

BRITISH COLUMBIA INFLUENZA SURVEILLANCE BULLETIN

2009-10: Number 20, Week 07

February 14-20, 2010



BC Centre for Disease Control

An agency of the Provincial Health Services Authority

Prepared by BCCDC Influenza &
Emerging Respiratory Pathogens Team

Influenza Activity Below Expected Levels in BC

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Highlights

As of week 7 (February 14-20), indicators of 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. No influenza viruses were detected at the Provincial Laboratory. Fifty-two percent (67/129) of specimens tested were positive for other respiratory viruses, which predominantly included rhino/enterovirus (28), RSV (16), and human metapneumovirus (12). Of 87 specimens tested at BC Children's Hospital Laboratory, none were positive for influenza, and 36% (31/87) were positive for RSV. Acute respiratory illness for which respiratory virus testing is sought in BC continues to be more likely due to a non-influenza cause. While pH1N1 activity levels remain low or continue to decline in most regions of the world, an increasing contribution of influenza B viruses has been reported in recent weeks in China. Monitoring for possible seasonal/pandemic influenza resurgence in BC continues.

Report written & disseminated: February 24, 2010
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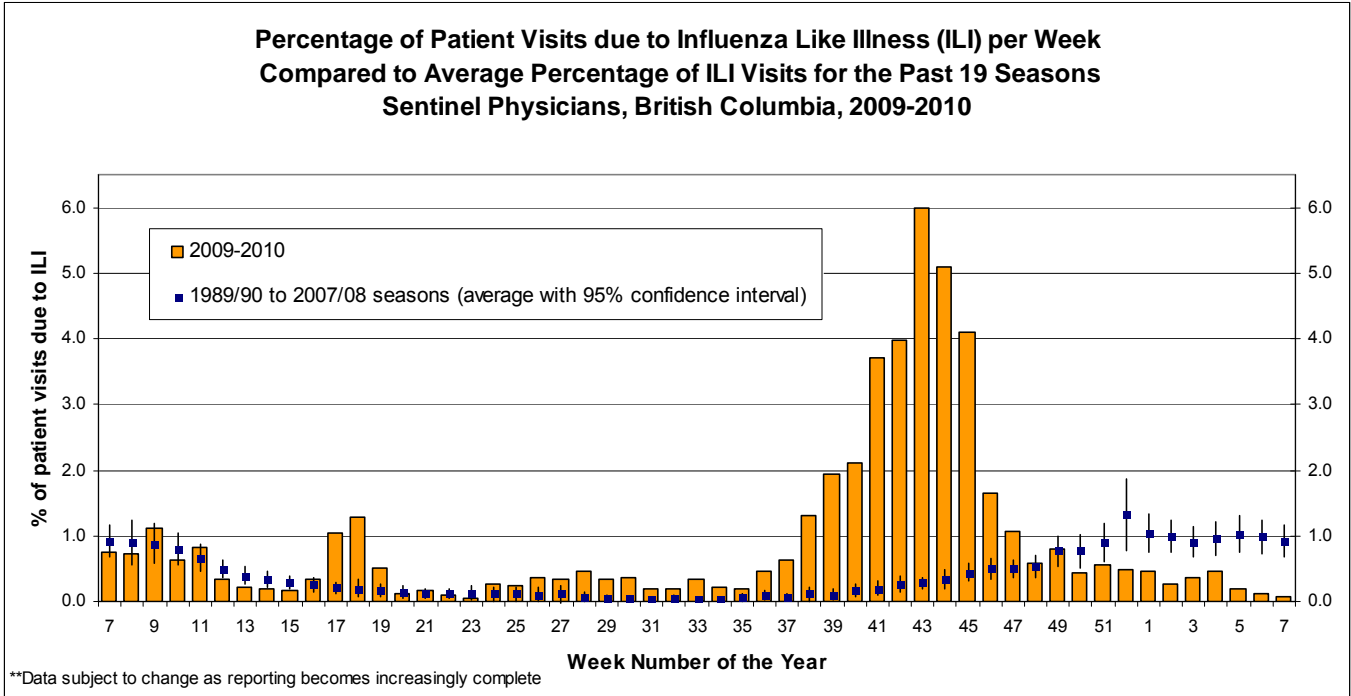
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British Columbia

