

BRITISH COLUMBIA INFLUENZA SURVEILLANCE BULLETIN

2009-10: Number 4, Week 43

October 25 - 31, 2009



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

Prepared by BCCDC Influenza &
Emerging Respiratory Pathogens Team

Sharp Increases in Influenza Activity Indicators for the Sixth Consecutive Week in BC

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Highlights

In week 43 (October 25-31), BC continued to experienced a large increase in influenza activity. Most indicators, including proportion of patients presenting to sentinel physicians for ILI, Medical Services Plan claims for influenza, and emergency room visits from BC children's hospital, increased sharply compared to the previous week. Laboratory positivity for influenza remained similar to the two previous weeks. At the BC Provincial Laboratory, 50.4% (1240/2460) of respiratory specimens were positive for influenza A, and all subtyped isolates were the pandemic H1N1 virus (pH1N1). 146 school ILI outbreaks were reported during this period. Together surveillance indicators suggest that influenza activity due to pandemic H1N1 is increasing and remains above the expected range for this time of year.

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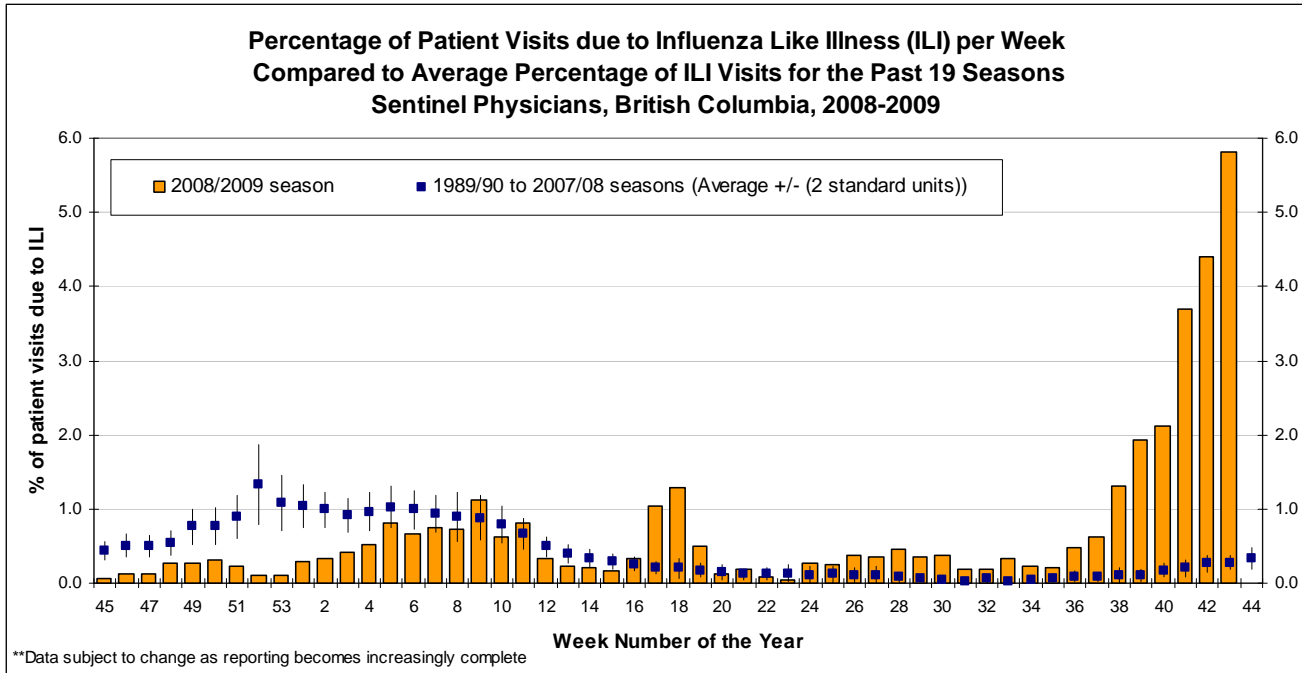
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British Columbia

