BRITISH COLUMBIA INFLUENZA SURVEILLANCE BULLETIN

2010-11: Number 7, Week 52

December 26, 2010 to January 1, 2011

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

Prepared by BCCDC Influenza & Emerging Respiratory Pathogens Team

A/H3N2 and pandemic A/H1N1 detections in BC: slight increase in surveillance indicators but still at low levels

Contents:

Summary

During week 52 (December 26, 2010 – January 1, 2011), influenza surveillance indicators in BC showed some slight increase while remaining below historic levels overall for this time of year. The holiday period may introduce instability in regular surveillance indicators so that further monitoring for a consistent pattern over the coming weeks is needed. At the BC Public Health Microbiology & Reference Laboratory, 63 respiratory specimens were tested. Influenza A was detected in 12 (19%) specimens: pandemic influenza A/H1N1 in 5 (8%); A/H3N2 in 4 (6%) with a further 3 (5%) for which subtype information is still pending. Nine (14%) specimens were positive for rhino/enterovirus such that for the first time this season, influenza positivity (19%) exceeded that of rhino/enterovirus over the holiday period. Other respiratory viruses were sporadically detected at the lab during this period.

Report disseminated January 5, 2011

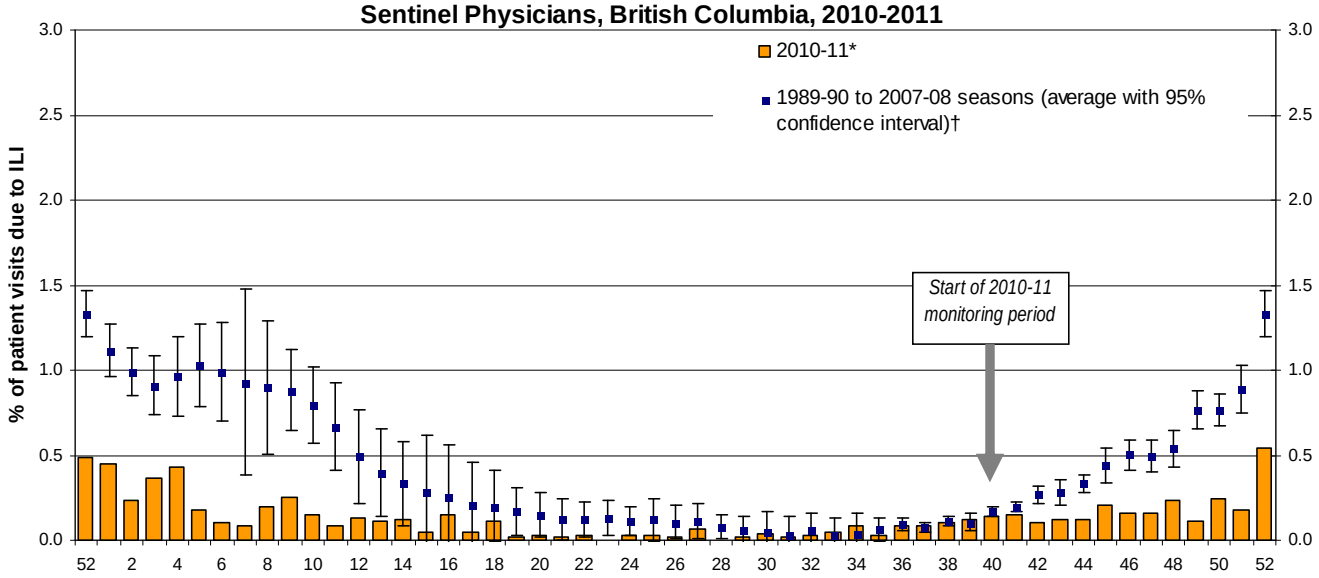
Contributors: Samson Chan, Lisan Kwindt, Naveed Janjua, Danuta Skowronski

British Columbia

Sentinel Physicians

During week 52, less than 0.6% of patients presenting to sentinel physicians had ILI, which is below the expected range for this time of year but an increase over previous weeks. This may reflect more acuity in patient visits represented over the holiday period and further monitoring for a consistent trend is needed. Forty-nine percent (23/47) of sentinel physician sites have reported to-date for week 52.

