

BRITISH COLUMBIA INFLUENZA SURVEILLANCE BULLETIN

2009-10: Number 22, Week 10

March 7-13, 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 Below Expected Levels in BC

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Summary

In week 10 (March 7-13), influenza activity in BC remained below expected levels, while other respiratory viruses continued to circulate. The proportion of patients presenting to sentinel physicians with ILI and the proportion of Medical Services Plan claims for influenza illness both remained lower than expected for this time of year. No influenza outbreaks were reported. At the BC Provincial Laboratory, 3% (4/127) of respiratory specimens received during week 10 were positive for pH1N1, while 16% of specimens tested for other respiratory viruses were positive for human metapneumovirus, 13% for RSV, and 13% for rhino/enterovirus. Of 97 specimens tested at BC Children's Hospital Laboratory, none were positive for influenza, and 61% were positive for RSV. Continued sporadic cases of pH1N1 are not unexpected. To date, there is no evidence of resurgence in community pH1N1 outbreak activity in BC or North America generally. 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. Vaccination against pH1N1 is the most effective means of prevention, and public health measures (hand hygiene, cough etiquette, self-isolation) remain important as always to underscore.

Report written & disseminated: March 17, 2010

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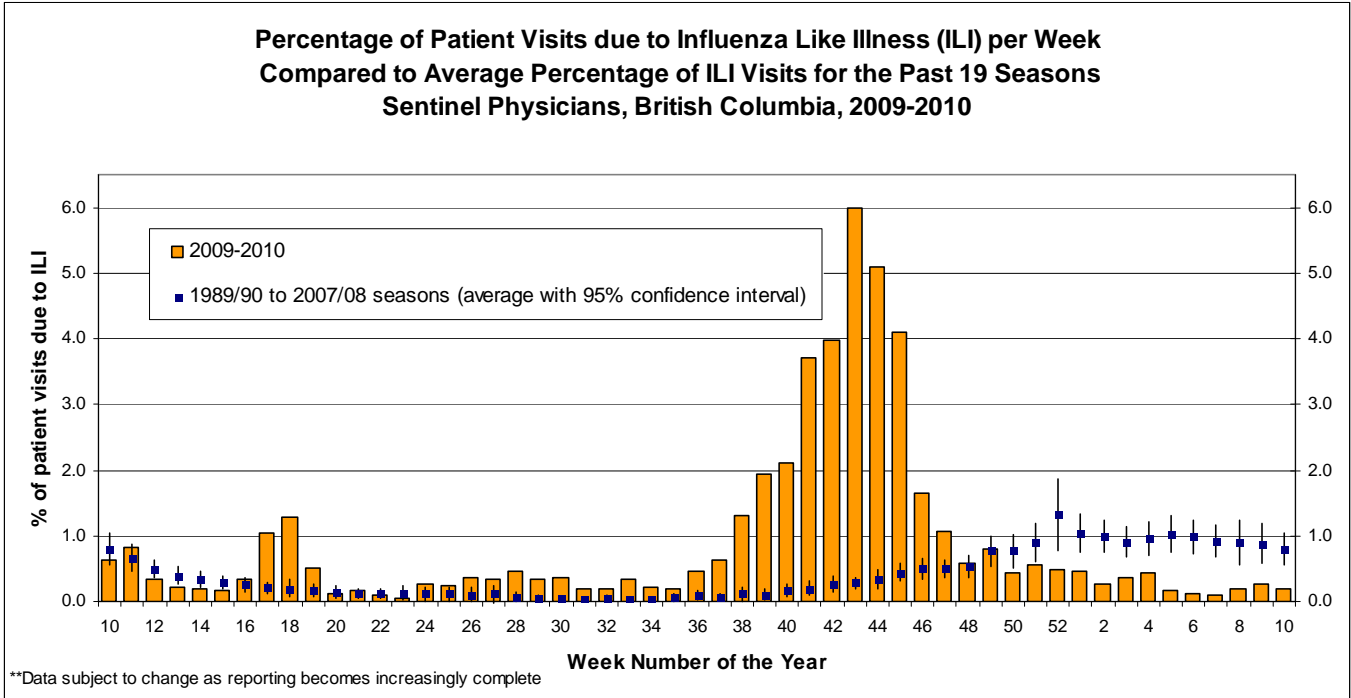
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British Columbia