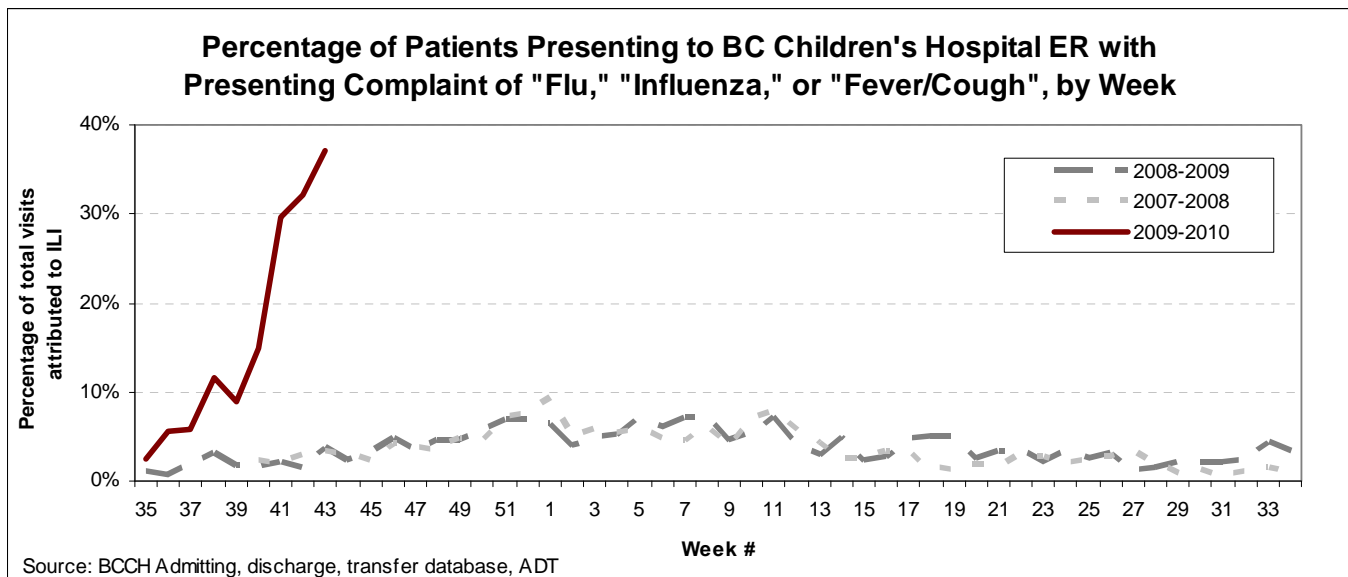
Sentinel Physicians

During week 43, the percentage of patients presenting to sentinel physicians with ILI sharply increased to 5.8%. This is higher than the proportion reported in the previous week, the proportion observed during the peak of the 2008-09 season and the historic peak. 80% (39/49) of sentinel physicians reported for week 43.



BC Children's Hospital Emergency Room

During week 43, the proportion of Emergency Room visits BC Children's hospital attributed to ILI increased to 37%. This is higher than the proportion observed last week and substantially higher than the proportion observed in the same week in previous years.



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

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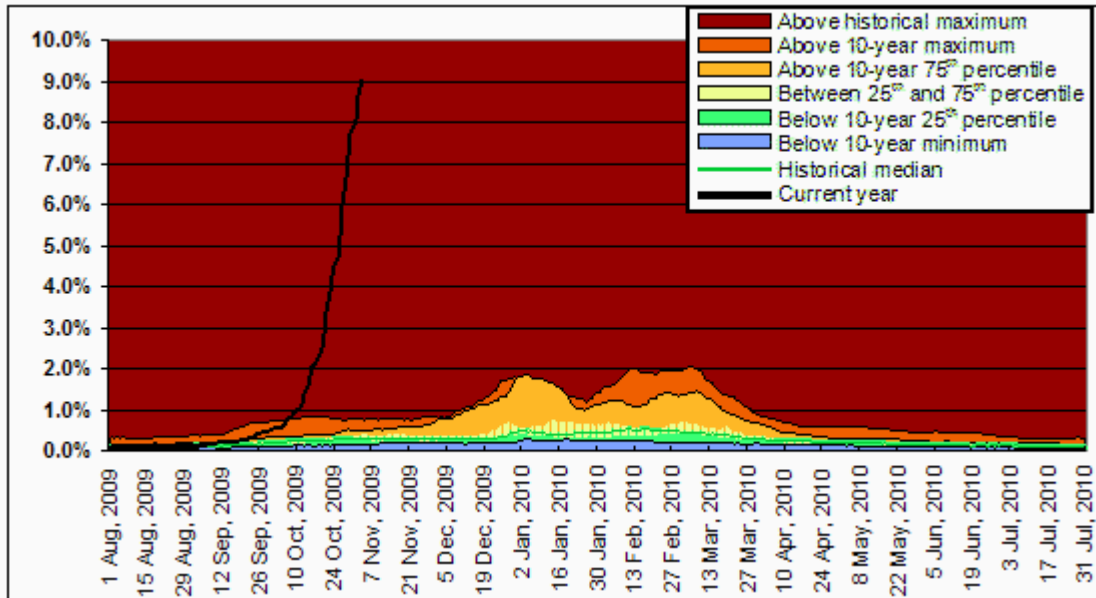
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Medical Services Plan

Influenza illness as a proportion of all submitted BC Medical Services Plan (MSP) claims continued to climb steeply in week 43. All five RHA's reported increases and were above the historical maximum.