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



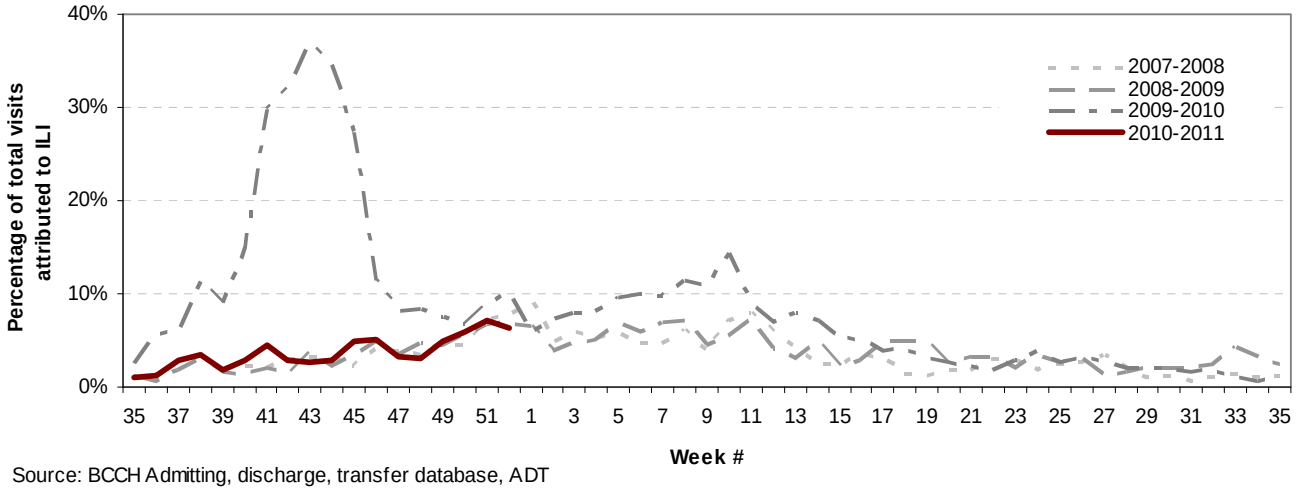
*Data subject to change as reporting becomes increasingly complete

†Historical values exclude 2008-09 season due to atypical seasonality.

BC Children's Hospital Emergency Room

The percentage of BC Children's Hospital ER visits attributed to "fever and cough" or flu-like illness decreased slightly from 7.1% last week to 6.3% towards the end of this period and remains consistent with levels observed in previous seasons.

Percentage of Patients Presenting to BC Children's Hospital ER with Presenting Complaint of "Flu," "Influenza," or "Fever/Cough", by Week



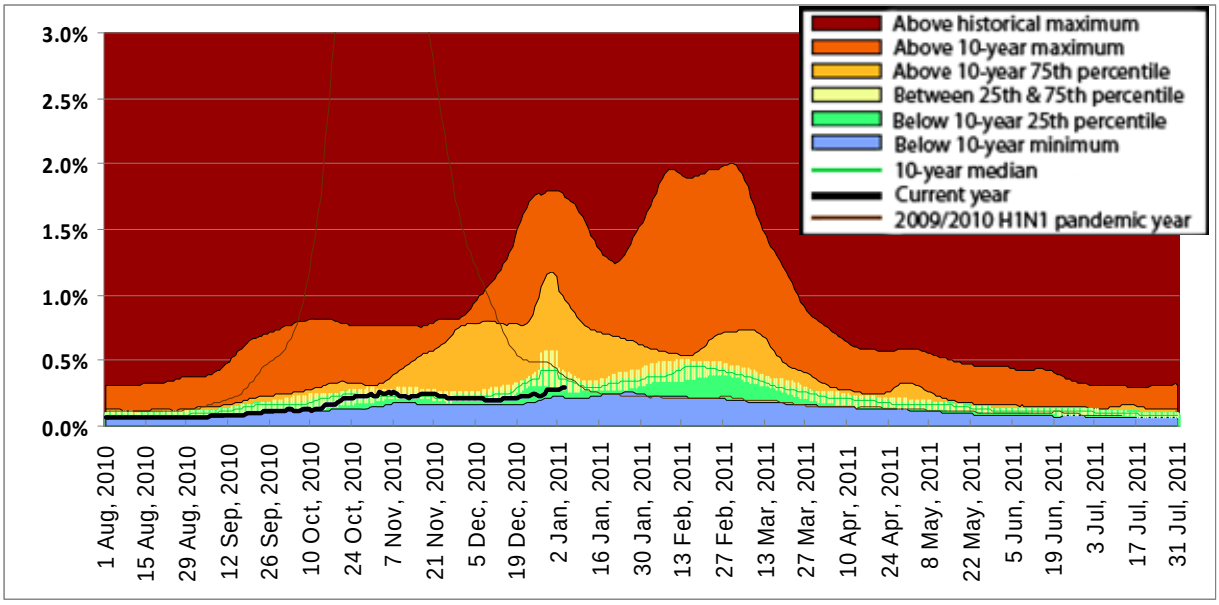
Source: BCCH Admitting, discharge, transfer database, ADT