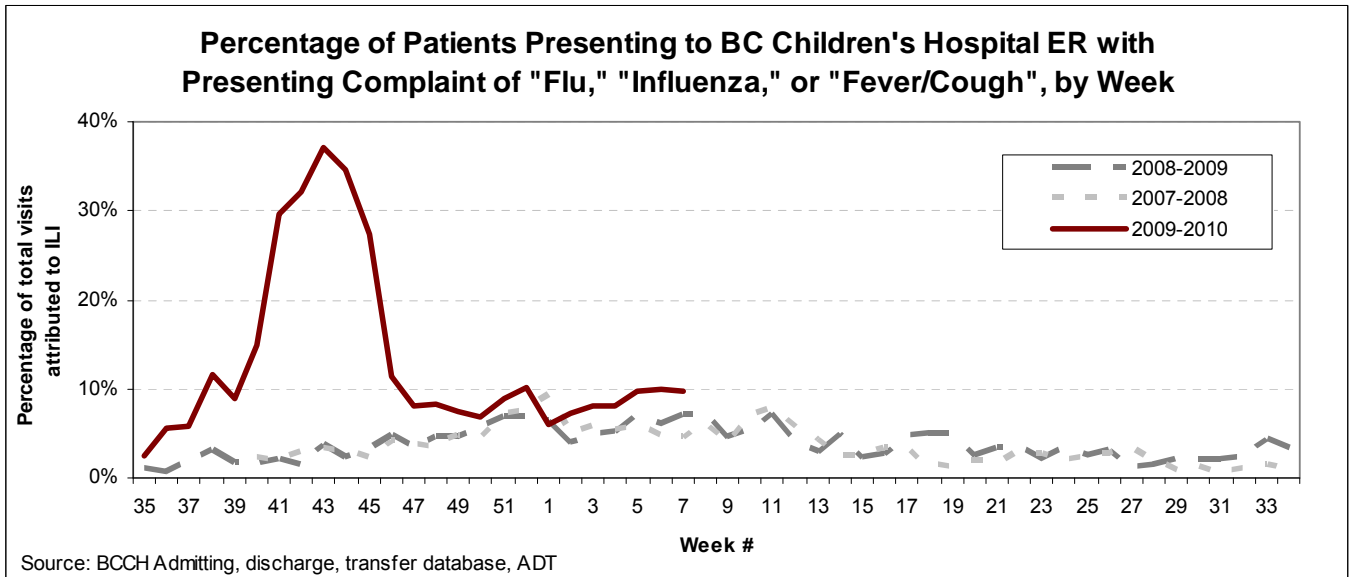
Sentinel Physicians

During week 7, 0.08% of patients presenting to sentinel physicians had ILI, which is well below the expected range for this time of year. Forty-three percent (22/51) of sentinel physician sites have reported to-date for week 7.



BC Children's Hospital Emergency Room

The percentage of Emergency Room visits attributed to "fever and cough" or flu-like illness at BC Children's Hospital during week 7 remained comparable to previous weeks (10%).



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

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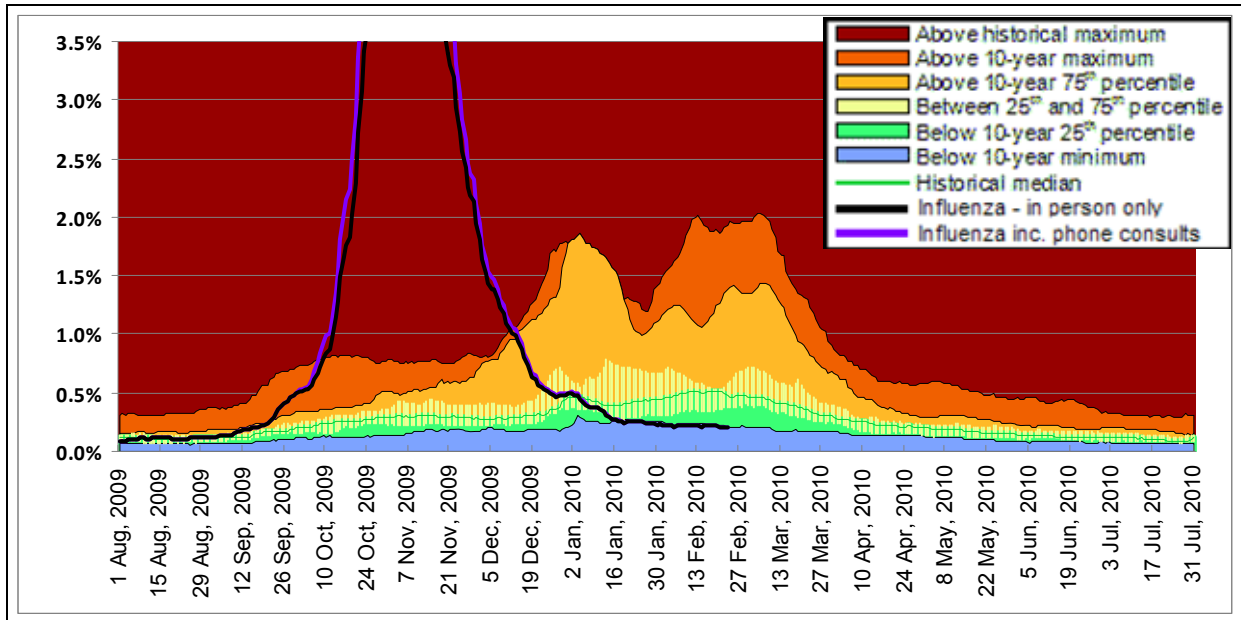
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Medical Services Plan

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).