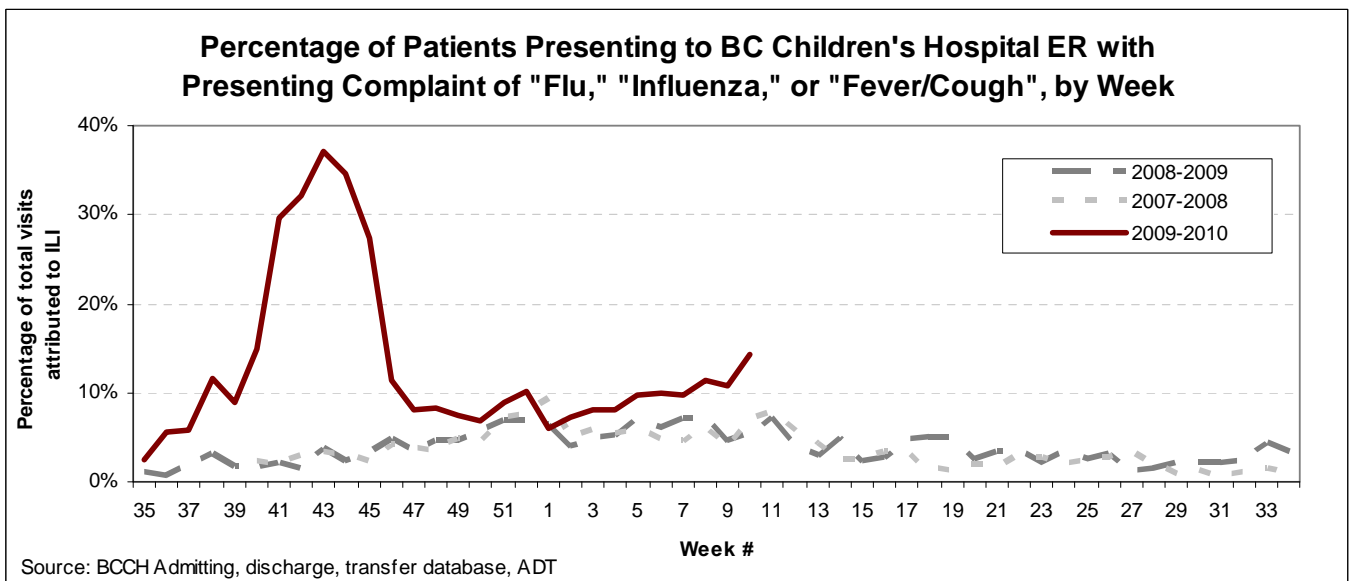
Sentinel Physicians

During week 10, 0.2% of patients presenting to sentinel physicians had ILI, which is well below the expected range for this time of year. Fifty-one percent (26/51) of sentinel physician sites have reported to-date for week 10.



BC Children's Hospital Emergency Room

The percentage of ER visits attributed to "fever and cough" or flu-like illness at BC Children's Hospital increased further to 14% in week 10. This increase may be at least partly explained by a corresponding increase in RSV detections at BC Children's Hospital, as shown in the graph on page 6.



Emergency Room data kindly provided by Decision Support Services at BC Children's Hospital

