BRITISH COLUMBIA INFLUENZA SURVEILLANCE BULLETIN

2010-11: Number 11, Week 4

January 23 to 29, 2011

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

Prepared by BCCDC Influenza & Emerging Respiratory Pathogens Team

Low level mix of influenza viruses detected in BC

Contents:

Summary

During week 4 (January 23 – 29, 2011), influenza surveillance indicators in BC (sentinel physician ILI rate and MSP influenza visits) were consistent with those of the previous reporting week, remaining below historic levels for this time of year. At the BC Public Health Microbiology & Reference Laboratory, 153 respiratory specimens were tested. Influenza A was detected in 19 (12%) specimens: pandemic influenza A/H1N1 in 7 (4.5%), A/H3N2 in 5 (3%), and unsubtyped influenza A in 7 (4.5%). Influenza B was detected in 9 (6%) specimens. Of 153 specimens tested, other respiratory viruses detected included 17 (11%) RSV, 11 (7%) rhino/enterovirus and 6 (4%) parainfluenza.

For your information, an updated influenza antiviral guidance document entitled "The Use of Antiviral Drugs for Influenza: Guidance for Practitioners, 2010-11" has been posted on the Association of Medical Microbiology and Infectious Disease, Canada (AMMI Canada) website available at the following link: www.ammi.ca/index.php. This document is also available on the Public Health Agency of Canada FightFlu.ca website at: www.fightflu.ca/health_professionals-eng.html

Report disseminated February 3, 2011

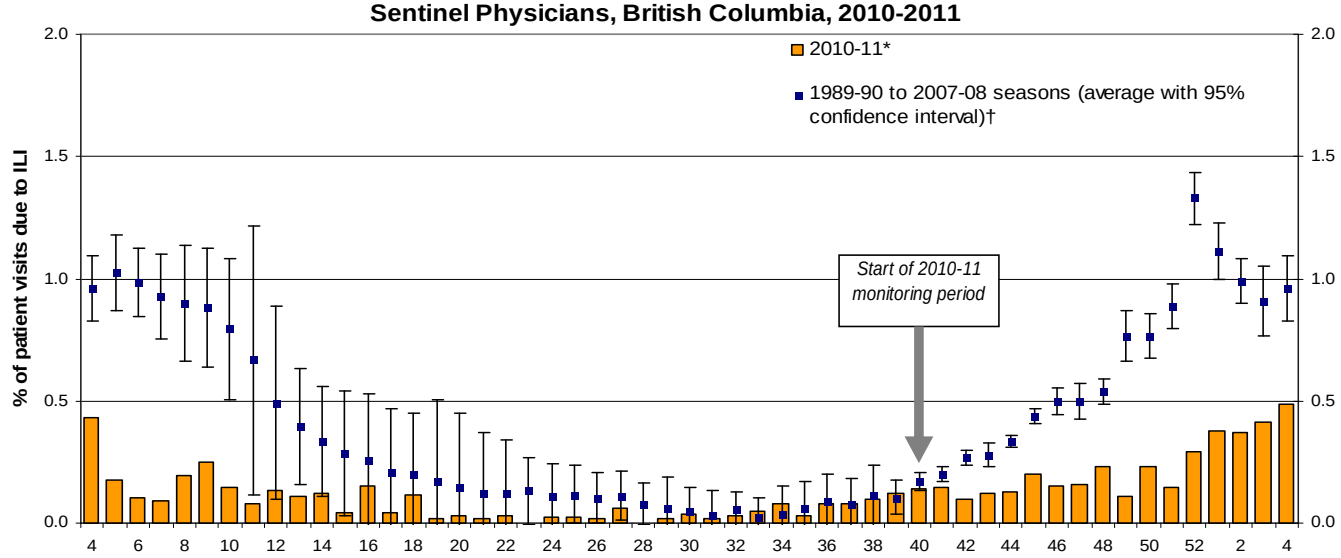
Contributors: Samson Chan, Lisan Kwindt, Naveed Janjua, Danuta Skowronski

British Columbia

Sentinel Physicians

During week 4, ~ 0.5% of patients presenting to sentinel physicians had ILI, which is similar to the previous week and still below the expected range for this time of year. Forty-six percent (21/46) of sentinel physician sites have reported to-date for week 4.