Influenza Illness Claims* British Columbia

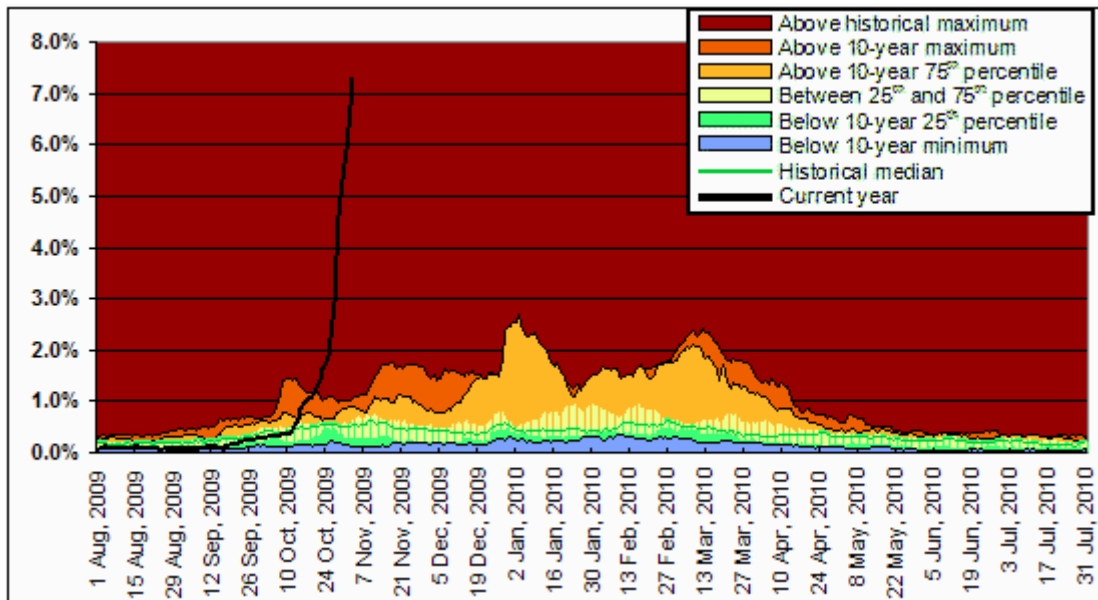


*Influenza illness is tracked as the percentage of all submitted MSP general practitioner claims with ICD-9 code 487 (influenza).