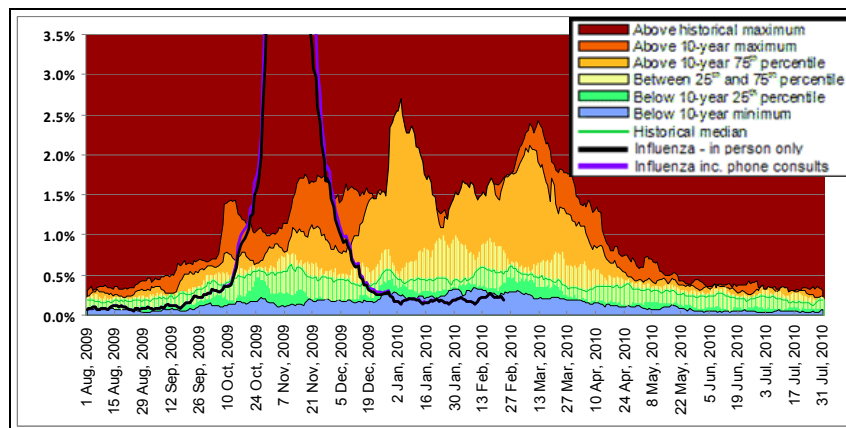
Influenza Illness Claims* British Columbia



* 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 February 23, 2010

Northern

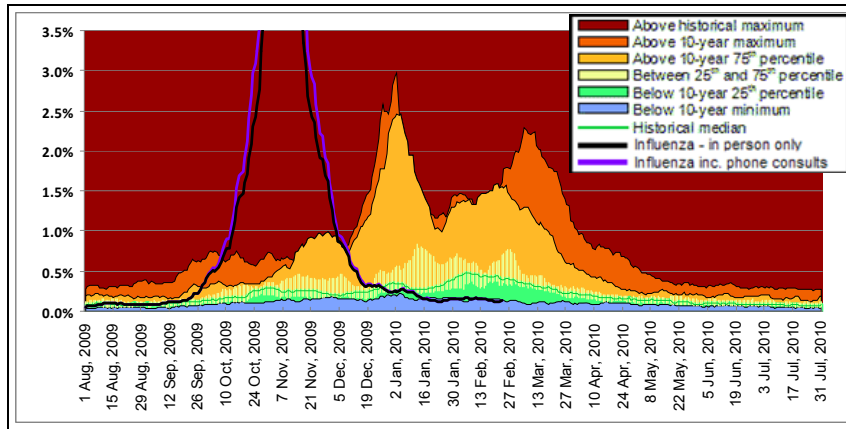


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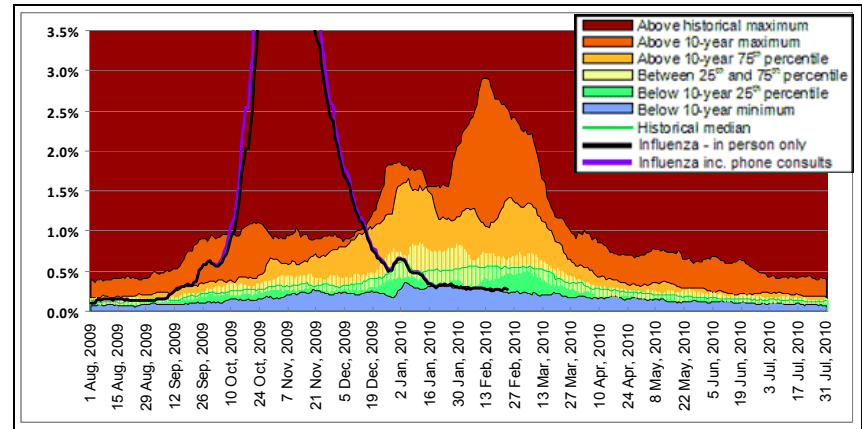
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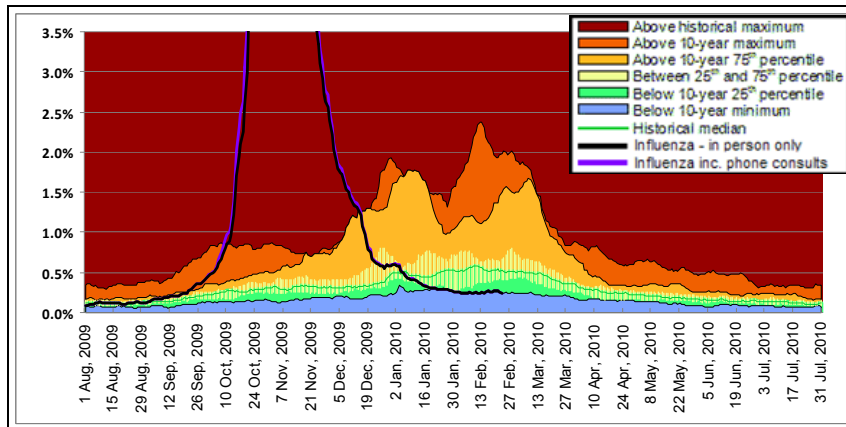
Interior