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

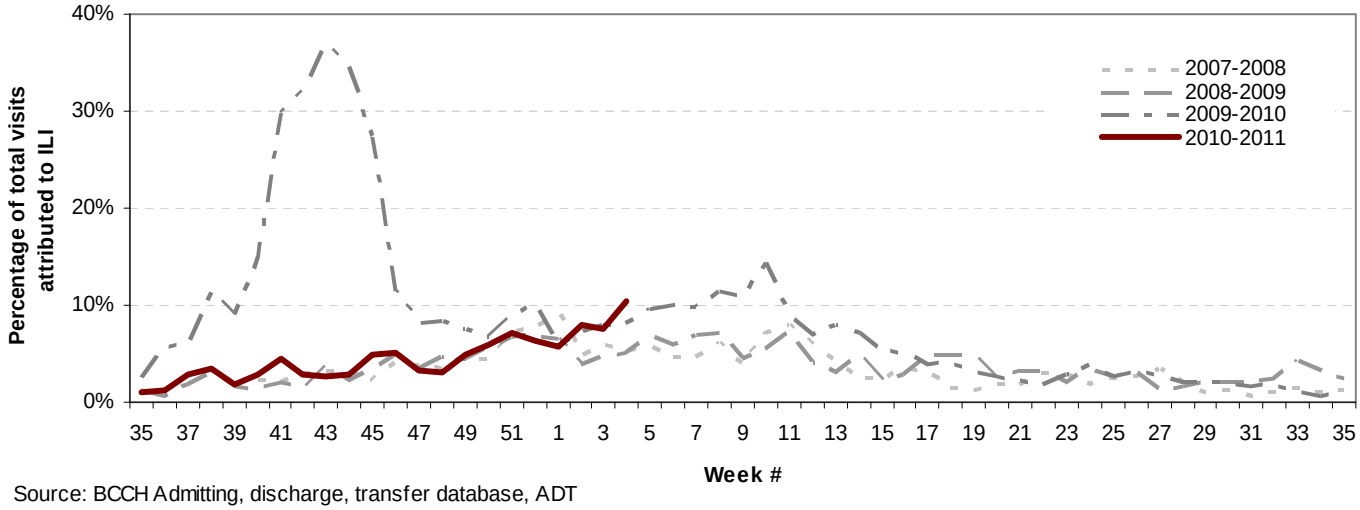


*Data subject to change as reporting becomes increasingly complete
†Historical values exclude 2008-09 season due to atypical seasonality.

BC Children's Hospital Emergency Room

The percentage of BC Children's Hospital ER visits attributed to "fever and cough" or flu-like illness increased from 7.6% in week 3 to 10.5% towards the end of week 4.

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



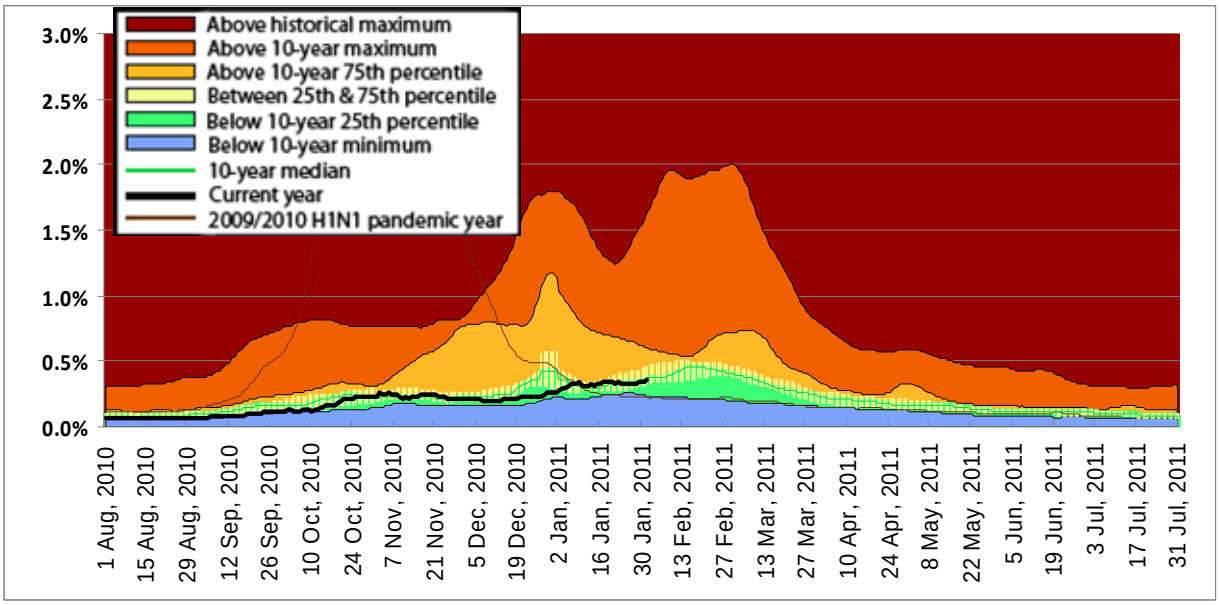
Source: BCCH Admitting, discharge, transfer database, ADT

