% of all influenza detections in BC have been pH1N1. To date, detections of other seasonal influenza viruses over the same period have been limited (13 out of 6567 influenza detections in total). In weeks 14-16, of 412 specimens tested for other respiratory viruses, 60 (15%) tested positive for rhino/enterovirus, 59 (14%) for RSV, 49 (12%) for human metapneumovirus, 9 (2%) for coronavirus, 7 (2%) for parainfluenza, 5 (1%) for human bocavirus, and 4 (1%) for adenovirus.

Recent detections of pH1N1 now tally a cumulative total of 11 since the last week of January, all since March 5, 2010. Continued sporadic cases of pH1N1 are not unexpected, and similar sporadic detections have been observed in recent weeks in other provinces (see graph on page 7). To date, there is no evidence of resurgence in community pH1N1 outbreak activity in BC. Nevertheless, clinicians should keep pH1N1 in mind, including appropriate testing and early treatment among high-risk patients or those with clinically severe presentations of acute respiratory illness. Vaccination against pH1N1 is the most effective means of prevention, and public health measures (hand hygiene, cough etiquette, self-isolation) are worth underscoring with patients.

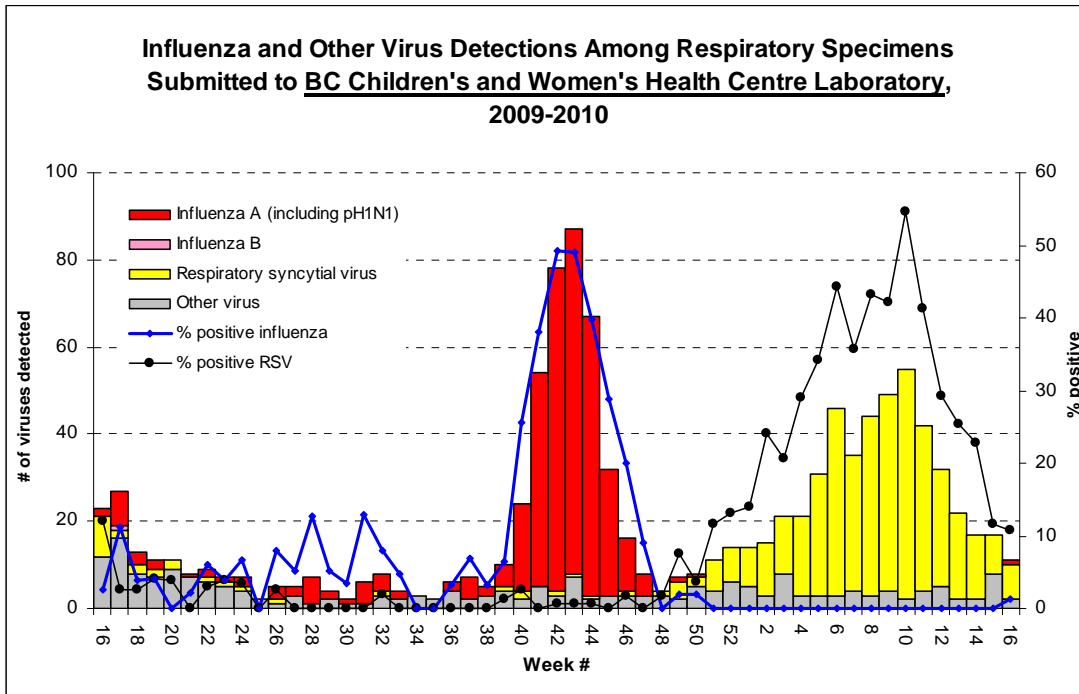


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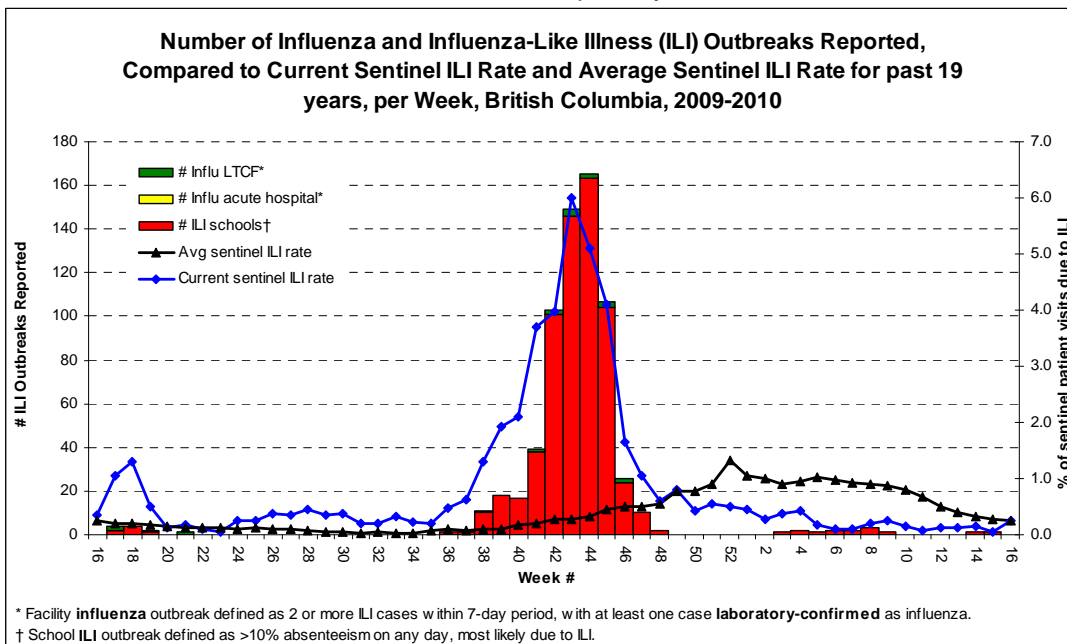
During weeks 14-16, BC Children's and Women's Health Centre Laboratory tested 219 respiratory specimens. One was positive for pH1N1. Thirty-two specimens (15%) tested positive for RSV, 6 (3%) for adenovirus, and 6 (3%) for parainfluenza.



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

ILI Outbreaks

No lab-confirmed influenza outbreaks were reported in facilities in BC during weeks 14-16. Other viruses detected in LTCF respiratory outbreak investigations in recent weeks include human metapneumovirus, rhino/enterovirus, and RSV. Two ILI outbreaks were reported in schools during weeks 14-16 (1 in NHA in week 14, and 1 in IHA in week 15). Note that reports of school ILI outbreaks are based on symptoms, do not require laboratory confirmation, and may therefore reflect illness due to other unidentified respiratory viruses or other causes.



* 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.

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Pandemic H1N1 (pH1N1) Severe Outcomes

No additional pH1N1 hospitalizations or deaths were reported in weeks 14-16. More than 1000 pH1N1 hospitalizations and >50 pH1N1 deaths have been reported in the province to-date, since April 2009. Sixty-five percent of hospitalized cases have had at least one reported underlying medical condition (excluding pregnancy). Twenty-six percent of hospitalized cases have been admitted to the ICU, and 8% have died.