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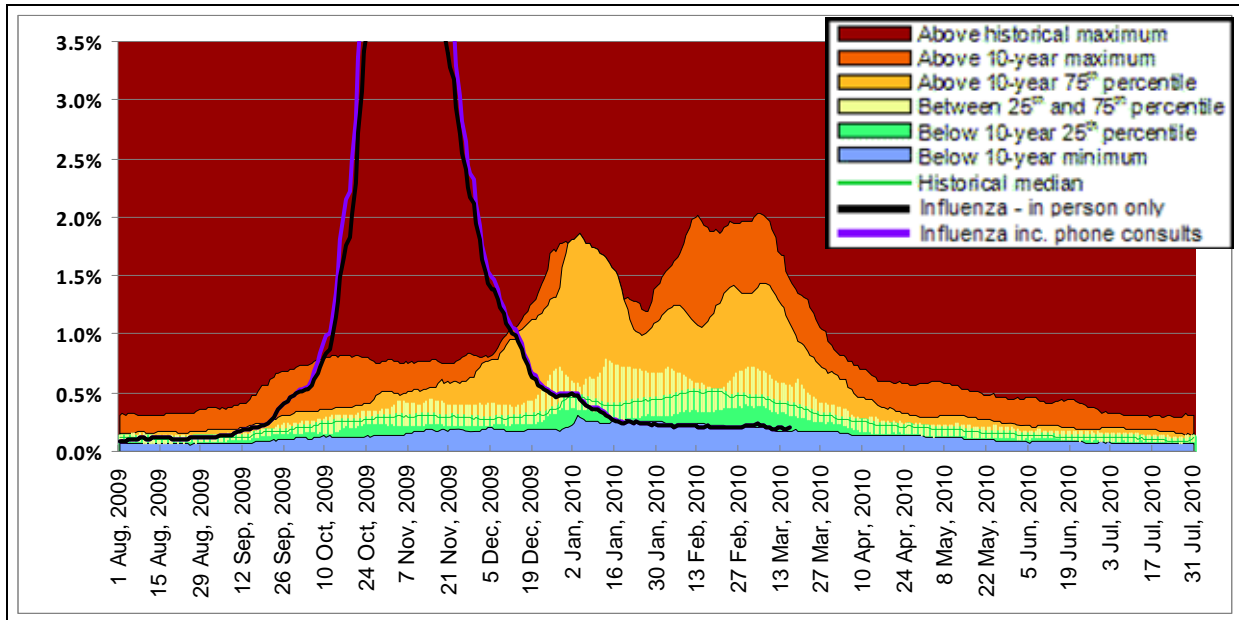
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Medical Services Plan

Influenza illness as a proportion of all submitted BC Medical Services Plan (MSP) claims remained low in the last week, 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 at or below 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).

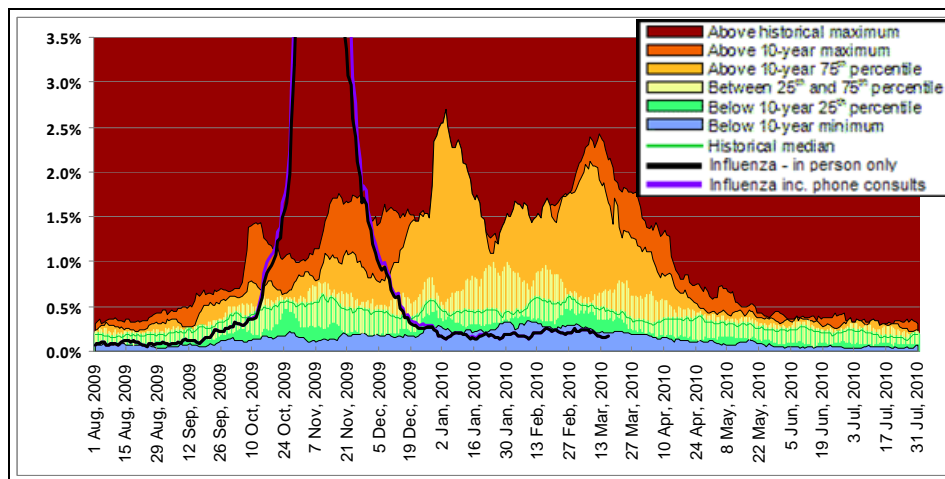
Influenza Illness Claims* British Columbia



* Influenza illness is tracked as the percentage of all submitted MSP general practitioner claims with ICD-9 code 487 (influenza).

Notes: MSP week 27 Sep 2009 corresponds to sentinel ILI week 39.
Data current to March 16, 2010