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 is also similar to the previous week in most regions, being at or above 10-year medians provincially and in Vancouver Coastal, Fraser, Interior and Vancouver Island HAs while being below the 10-year median in Northern. 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).

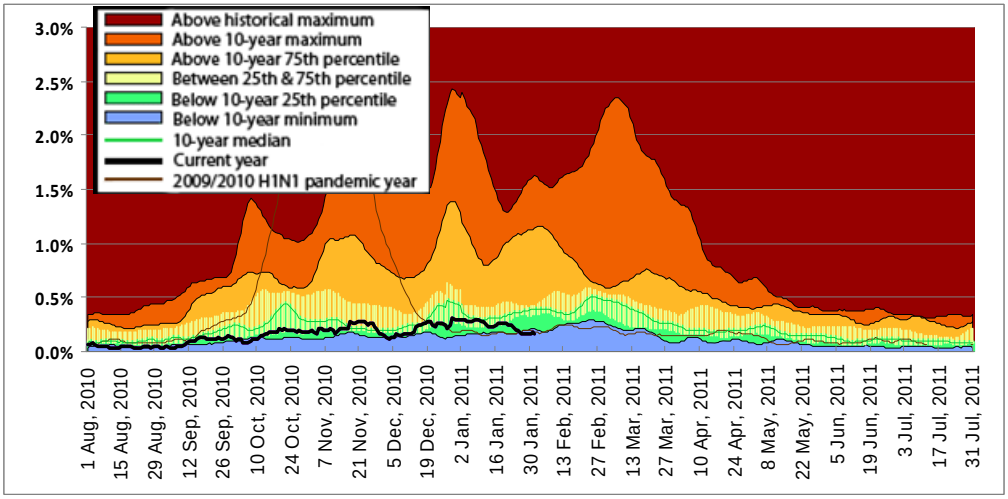
Influenza Illness Claims* British Columbia



* 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 Health Services

Notes: MSP week beginning 30 Jan 2010 corresponds to sentinel ILI week 5**.**
Data current to Feb 01, 2011