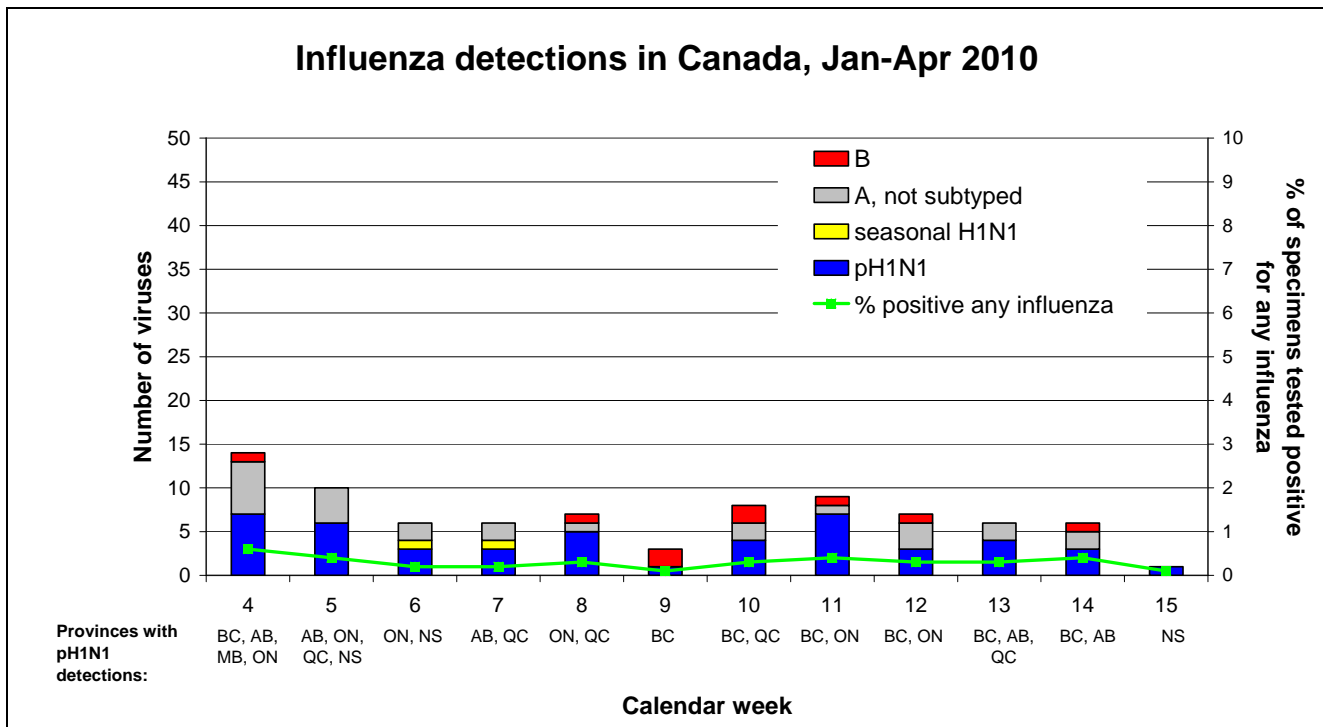
For details see pH1N1 Surveillance Update: www.bccdc.ca/dis-cond/DiseaseStatsReports/influSurveillanceReports.htm (bottom of page)

CANADA

FluWatch

During week 15 (April 11-17), influenza activity in Canada remained low for the 17th consecutive week. The sentinel ILI rate was 9 per 1000 patient-visits, which is below the expected range for this time of year. Less than one percent of respiratory specimens tested nationally were positive for influenza, compared to 12% positivity for RSV. Nationally reported RSV positivity peaked in week 7 (28%). One influenza detection (pH1N1) was reported in week 15 (NS). www.phac-aspc.gc.ca/fluwatch/

As illustrated below, while overall lab positivity for influenza has been low (<1%) across Canada since January 2010, recent sporadic detections of pH1N1 and seasonal influenza have occurred in BC as well as other provinces.



Source: FluWatch (www.phac-aspc.gc.ca/fluwatch/)

National Microbiology Laboratory (NML): Antiviral Resistance

Drug susceptibility testing at the NML between September 1, 2009 and April 15, 2010 indicated that 99% (1065/1077) of pH1N1 isolates were sensitive to oseltamivir. All influenza B isolates (n=4) and influenza A/H3N2 isolates (n=13) tested were sensitive to oseltamivir, and the 6 seasonal A/H1N1 isolates tested were oseltamivir-resistant. All pH1N1 (n=1055), seasonal H1N1 (n=2), A/H3N2 (n=13), and influenza B (n=4) isolates were sensitive to zanamivir. All pH1N1 (n=1129) and A/H3N2 (n=24) isolates were resistant to amantadine. Four seasonal H1N1 isolates were sensitive to amantadine, and one was resistant. Global surveillance has shown that circulating pH1N1 viruses are resistant to amantadine but remain sensitive to zanamivir and oseltamivir, although sporadic cases of oseltamivir resistance have been observed worldwide.