Northern

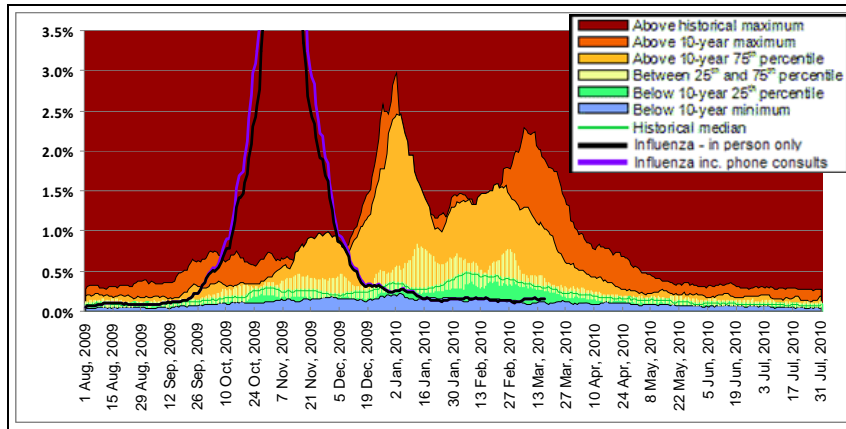


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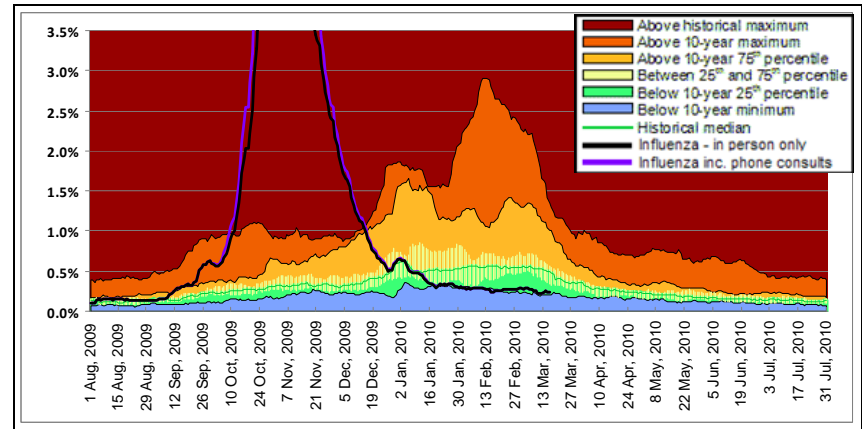
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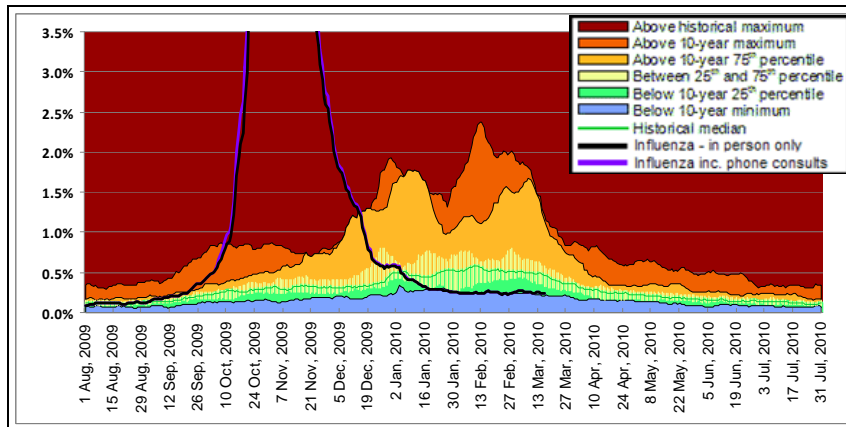
Interior