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

Medical Services Plan

Influenza illness as a proportion of all submitted BC Medical Services Plan (MSP) claims also showed slight increase while remaining at or below historical medians provincially and in all RHAs. 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).

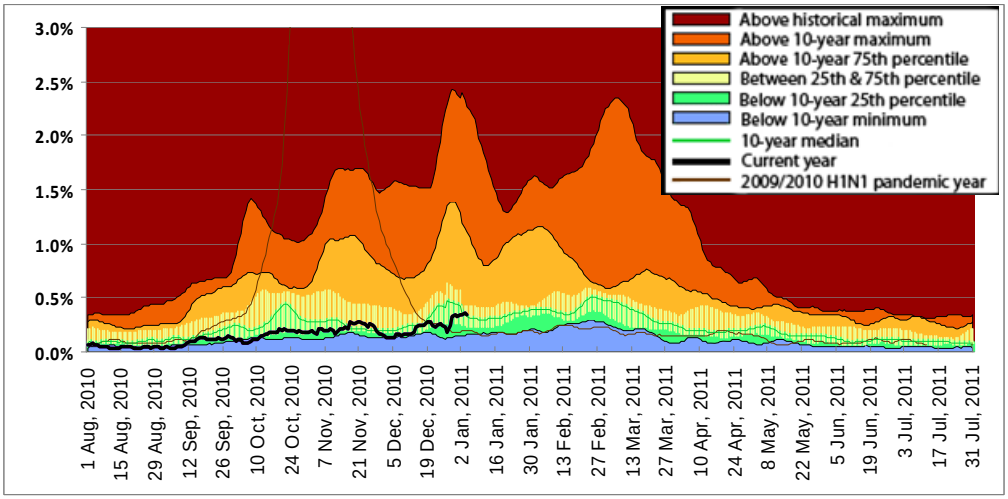
Influenza Illness Claims* British Columbia



* 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 Healthy Living & Sport

Notes: MSP week beginning 26 Dec 2010 corresponds to sentinel ILI week 52**.**
Data current to Jan 04, 2011