**MSP week 27 Sep 2009 corresponds to sentinel ILI week 40.

***Current to November 3, 2009

Northern

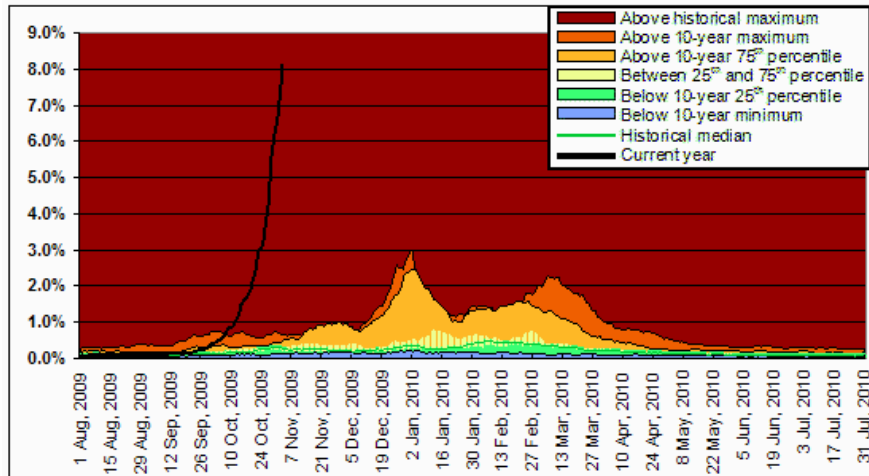


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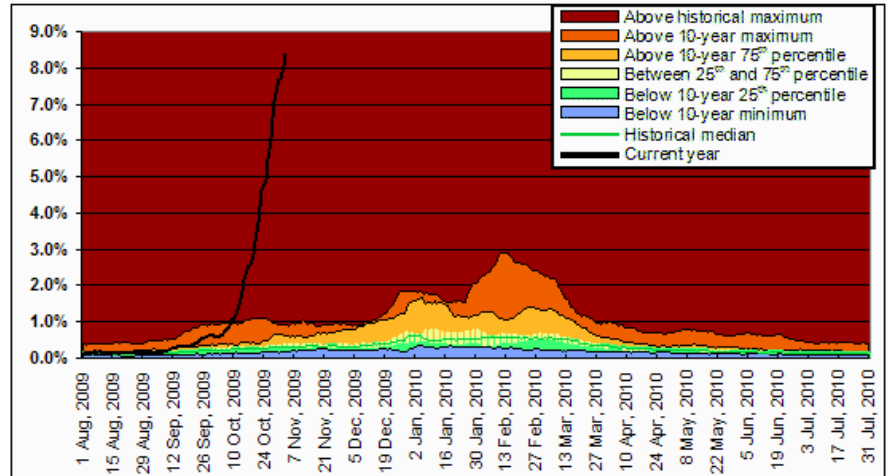
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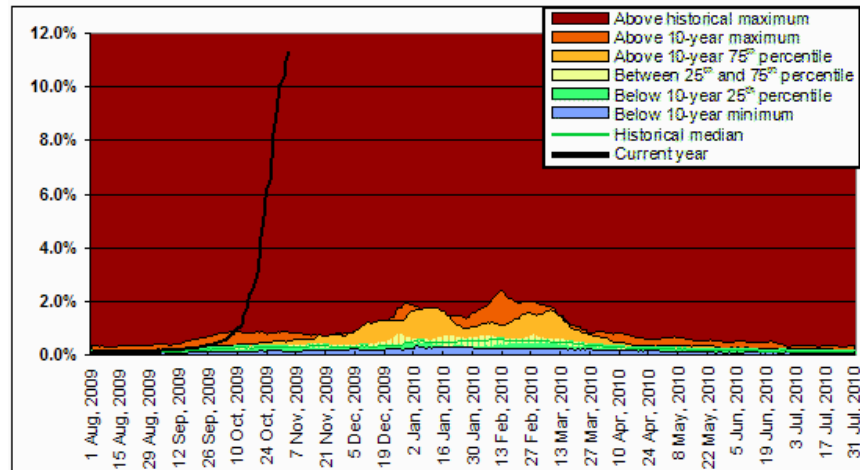
Interior