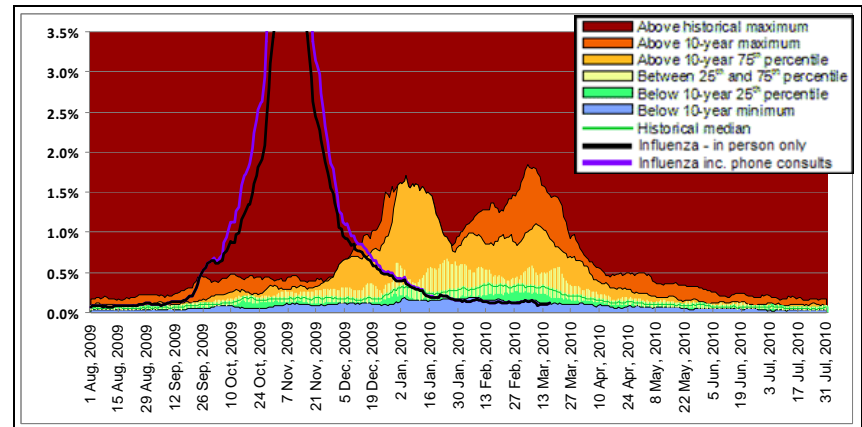
Vancouver Coastal



Fraser



Vancouver Island



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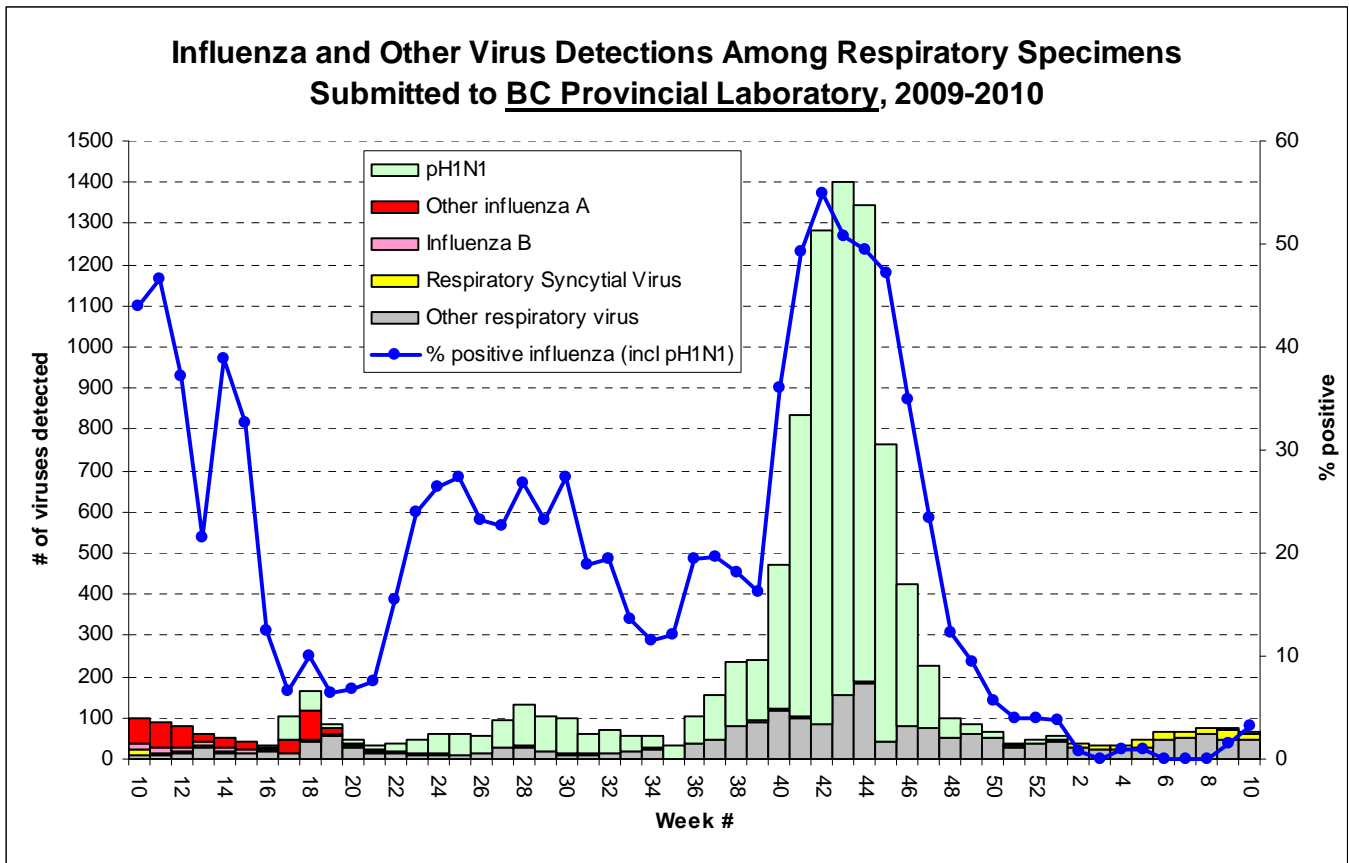
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Laboratory Reports

One hundred twenty-seven respiratory specimens were submitted for testing at the BC Provincial Laboratory in week 10. Four (3%) were positive for pH1N1; no other influenza viruses were detected. Since week 35 (September 1, 2009), >99% of all influenza detections in BC have been pH1N1. Detections of other seasonal influenza viruses over the same period have been limited to-date (12 out of 6560 influenza detections in total). In week 10, of 127 specimens tested for other respiratory viruses, 19 (16%) tested positive for human metapneumovirus, 16 (13%) for RSV, 15 (13%) for rhino/enterovirus, 6 (5%) for parainfluenza, 2 (2%) for coronavirus, 2 (2%) for human bocavirus, and 1 (1%) for adenovirus.