Northern

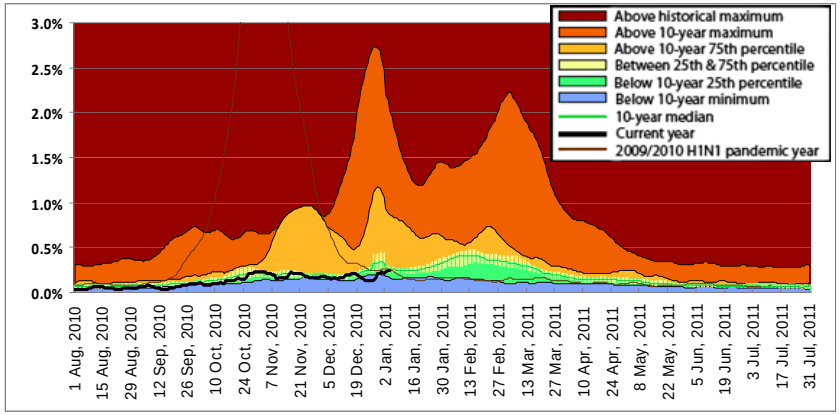


BRITISH COLUMBIA INFLUENZA SURVEILLANCE BULLETIN

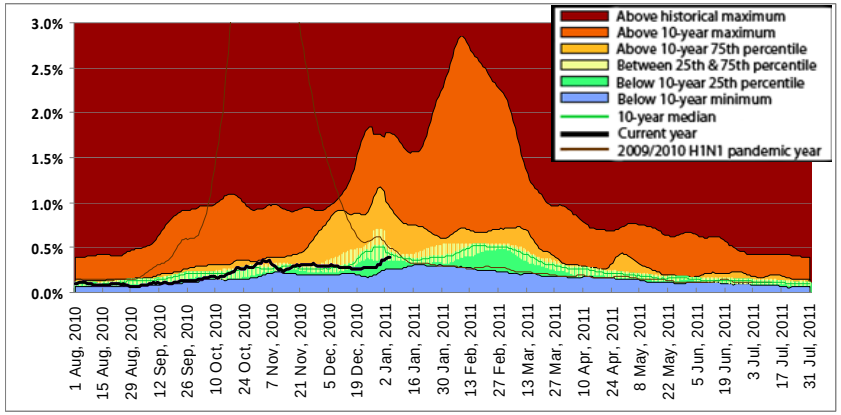
2010-11: Number 7, Week 52

December 26, 2010 to January 1, 2011

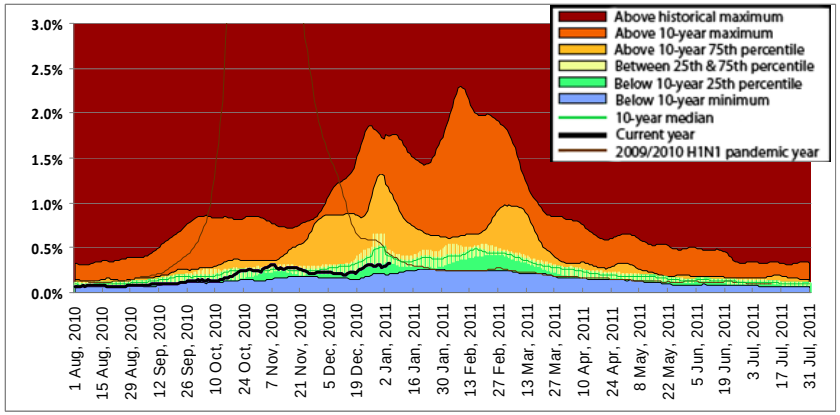
Interior



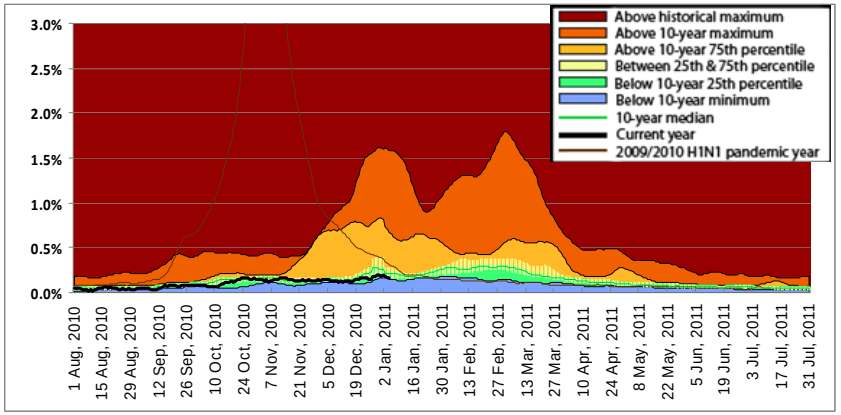
Vancouver Coastal



Fraser



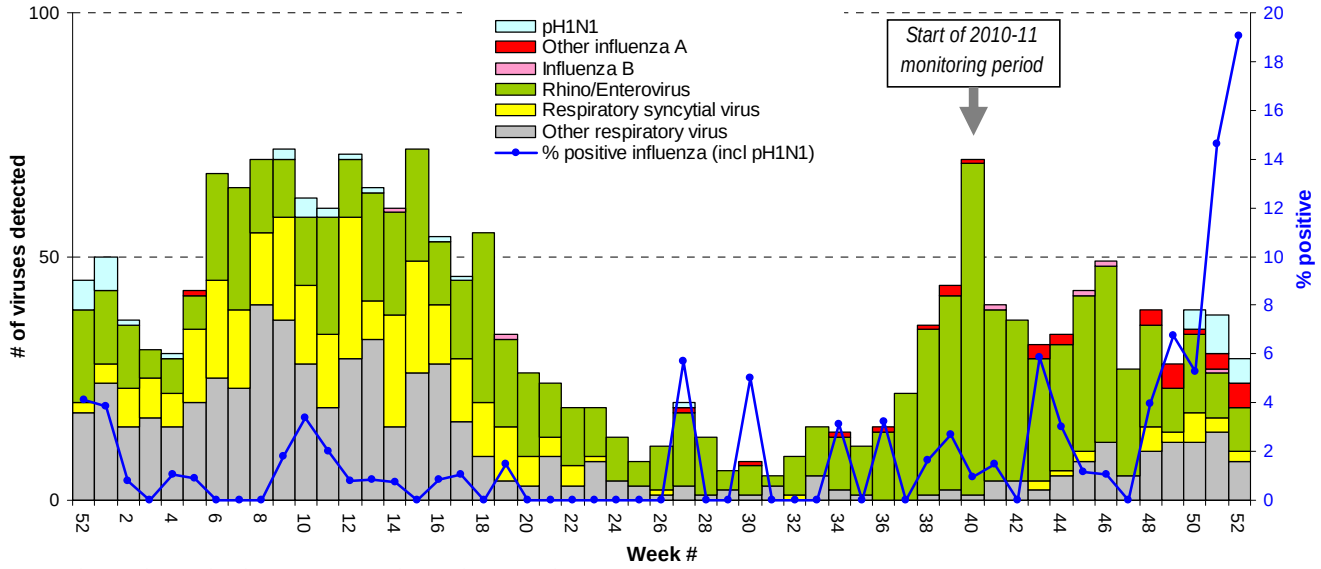
Vancouver Island



Laboratory Reports

Sixty-three respiratory specimens were tested at the BC Public Health Microbiology & Reference Laboratory in week 52. Overall influenza A was detected in 12 (19%) submitted specimens. Five (8%) were positive for pandemic H1N1. Four