Northern



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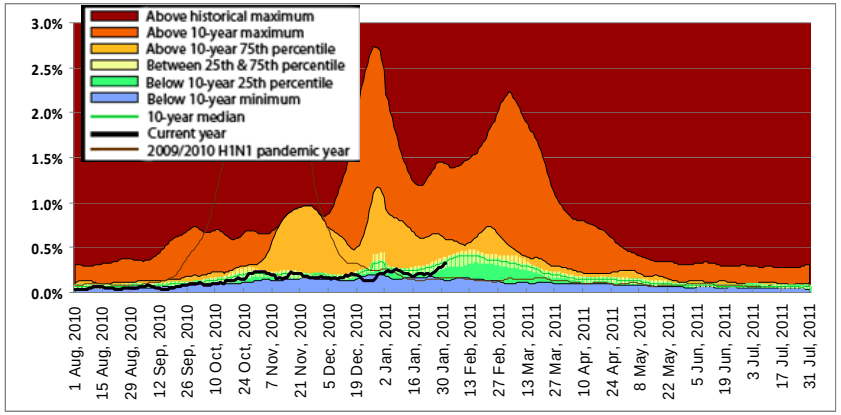
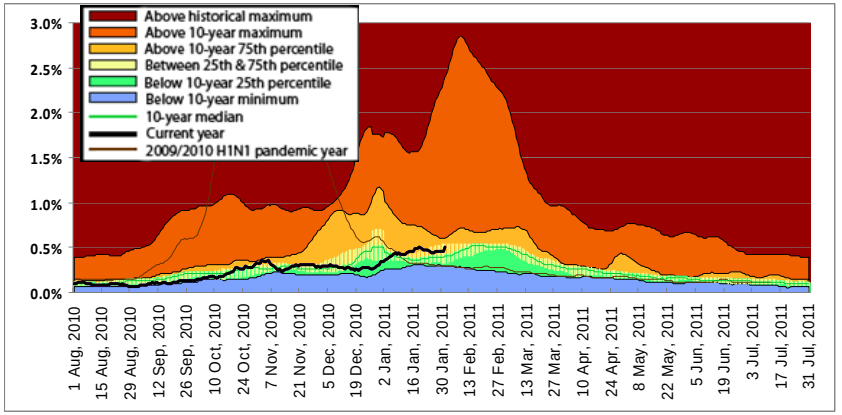
2010-11: Number 11, Week 4