Recent detections of pH1N1 now tally a cumulative total of 6 since the last week of January, all since March 5, 2010. Continued sporadic cases of pH1N1 are not unexpected. To date, there is no evidence of resurgence in community pH1N1 outbreak activity in BC or North America generally. 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.

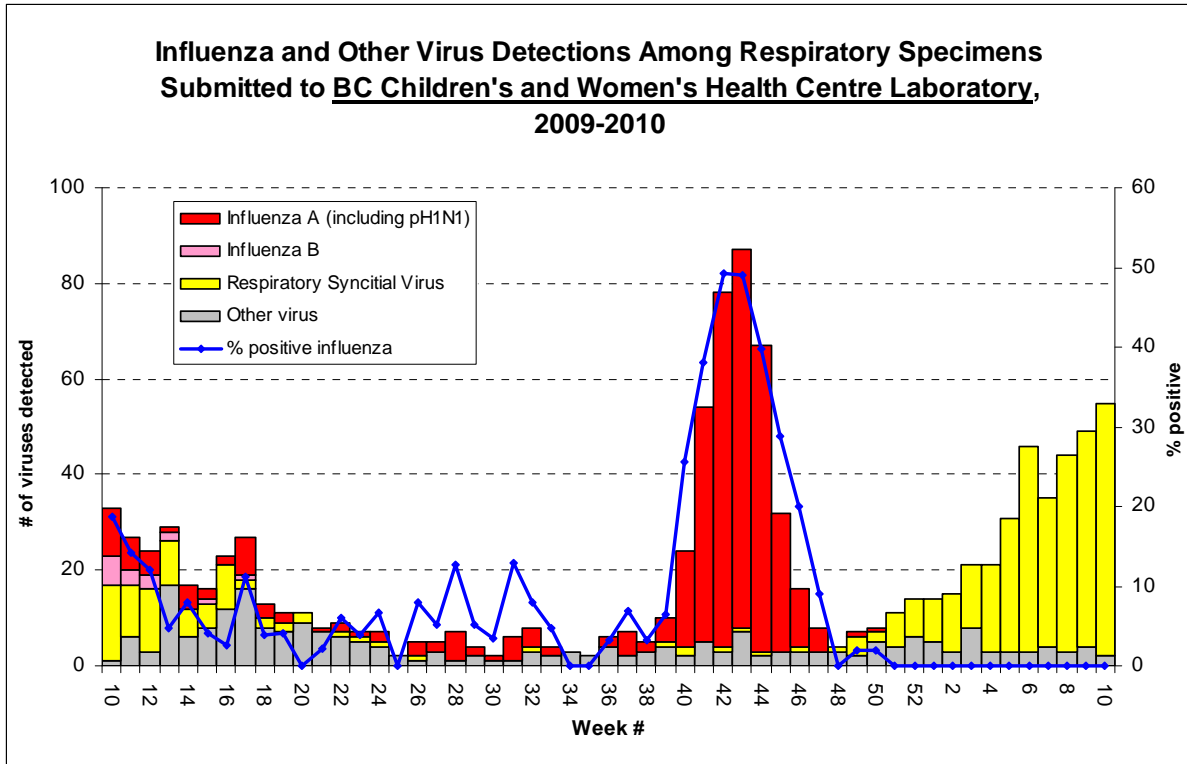


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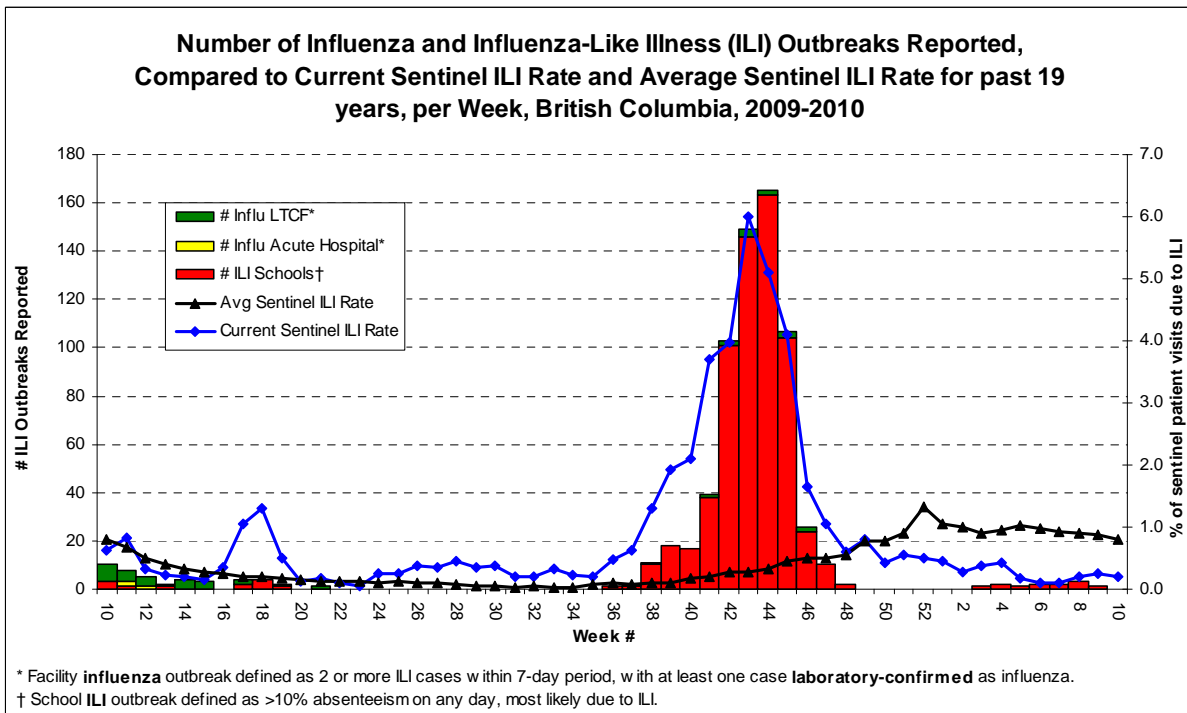
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During week 10, BC Children's and Women's Health Centre Laboratory tested 97 respiratory specimens. None were positive for influenza. Forty-five (61%) specimens tested positive for RSV, and 2 (2%) tested positive for parainfluenza.



ILI Outbreaks

No influenza outbreaks (facilities) or school ILI outbreaks were reported in BC during week 10.



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Pandemic H1N1 (pH1N1) Severe Outcomes

Two additional hospitalizations in patients with laboratory-confirmed pH1N1 were reported in the past week; neither was admitted to the ICU. 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 further information, see: www.bccdc.ca/dis-cond/DiseaseStatsReports/influSurveillanceReports.htm

CANADA

FluWatch