specimens (6%) were positive for A/H3N2. Three further influenza A detections are awaiting subtype confirmation. During this week, of 63 specimens tested for other respiratory viruses, 9 (14%) tested positive for rhino/enterovirus, 2 (3%) for parainfluenza, and 2 (3%) for RSV. As such, for the first time this season influenza positivity exceeded that of rhino/enterovirus over the holiday period. Other respiratory viruses were also sporadically detected.

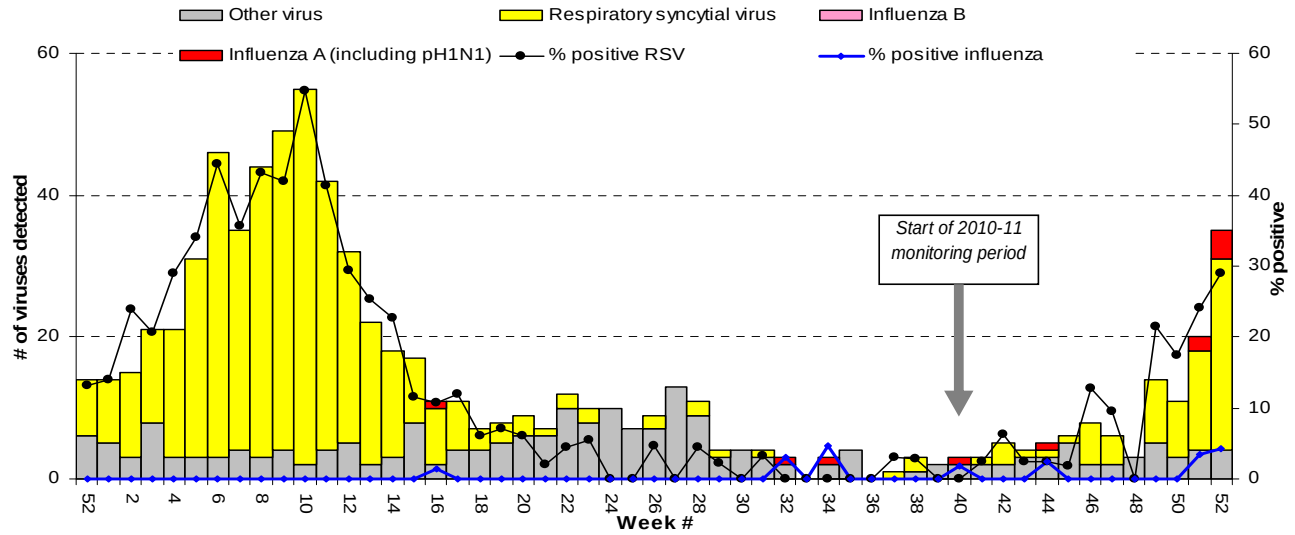
Influenza and Other Virus Detections Among Respiratory Specimens Submitted to BC Public Health Microbiology & Reference Laboratory PHSA, 2010-2011