January 23 to 29, 2011

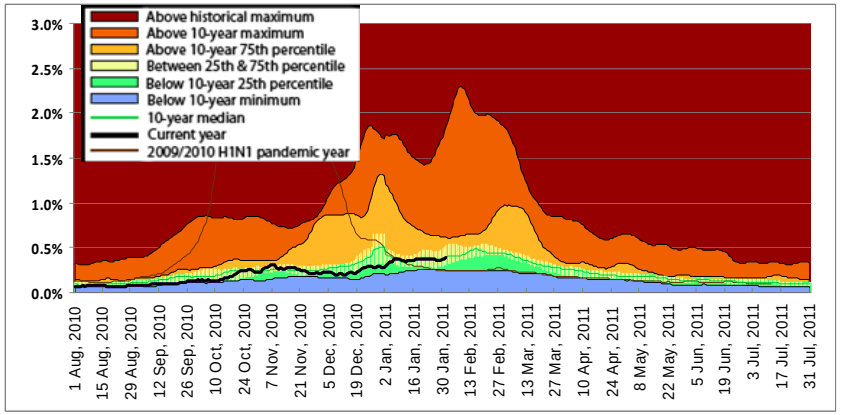
Interior



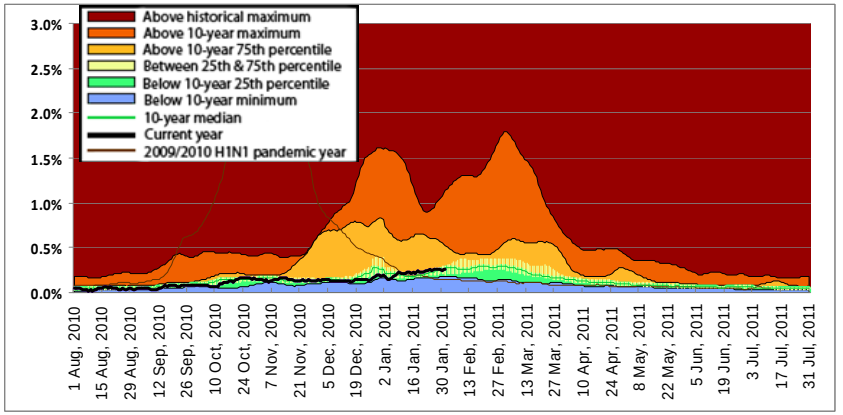
Vancouver Coastal



Fraser



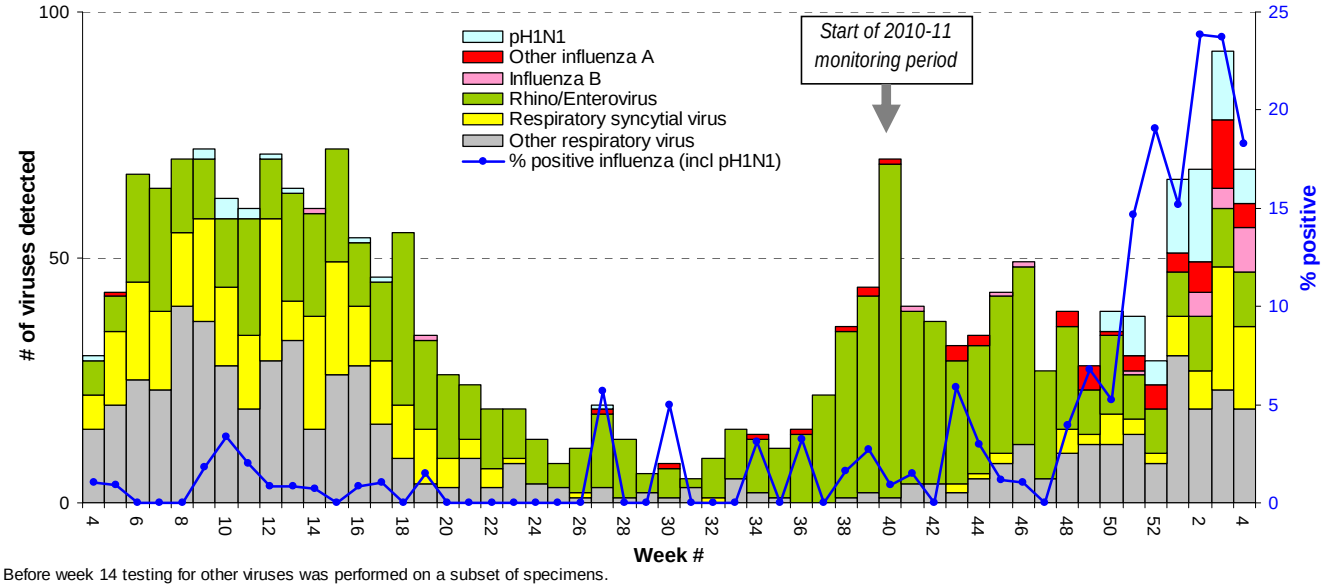
Vancouver Island



Laboratory Reports

One hundred and fifty-three respiratory specimens were tested at the BC Public Health Microbiology & Reference Laboratory in week 4. Influenza was detected in 28 (18%) submitted specimens. Seven of these (4.5% of submitted specimens) were pandemic A/H1N1, 5 (3%) were A/H3N2, 7 (4.5%) were unsubtyped A, and 9 (6%) were type B. There were sporadic detections of influenza A/H3N2 viruses from Interior and Vancouver Island Health Authorities. Pandemic A/H1N1 was detected sporadically from Fraser, Vancouver Island, and Northern HAs. Influenza B was sporadically detected from Fraser, Vancouver Island and Interior HAs. During this week, of 153 specimens tested for other respiratory viruses, 17 (11%) were positive for RSV, 11 (7%) for rhino/enterovirus, and 6 (4%) for parainfluenza. Other respiratory viruses were also sporadically detected.