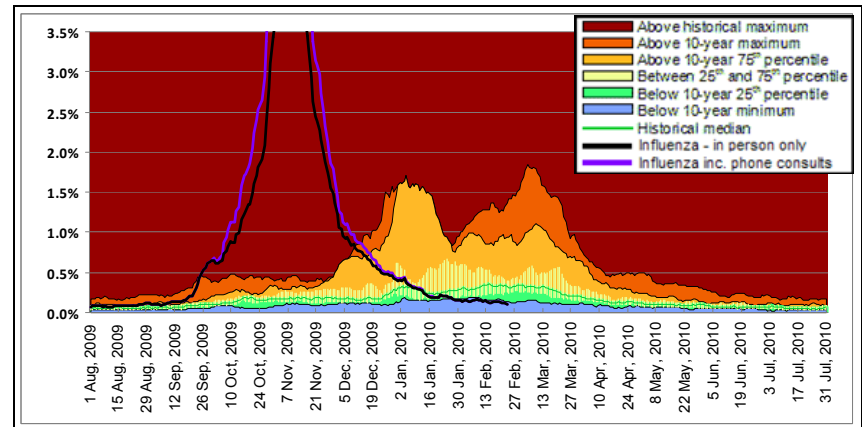
Vancouver Coastal



Fraser



Vancouver Island



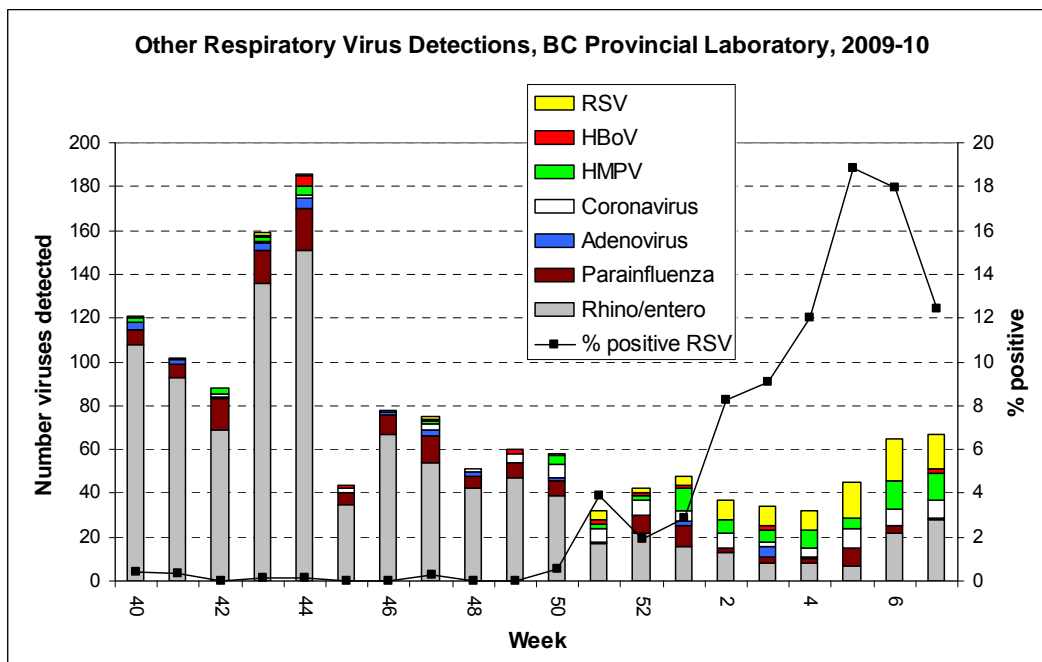
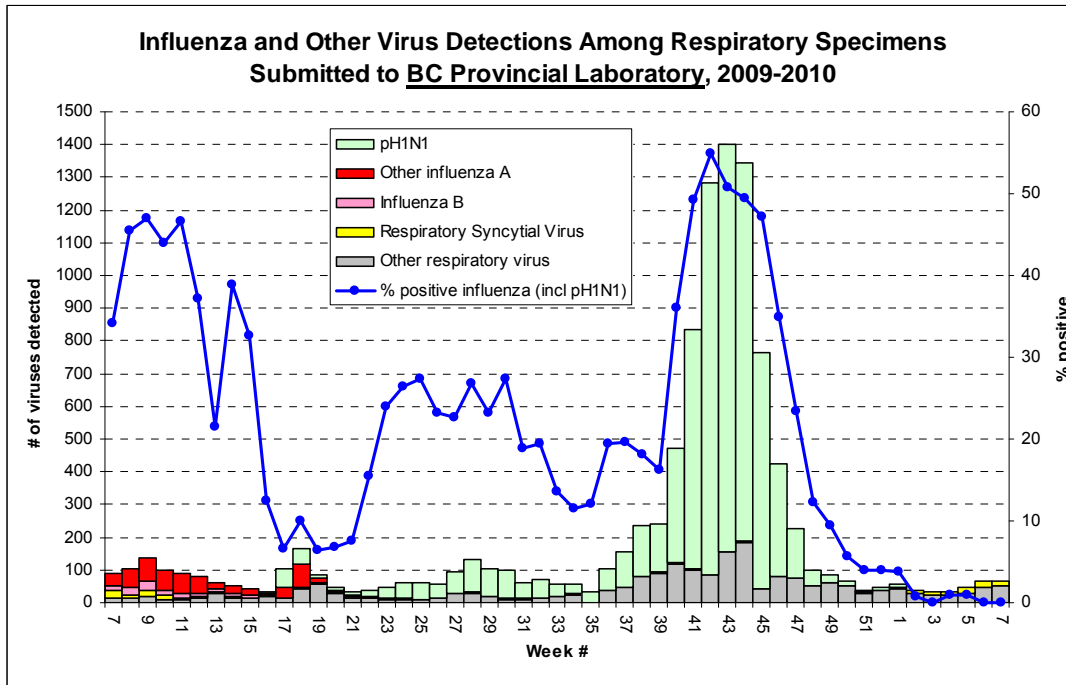
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Laboratory Reports

One hundred twenty-nine respiratory specimens were tested at the BC Provincial Laboratory in week 7. None were positive for influenza. This marks the second week in a row during which no influenza viruses have been detected in BC by the Provincial Laboratory. Since week 35 (September 1, 2009), >99% of all influenza detections in BC were pH1N1. Detections of other seasonal influenza viruses over the same period have been limited to-date (29 out of 6554 influenza detections in total). In week 7, 129 specimens were tested for other respiratory pathogens, of which 28 (22%) tested positive for rhino/enterovirus, 16 (12%) for RSV, 12 (9%) for human metapneumovirus, 8 (6%) for coronavirus, 2 (2%) for human bocavirus, and 1 (1%) for parainfluenza. Thus, acute respiratory illness in BC for which a specimen is collected continues to be more likely due to a cause other than influenza.