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

During weeks 51-52, BC Children's and Women's Health Centre Laboratory tested 151 respiratory specimens. Six (4.0%) were positive for influenza. Forty-one specimens (27.2%) were positive for RSV, 7 (4.6%) for parainfluenza, and 1 (0.7%) for adenovirus.

Influenza and Other Virus Detections Among Respiratory Specimens Submitted to BC Children's and Women's Health Centre Laboratory, 2010-2011

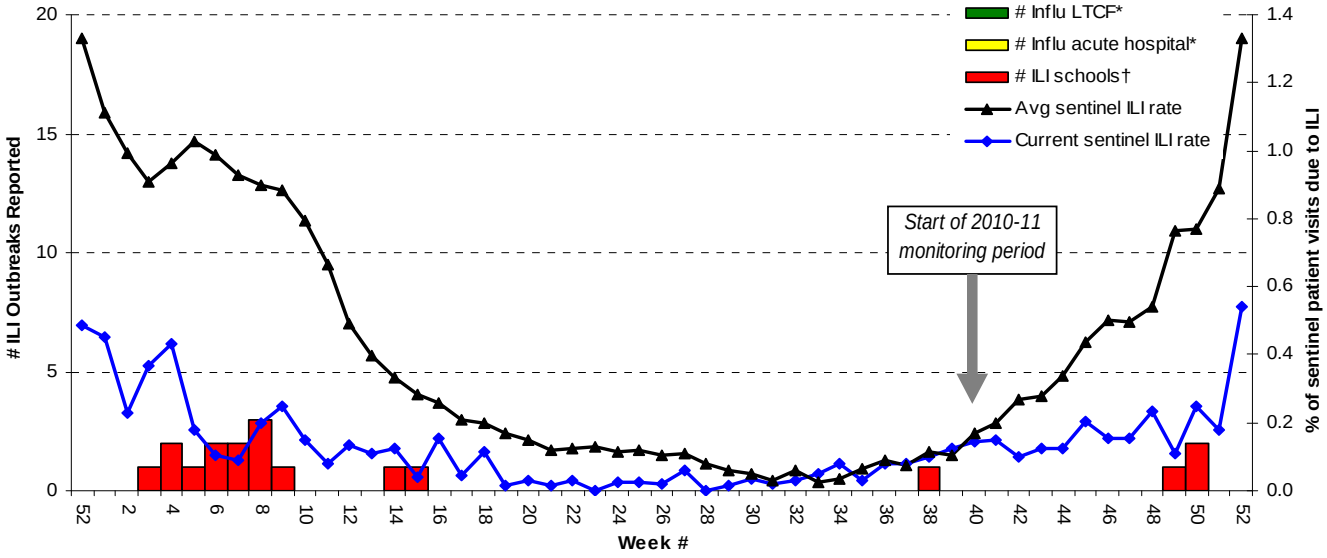


Data provided by Virology Department at Children's & Women's Health Centre of BC

ILI Outbreaks

During week 52, no new ILI outbreak was reported in the province.

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

Report for weeks 51-52 will be published on January 7th, 2010. During week 50 ending December 18, 2010, influenza activity in Canada had continued to increase, particularly in some regions of the Prairies, Ontario and Quebec. The influenza-like illness (ILI) consultation rate remained within the expected range for this time of year. Five hundred sixty-five specimens (out of 3,577 or 15.8%) tested positive for influenza in week 50, an increase from the previous week (10.8%): 153 A/H3N2, 392 unsubtyped influenza A, 15 pandemic H1N1, and 5 influenza B. Those specimens were reported from ON, QC, MB, AB, SK, and BC. Influenza A activity was mainly concentrated in ON, QC and MB. During week 50, 24 new paediatric hospitalizations and 20 new adult hospitalizations related to influenza were reported through IMPACT and CNISP networks. This is an increase over previous weeks.
www.phac-aspc.gc.ca/fluwatch/