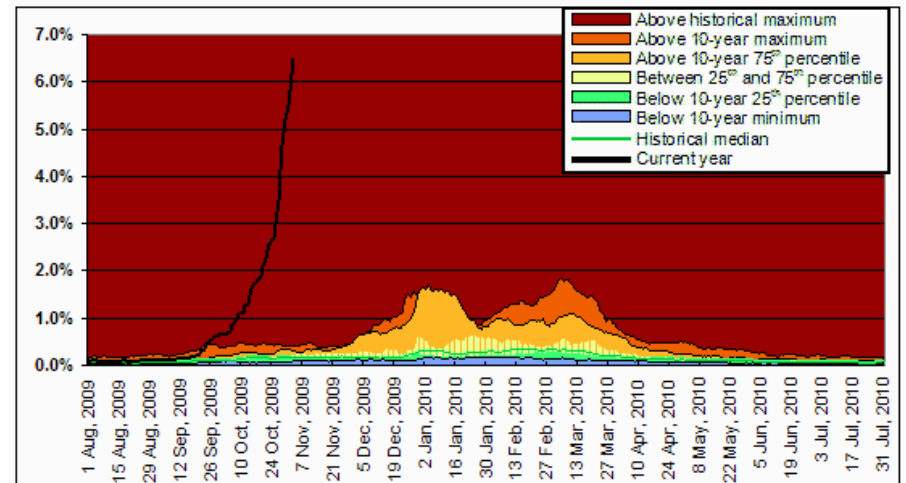
Vancouver Coastal



Fraser



Vancouver Island



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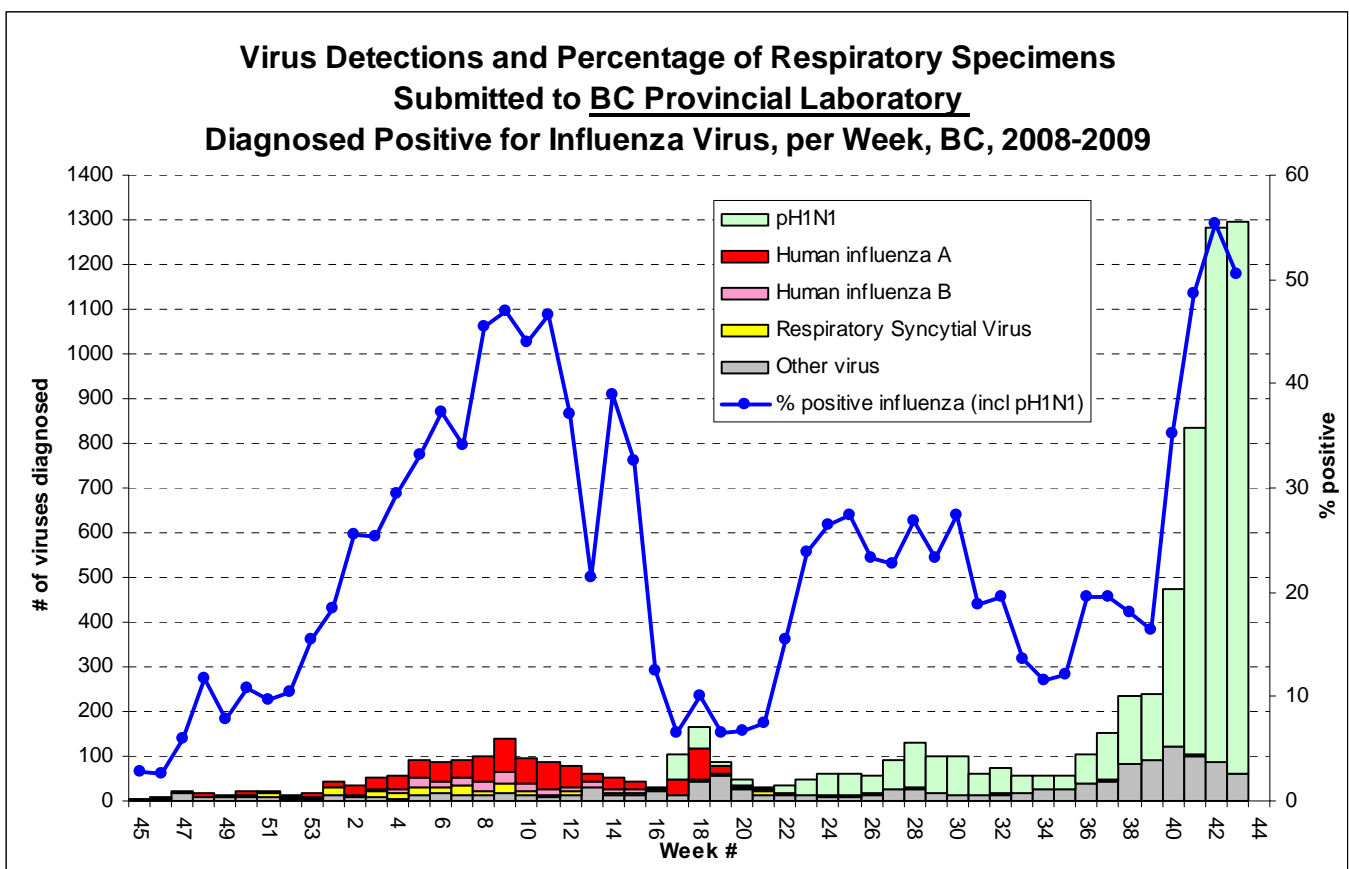
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Laboratory Reports

There has been a large increase in the number of respiratory specimens submitted to BCCDC Laboratory Services. In week 43 the lab tested 2460 respiratory specimens, 1240 (50.4%) tested positive for influenza A (including pH1N1), this is similar in volume and percent positivity compared to the previous week. The percent positivity is also similar to the seasonal peak observed last year. Of those subtyped (n=1237) 99.9% were pH1N1. Since week 35 (September 1, 2009), >99% of all subtyped influenza A viruses have been pH1N1. No influenza B was detected during week 43. Other respiratory pathogens detected included rhino/enterovirus (1.9%), parainfluenza (0.3%) and adenovirus (0.1%).

During week 43, Children's and Women's Health Centre Laboratory tested 161 respiratory specimens. The proportion positive for influenza was similar compared to the preceding week, all tests positive for influenza were pH1N1. One tested positive for RSV and 7 tested positive for parainfluenza.