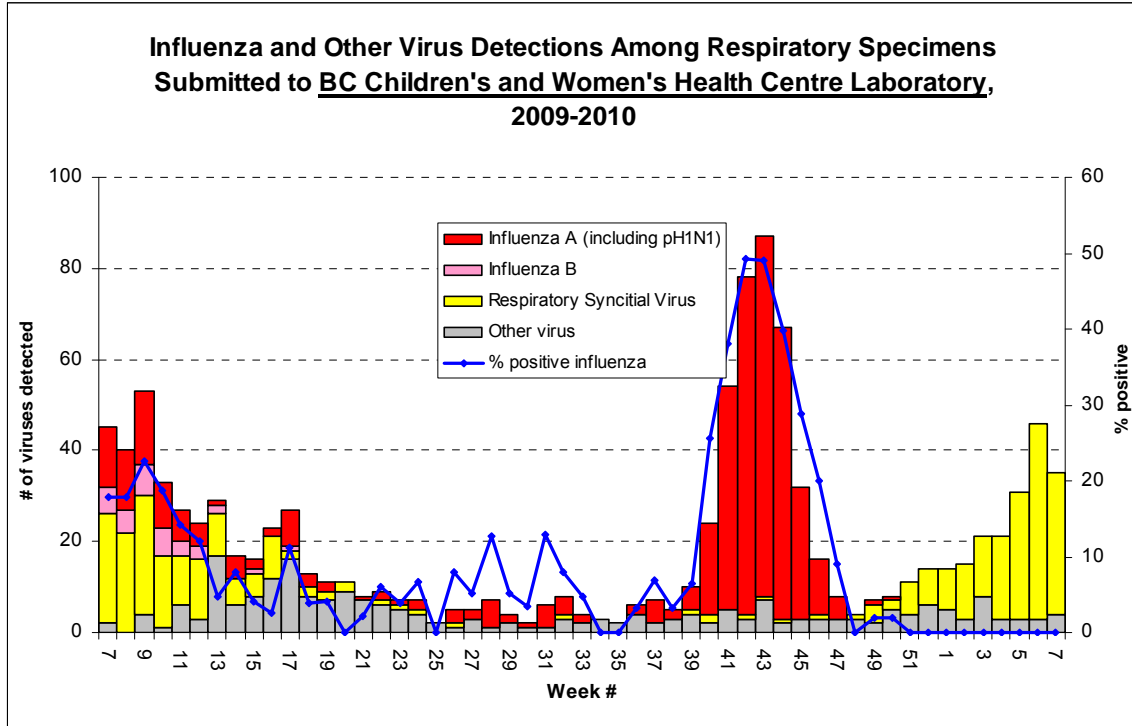


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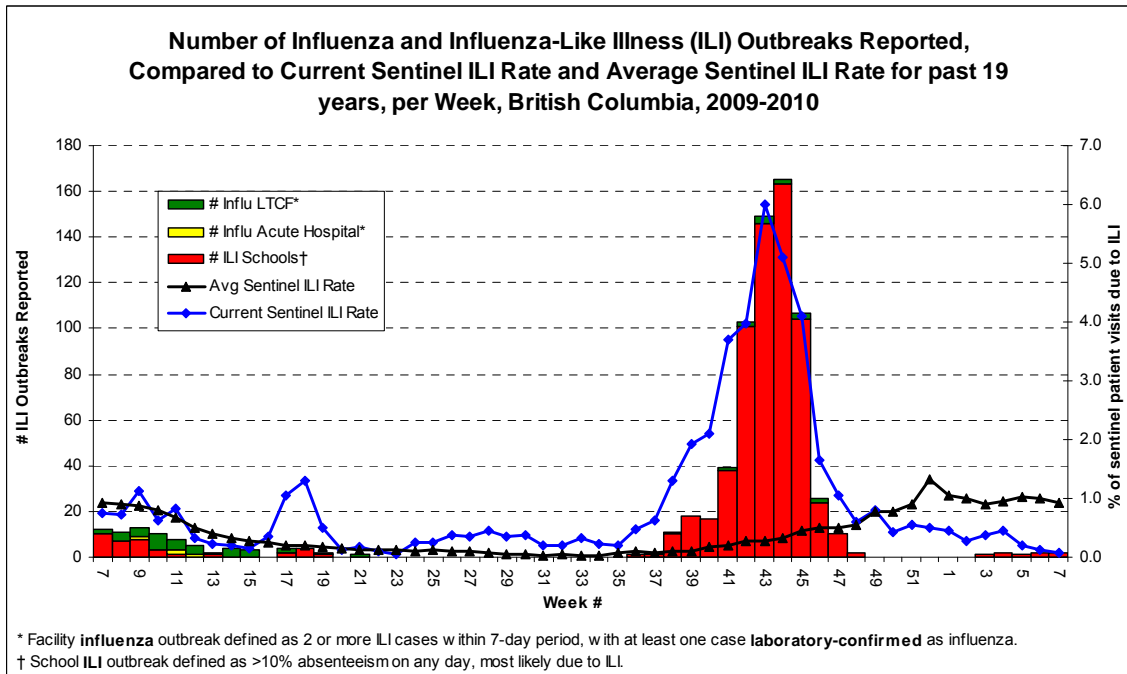
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During week 7, BC Children's and Women's Health Centre Laboratory tested 87 respiratory specimens. None were positive for influenza, marking the 9th week in a row during which no influenza viruses have been detected by this lab. Thirty-one (36%) specimens tested positive for RSV, 3 (3%) for parainfluenza, and 1 (1%) for adenovirus.



ILI Outbreaks

In week 7, no lab-confirmed influenza outbreaks were reported in facilities in BC. Two ILI outbreaks were reported in schools. 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.