During week 9 (Feb 28–Mar 6), influenza activity in Canada remained low. The sentinel ILI rate was 17 per 1000 patient visits, which is well below the expected range for this time of year. Less than one percent of respiratory specimens tested nationally were positive for influenza, compared to 24% positivity for RSV. Of the 3 influenza detections reported nationally, 1 was pH1N1 (BC), and 2 were influenza B (ON). (www.phac-aspc.gc.ca/fluwatch/)

National Microbiology Laboratory (NML)

Between September 1, 2009 and March 11, 2010, 852 influenza isolates (836 pandemic H1N1 and 16 seasonal influenza) were collected from provincial and hospital labs and characterized at the NML:

836 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.

[§] 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

Antiviral Resistance

Drug susceptibility testing at the NML between September 1, 2009 and March 11, 2010 indicated that 99% (1053/1065) of pH1N1 isolates were sensitive to oseltamivir. All influenza B isolates (n=3) 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=1043), seasonal H1N1 (n=2), A/H3N2 (n=13), and influenza B (n=3) isolates were sensitive to zanamivir. All pH1N1 (n=1121) 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.

INTERNATIONAL

During week 9 (February 28 – March 6), influenza activity remained low in the United States (www.cdc.gov/flu/weekly/). Five percent (174/3419) of respiratory specimens tested in reference laboratories were positive for influenza. All (127/127) subtyped influenza A viruses were pH1N1. One influenza B virus was detected. The proportion of sentinel physician visits due to ILI remained low (1.9%) and below the national baseline.