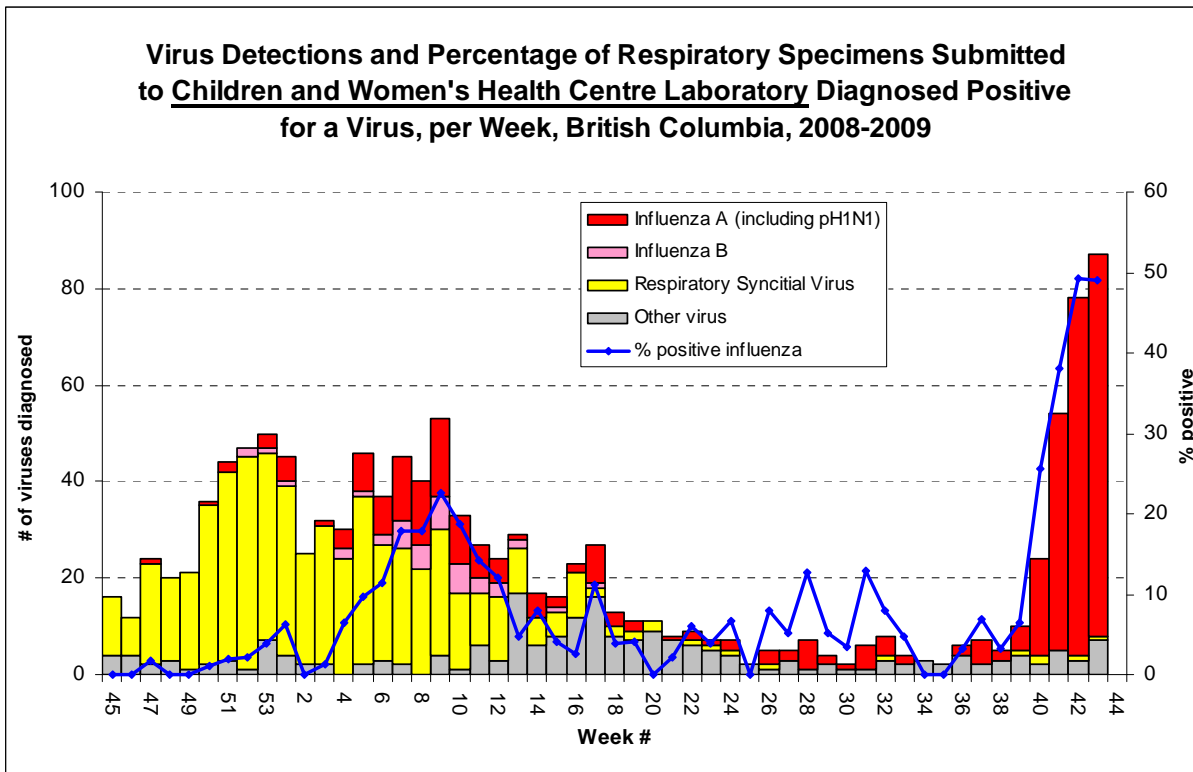


Note: The increase in bars during weeks 17-19 above reflects the large surge in specimens submitted to BCCDC for testing (2594 specimens were tested, a 5-fold increase over the number of tests performed during the 3-week period of peak activity this season). The increases in weeks 38-43 reflect a similar surge in testing.

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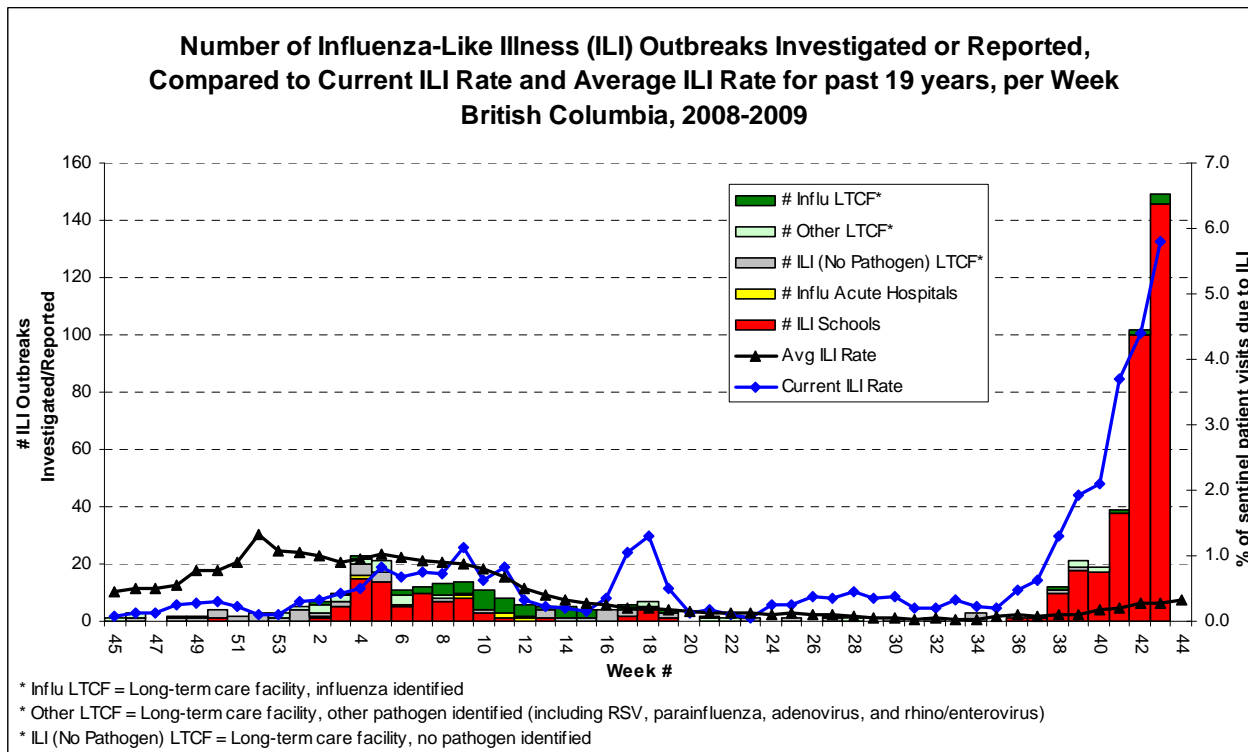
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ILI Outbreaks

In week 43, the number of school outbreaks increased to 146 (65 in IHA, 32 in FHA, 18 in VIHA, 17 in NHA, and 14 in VCH). There were 3 pH1N1 confirmed outbreaks reported in week 43 (2 in FHA and 1 in VCH).