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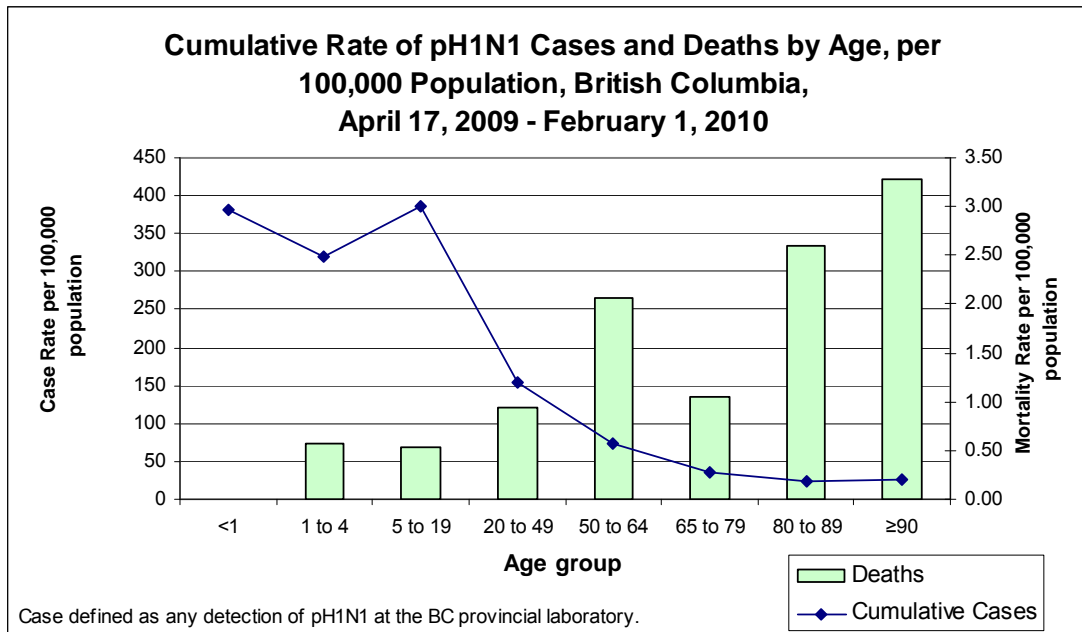
February 14-20, 2010

Pandemic H1N1 (pH1N1) Severe Outcomes

No additional hospitalizations or deaths in patients with laboratory-confirmed pH1N1 were reported in week 7. More than 1000 pH1N1 hospitalizations and >50 pH1N1 deaths were reported in the province between April 2009 and February 2010. Sixty-six percent of hospitalized cases had at least one reported underlying medical condition (excluding pregnancy). Twenty-five percent of hospitalized cases were admitted to the intensive care unit, and 8% died. As shown in the mortality graph below, the ratio of pH1N1 mortality to case detection is lowest in the young and highest in the old.

For further description of BC pH1N1 cases, visit: www.bccdc.ca/dis-cond/DiseaseStatsReports/influSurveillanceReports.htm

Resources for healthcare professionals: www.bccdc.ca/resourcematerials/newsandalerts/healthalerts/H1N1FluVirusHumanSwineFlu.htm



CANADA

FluWatch

During week 6 (February 7-13), influenza activity in Canada remained low. The sentinel ILI consultation rate was 11 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 27% positivity for RSV. Of the 6 influenza detections reported nationally, 3 were pH1N1 (NS and ON), 1 was seasonal H1N1 virus (ON), and 2 were non-subtyped influenza A viruses.

(www.phac-aspc.gc.ca/fluwatch/)

National Microbiology Laboratory

Between September 1, 2009 and February 19, 2010, 803 influenza isolates (793 pandemic H1N1 and 10 seasonal influenza) were collected from provincial and hospital labs and characterized at the National Microbiology Laboratory (NML):