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NML: Strain Characterization

Between September 1, 2009 and April 14, 2010, 865 influenza isolates (848 pandemic H1N1 and 17 seasonal influenza) were collected from provincial and hospital labs and characterized at the NML:

848 A/California/07/2009 (H1N1)-like[§] from BC, AB, SK, MB, ON, QC, NB, NS, PEI, & NT;

3 A/Brisbane/59/2007 (H1N1)-like[†] from AB & QC;

2 A/Brisbane/10/2007 (H3N2)-like[†] from BC & QC;

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

2 B/Brisbane/60/2008 (Victoria lineage)-like[†] from ON;

1 B/Florida/04/2006 (Yamagata lineage)-like* from QC;

1 B/Malaysia/2506/2004 (Victoria lineage)-like[#] from ON.

[§] A/California/07/2009 (H1N1) is the variant reference virus (pH1N1) selected by WHO for the pandemic influenza A/H1N1 vaccine

[†] indicates a strain match to the 2009-10 northern hemisphere trivalent influenza vaccine

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

* indicates a strain match to the influenza B component of the 2008-09 northern hemisphere trivalent influenza vaccine

[#] indicates a strain match to the influenza B component of the 2007-08 northern hemisphere trivalent influenza vaccine

INTERNATIONAL

During week 15 (April 11-17), influenza activity remained low in the United States. Two percent (37/1749) of respiratory specimens tested in reference laboratories were positive for influenza, and all (20/20) subtyped influenza A viruses were pH1N1. Two influenza B viruses were detected. The proportion of sentinel physician visits due to ILI remained low (1.1%) and below the national baseline. www.cdc.gov/flu/weekly/

In Europe, all countries reported low-level influenza activity for the week of April 12-18. Nine percent of sentinel laboratory samples were positive for influenza, consistent with the decrease observed in previous weeks. Of 15 sentinel influenza detections across Europe from April 12-18, 9 were influenza B, and 6 were influenza A (subtype information not available). www.eiss.org

Globally, pH1N1 activity remains low in the temperate zone of the northern hemisphere. Influenza B activity has continued to spread over a broader geographic area in recent weeks, and influenza B is now the predominant circulating virus across East Asia, Central Africa, and Northern and Eastern Europe. Of the influenza B viruses which were further characterized in recent weeks, the majority belonged to the Victoria lineage (i.e., matching lineage of 2009-10 vaccine influenza B component). In the southern hemisphere, Chile has reported regional increases in ILI activity for the past few weeks, with sentinel detections of RSV (53% of viruses detected), adenovirus (24%), and pH1N1 influenza (12%). In Australia and New Zealand, influenza activity remains low, with only sporadic detections of pH1N1 to date in 2010. www.who.int/csr/don/2010_04_23a/en/index.html

WHO Recommendations for 2010-11 Northern Hemisphere Influenza Vaccine

On February 18, the WHO announced the recommended strain components for the 2010-11 Northern Hemisphere trivalent influenza vaccine:

A/California/7/2009 (H1N1)-like virus

A/Perth/16/2009 (H3N2)-like virus

B/Brisbane/60/2008 (Victoria lineage)-like virus

A/California/7/2009 (H1N1) is the recommended component for pandemic H1N1 vaccines produced and administered in 2009-10. The recommended H3N2 virus has changed from the previous year's vaccine (A/Brisbane/10/2007), while the recommended B virus remains unchanged (B/Brisbane/60/2008). For further details, see: www.who.int/csr/disease/influenza/recommendations2010_11north/en/index.html

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Contact Us:

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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: <http://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.healthemergency.gov.au/internet/healthemergency/publishing.nsf/Content/ozflu2009.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. Pandemic H1N1 Influenza Web Sites

BCCDC: www.bccdc.ca/dis-cond/a-z/_h/HumanSwineFlu/default.htm

BC Provincial Government: www.gov.bc.ca/h1n1/

BC H1N1 Pandemic Response Plan: www.health.gov.bc.ca/pandemic/response/index.html

PHAC: www.phac-aspc.gc.ca/alert-alerte/swine_200904-eng.php

US CDC: www.cdc.gov/swineflu/index.htm

WHO: www.who.int/csr/disease/swineflu/en/index.html

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