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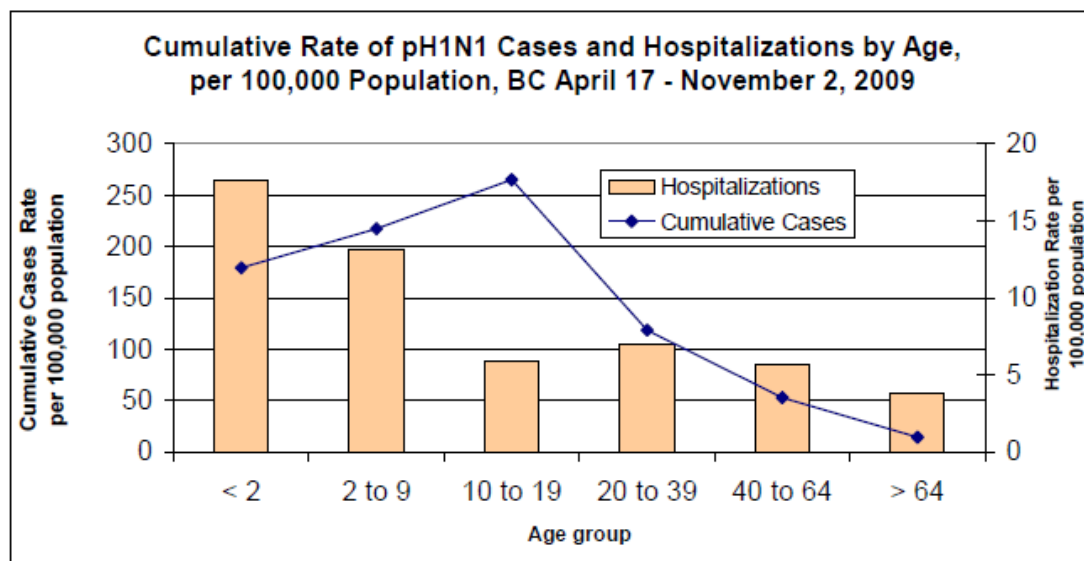
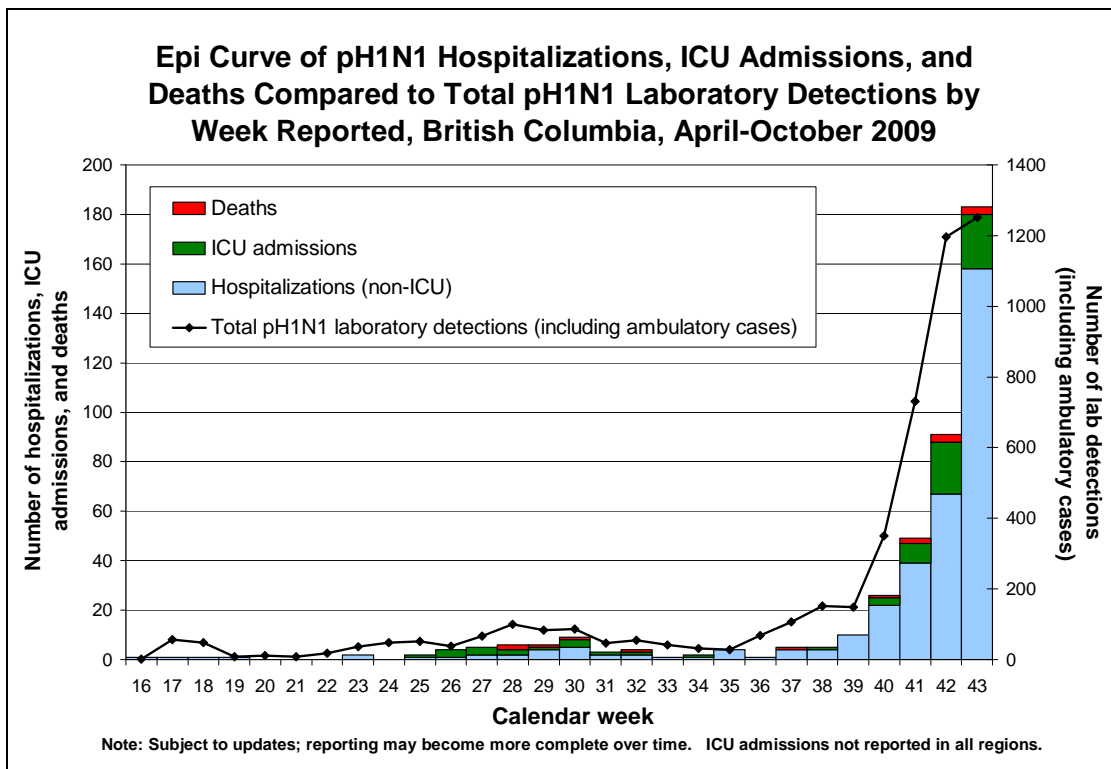
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Pandemic H1N1 (pH1N1) Severe Outcomes