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

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

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

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

1 B/Brisbane/60/2008 (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

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Antiviral Resistance

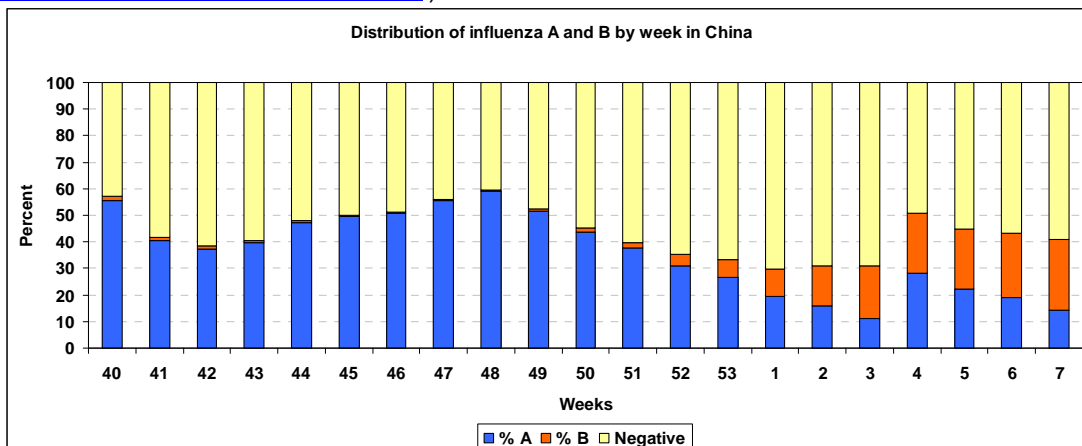
Drug susceptibility testing at the NML between September 1, 2009 and February 18, 2010 indicated that 99% (995/1007) of pH1N1 isolates were sensitive to oseltamivir. All influenza B isolates (n=1) and influenza A/H3N2 isolates (n=9) tested were sensitive to oseltamivir, and the 4 seasonal A/H1N1 isolates tested were oseltamivir-resistant. All pH1N1 (n=985), seasonal H1N1 (n=2), A/H3N2 (n=9), and influenza B (n=1) isolates were sensitive to zanamivir. All pH1N1 (n=1056) and A/H3N2 (n=17) isolates were resistant to amantadine. Two 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 6 (February 7-13), influenza activity remained low in the United States (www.cdc.gov/flu/weekly/). Four percent (129/3656) of respiratory specimens tested in reference laboratories were positive for influenza. All (53/53) subtyped influenza A viruses were pH1N1. Influenza B was detected in 4 specimens. The proportion of sentinel physician visits due to ILI remained low (2.1%) and below the national baseline.

In Europe, nearly all countries reported low-level influenza activity for the week of February 8-14. Seven percent of sentinel laboratory samples were positive for influenza, a further decrease from the previous week. Of 46 sentinel influenza detections across Europe from February 8-14, 2 were influenza B, 44 were influenza A, and 100% of the sub-typed influenza A viruses were pH1N1. (www.eiss.org)

Globally, 93% (785/844) of the influenza detections reported to WHO from January 31 – February 6, 2010 were influenza A, and of those sub-typed, 97% (651/673) were pH1N1. However, influenza B activity has been increasing in recent weeks in China, as shown in the graph below. 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). In temperate regions of the southern hemisphere, sporadic cases of pH1N1 continue to be detected; however, sustained community transmission has not been observed in recent weeks. (www.who.int/csr/don/2010_02_19/en/index.html)



Data source: FluNet World Health Organization, <http://gamapserver.who.int/GlobalAtlas/home.asp>

Data Accessed: February 24, 2010

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:

Epidemiology Services : BC Centre for Disease Control (BCCDC)

655 W. 12th Ave, Vancouver BC V5Z 4R4. Tel: (604) 707-2510 / Fax: (604) 707-2516. InfluenzaFieldEpi@bccdc.ca

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 or swine origin 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

Influenza-Like Illness (ILI) Outbreak Summary Report Form

Please complete and email to ilioutbreak@bccdc.ca or fax to (604) 707-2516

ILI: Acute onset of respiratory illness with fever and cough and with one or more of the following: sore throat, arthralgia, myalgia, or prostration which *could* be due to influenza virus. In children under 5, gastrointestinal symptoms may also be present. In patients under 5 or 65 and older, fever may not be prominent.

Schools and work site outbreak: greater than 10% absenteeism on any day, most likely due to ILI.

Residential institutions (facilities) outbreak: two or more cases of ILI within a seven-day period.

SECTION A: Reporting Information

Person Reporting: _____ Title: _____

Contact Phone: _____ Email: _____

Health Authority: _____ HSDA: _____

Full Facility Name: _____

- Is this report: First Notification (*complete section B below; Section D if available*)
 Update (*complete section C below; Section D if available*)
 Outbreak Over (*complete section C below; Section D if available*)

SECTION B: First Notification

- Type of facility: LTCF Acute Care Hospital Senior's Residence
(if ward or wing, please specify name/number: _____)
 Workplace School (grades: _____) Other (_____)

Date of onset of first case of ILI (dd/mm/yyyy): _____ / _____ / _____

Numbers to date	Residents/Students	Staff
Total		
With ILI		
Hospitalized		
Died		

SECTION C: Update AND Outbreak Declared Over

Date of onset for most recent case of ILI (dd/mm/yyyy): _____ / _____ / _____

If over, date outbreak declared over (dd/mm/yyyy): _____ / _____ / _____

Numbers to date	Residents/Students	Staff
Total		
With ILI		
Hospitalized		
Died		

SECTION D: Laboratory Information

- Specimen(s) submitted? Yes (location: _____) No Don't know
If yes, organism identified? Yes (specify: _____) No Don't know