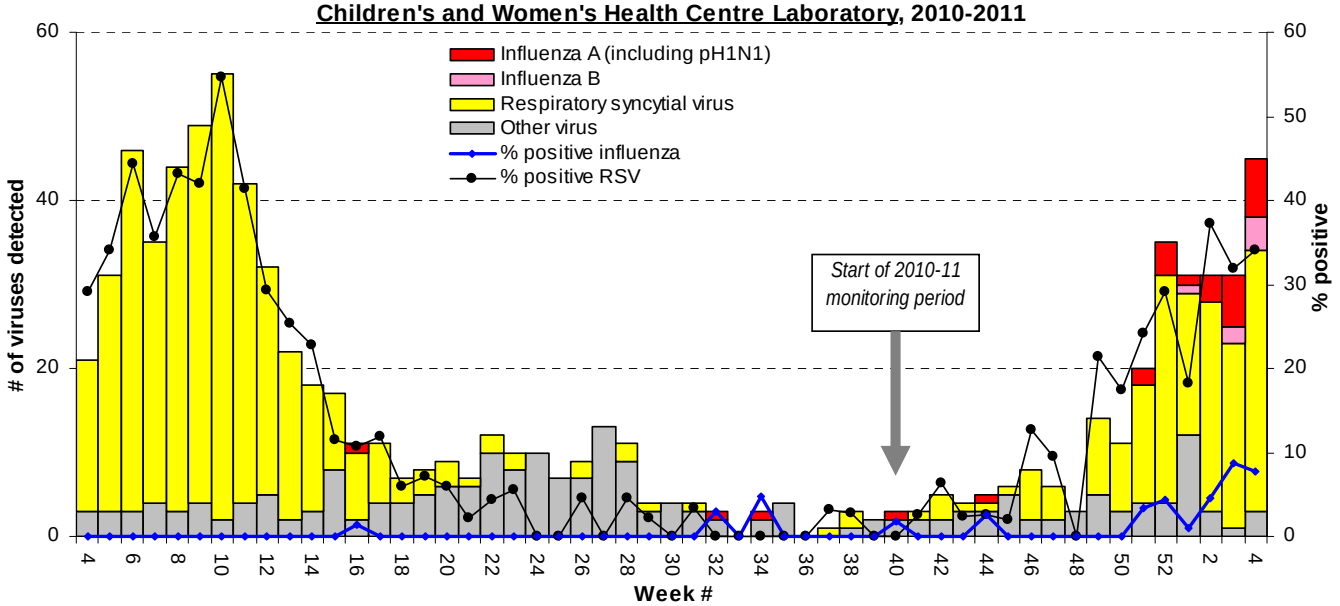
Influenza and Other Virus Detections Among Respiratory Specimens Submitted to BC Public Health Microbiology & Reference Laboratory PHSA, 2010-2011



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

During week 4, BC Children's and Women's Health Centre Laboratory tested 91 respiratory specimens. Seven (7.7%) were positive for influenza A and 4 (4.4%) were positive for type B. Thirty one specimens (34.1%) were positive for RSV.