National Microbiology Laboratory (NML): Strain Characterization

Between September 1 and December 23, 2010, seventy-nine influenza isolates were collected from provincial and hospital labs and characterized at the NML:

57 A/Perth/16/2009 (H3N2)-like¶ from QC, ON, MN, AB & BC;
7 A/California/07/2009 (H1N1)-like* from ON;
15 B/Brisbane/60/2008 (Victoria lineage)-like† from QC, ON, SK, AB & 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 influenza B component of the 2010-2011 northern hemisphere trivalent influenza vaccine

NML: Antiviral Resistance

Drug susceptibility testing at the NML between September 1 and December 22, 2010 indicated that all A/H3N2 and pandemic H1N1 isolates were resistant to amantadine. All the isolates tested for zanamivir (41 A/H3N2, 6 pH1N1, 13 type B) and oseltamivir resistance (47 A/H3N2, 6 pH1N1, 13 type B) showed susceptibility.

INTERNATIONAL

Northern Hemisphere: Report for week 52 is pending. During week 51 ending December 25, 2010, influenza activity had increased in the United States http://www.cdc.gov/flu/weekly/. Six hundred eighty nine specimens (out of 3,284, or 21.0%) tested positive for influenza in week 51: 15 pandemic H1N1, 187 A/H3, 277 unsubtyped influenza A, and 210 type B. The proportion of ILINet physician visits for ILI was 2.7%, which was above the national baseline of 2.5%. The CDC further reported that the proportion of deaths attributed to pneumonia and influenza was at the epidemic threshold in the USA.

ILI activity continued to increase in Europe, with a mix of A/H3N2, pandemic H1N1, and type B identified. France, Ireland, the Russian Federation, and Ukraine reported clinical consultation rates above their baseline thresholds. As of December 30, the ILI activity in United Kingdom has not yet peaked. Severe cases related primarily to pH1N1 continued to occur and a total of 17 required advance respiratory supports. Overall, severe cases were predominantly associated with pH1N1, less than 65 years of age, and largely unvaccinated. The circulating strains are overall well matched to the current influenza vaccine. In Europe, pandemic influenza A/H1N1 and influenza B are the predominant circulating viruses. However, the type B viruses were a mix of Florida-like and Brisbane-like. Only the Brisbane-like strain is in the influenza vaccine for type B. In the Middle East, Iran noted a sharp increase in pH1N1, co-circulating with small numbers of type B. Oman reported continued detection of predominantly pH1N1 and small numbers of type B, while Algeria detected primarily type B. In Asia, Mongolia reported a sharp increase of outpatients with ILI in sentinel clinics above the epidemic threshold. Northern China reported slight increase in the ILI rate, with 18% of specimens positive for influenza virus. A/H3N2 was the predominant circulating influenza virus in both countries. The Republic of Korea and Japan both noted low level but increasing rates of ILI. In the Republic of Korea, 35% of specimens were positive for influenza virus. pH1N1 was the predominant circulating influenza virus in both countries, which suggested a shift from the more common detections of A/H3N2 in Japan in recent weeks.
http://www.hpa.org.uk/web/HPAweb&HPAwebStandard/HPAweb_C/1287147913271
http://www.who.int/csr/disease/influenza/2010_12_30_GIP_surveillance/en/index.html

Avian Influenza: Four new cases of A/H5N1 were reported by Egypt as of January 5. One 56 year-old woman developed symptoms on December 22, was hospitalized on December 23 and treated with oseltamivir, and discharged from hospital on December 30 in stable condition. One 25 year-old female with exposure to poultry developed symptoms on December 19, was hospitalized on December 27, and died on December 29. One 27 year-old male developed symptoms on December 23, was hospitalized on December 28 and is still under treatment. One 40 year-old male with exposure to poultry developed symptoms on December 25, was hospitalized on December 30, and died on January 2. More details and a complete tally of A/H5N1 detections can be found at the links below:
http://www.who.int/csr/don/2011_01_05/en/index.html
www.who.int/csr/disease/avian_influenza/en/

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) was 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

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
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

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