As of November 2, 399 pH1N1 cases in BC have been admitted to hospital, of which 183 were reported in the preceding week. Among hospitalized cases, 45.6% had at least one underlying medical condition; 14% had lung disease, 17% had asthma and 9% had chronic heart disease. Twenty-five percent of hospitalized cases have been admitted to the intensive care unit and 4% have died. As shown in the graph below, pH1N1 total case rates have been highest among those 10 to 19 years of age, while hospitalization rates have been highest in those under 2 years of age. The pH1N1 detection rate is lowest among persons > 65 yrs of age, however the risk of hospitalization among laboratory confirmed cases is higher in comparison to other age groups.

For further description of BC pH1N1 cases, visit: www.bccdc.ca/dis-cond/DiseaseStatsReports/influSurveillanceReports.htm
 Resources for healthcare professionals: www.bccdc.ca/resourcematrials/newsandalerts/healthalerts/H1N1FluVirusHumanSwineFlu.htm



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CANADA

FluWatch

During week 42, national influenza activity levels increased from the previous week. Compared to the week ending September 5, ILI consultation rates increased from 14 to 59 consultations per 1000 patient visits; this is above the expected range for this time of year. People under 20 had the highest consultation rates. The proportion of tests positive for influenza was 29.0% a large increase compared to previous weeks. 99.7 % of all subtyped influenza A specimens were positive for pH1N1; a single specimen was positive for seasonal H1N1 and 8 specimens were positive for H3N2. None were positive for influenza B. Geographically BC, Saskatchewan, Newfoundland and the Northwest Territories reported widespread activity; however activity levels are also increasing in the rest of the country particularly Alberta and Ontario. www.phac-aspc.gc.ca/fluwatch/

National Microbiology Laboratory

Between September 1st and October 28, 2009, 54 influenza isolates have been collected from provincial and hospital labs and characterized at the National Microbiology Laboratory (NML):

52 A/California/07/2009-like[§] from AB, ON, SASK, BC, NT, & NU;

1 A/Brisbane/59/2007-like[†] from AB;

1 B/Brisbane/60/2008-like[†] from ON

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

[†] indicates a strain match to the 2009-10 vaccine

Antiviral Resistance

Drug susceptibility testing at the NML between September 1st and October 28 indicated that most pH1N1 (n=35) isolates were sensitive to oseltamivir, one virus was resistant. All influenza B isolates tested (n=1) were sensitive and the one seasonal H1N1 isolate tested was resistant. All pH1N1 (n=39), seasonal H1N1(n=1) and A/H3N2 (n=1) isolates were sensitive to zanamivir. All pH1N1 (n=39), seasonal H1N1(n=1) and A/H3N2 (n=3) isolates were resistant to amantadine.

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

Northern Hemisphere: In the United States (<http://www.cdc.gov/flu/weekly/>), in the week ending October 24 influenza activity increased. Forty-two percent of respiratory specimens tested in reference laboratories in week 42 were positive for influenza, and 100% percent of the subtyped influenza A viruses were pH1N1. 0.3% of specimens tested positive for Influenza B. The proportion of sentinel physician visits for ILI increased to 8.0%, this is above the seasonal peak for last year. The proportion of deaths attributed to pneumonia and influenza was at the epidemic threshold. In Europe for the week ending October 30, 17 out of 29 countries reported a rising trend. 40% of sentinel laboratory samples were positive for influenza; over 99% of specimens positive for influenza A were pH1N1). (<http://www.eiss.org>)

Southern Hemisphere: Many countries in the Southern Hemisphere previously reporting severe winter influenza activity have now passed the peak. Notably Australia, influenza activity is continuing to decrease with most jurisdictions reporting activity at or near baseline levels. In New Zealand pH1N1 activity continues to decline; consultations with sentinel physicians have declined from the peak in early July, and are now approaching baseline levels. In Chile, ILI activity is within the range expected for this time of year. In South Africa cases are also declining, but pH1N1 remains the dominant subtype. Previously, in June and July of this year the dominant subtype was A/H3N2.

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Contact Us:

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List of Acronyms

ACF: Acute Care Facility

AI: Avian Influenza

FHA: Fraser Health Authority

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: www.doh.wa.gov/ehsphl/epidemiology/CD/HTML/FluUpdate.htm

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

European Influenza Surveillance Scheme: www.eiss.org/index.cgi

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.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. Pandemic H1N1 Influenza Web Sites

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

BC Provincial Government: <http://www.gov.bc.ca/h1n1/>

BC H1N1 Pandemic Response Plan: <http://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