In Europe, all countries reported low-level influenza activity for the week of March 1-7. Five percent of sentinel laboratory samples were positive for influenza, a further decrease from the previous week. Of 20 sentinel influenza detections across Europe from March 1-7, 5 were influenza B, 15 were influenza A, and all (13) of the sub-typed influenza A viruses were pH1N1. (www.eiss.org)

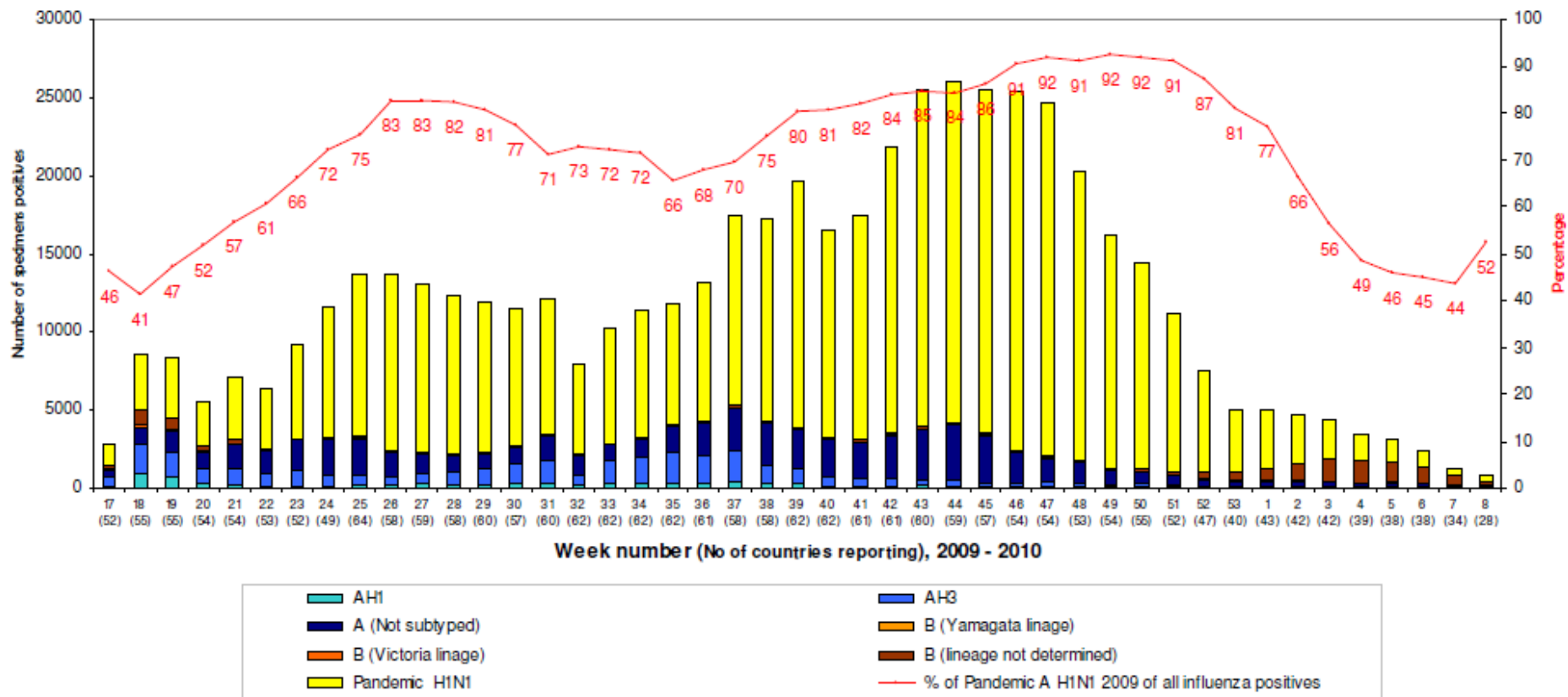
Globally, while pH1N1 activity has continued to decrease or remain low in most countries in the temperate zone of the Northern Hemisphere, influenza B activity has increased in many parts of Asia, including China, Mongolia, Japan, Hong Kong, Iran, and the Russian Federation (indicating westward spread). Of the influenza B viruses which were further characterized in recent weeks in China, the majority belonged to the Victoria lineage (i.e., matching lineage of 2009-10 vaccine influenza B component). Little influenza activity has been reported to-date in 2010 in temperate regions of the southern hemisphere. (http://www.who.int/csr/don/2010_03_12/en/index.html)

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Global Detections of Influenza Viruses by Type/Subtype, April 2009 – February 2010



Source: http://www.who.int/csr/disease/swineflu/laboratory12_03_2010/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