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

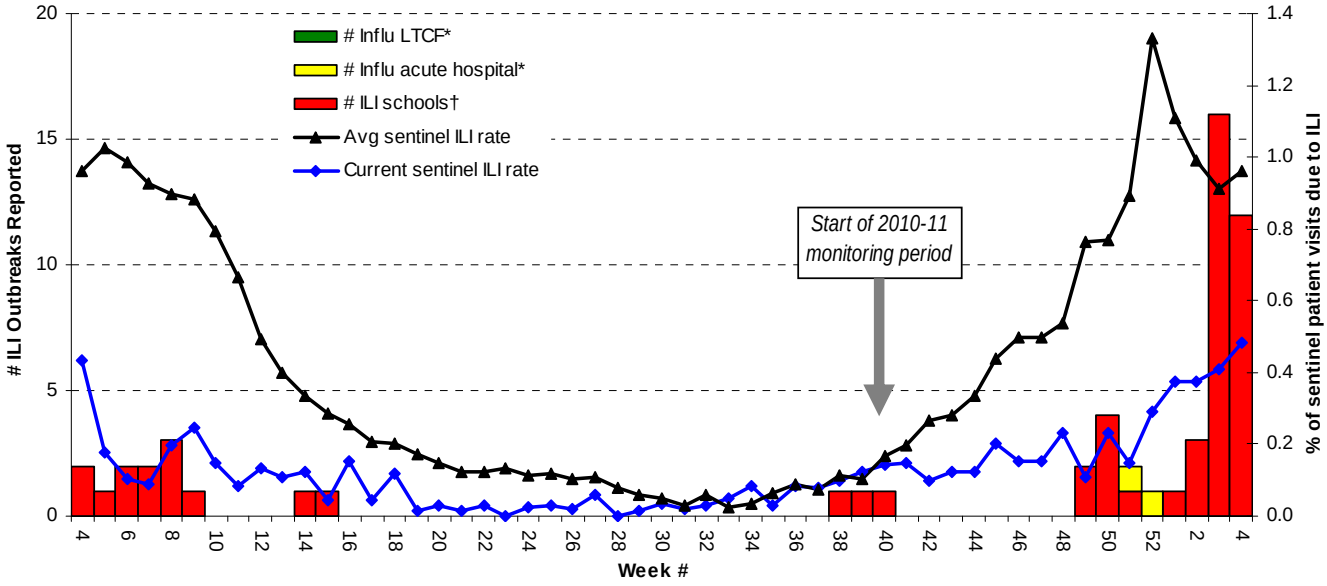


Data provided by Virology Department at Children's & Women's Health Centre of BC

ILI Outbreaks

During week 4, twelve new ILI school outbreaks were reported from schools in Interior (11) and Fraser (1). These outbreaks were not tested for respiratory viruses.

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

During week 3 ending January 22, 2011, influenza activity in Canada appeared to have peaked in most regions across the country. The influenza-like illness (ILI) consultation rate remained within the expected range for this time of year. One thousand three hundred and seventy specimens (20.8% in week 3) tested positive for influenza, a slight decrease from the previous week (23.1%): 423 A/H3N2, 815 unsubtyped influenza A, 86 pandemic H1N1, and 46 influenza B. Specimens were reported from all provinces except NB; influenza A activity was mainly concentrated in ON, QC and AB. During week 3, 24 new paediatric hospitalizations and 51 new adult hospitalizations related to influenza were reported through IMPACT and CNISP networks. This is a decrease over previous weeks. In Ontario, during week 3, 503 influenza laboratory confirmed cases were detected with 22% positivity; a decrease from the previous week. The overall ILI consultation rate has increased from 44/1,000 patient visits in Week 2 to 55/1,000 patient visits in Week 3. In Quebec during week 3, 545 (22%) tested specimens were positive for influenza. www.phac-aspc.gc.ca/fluwatch/

National Microbiology Laboratory (NML): Strain Characterization

Between September 1, 2010 and January 27, 2011, one hundred and forty-nine influenza isolates were collected from provincial and hospital labs and characterized at the NML as follows:

100 A/Perth/16/2009 (H3N2)-like¶ from QC, ON, MN, SK, AB & BC;
23 A/California/07/2009 (H1N1)-like* from QC, ON, AB & BC;
25 B/Brisbane/60/2008 (Victoria lineage)-like† from QC, ON, SK, AB & BC;
1 B/Florida/04/2006-like (Yamagata lineage)-like‡ from 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 recommended influenza B component of the 2010-2011 northern hemisphere trivalent influenza vaccine
‡ indicates a strain match to the recommended influenza B component of the 2008-2009 northern hemisphere trivalent influenza vaccine

NML: Antiviral Resistance

Drug susceptibility testing at the NML between September 1, 2010 and January 27, 2011 indicated that all but one A/H3N2 and all pandemic H1N1 isolates were resistant to amantadine. All the isolates (82 A/H3N2, 21 pandemic H1N1, 25 type B) tested for zanamivir and oseltamivir resistance showed susceptibility.

For your information, an updated influenza antiviral guidance document entitled "The Use of Antiviral Drugs for Influenza: Guidance for Practitioners, 2010-11" has been posted on the Association of Medical Microbiology and Infectious Disease, Canada (AMMI Canada) website available at the following link: www.ammi.ca/index.php.This document is also available on the Public Health Agency of Canada FightFlu.ca website at: www.fightflu.ca/health_professionals-eng.html

INTERNATIONAL

Northern Hemisphere: During week 3 ending January 22, 2011, influenza activity had increased in the United States www.cdc.gov/flu/weekly/. One thousand seven hundred and fifty-four specimens (out of 5,823, or 30.1%) tested positive for influenza in week 3: 332 pandemic H1N1, 584 A/H3, 476 unsubtyped influenza A, and 362 type B. The proportion of ILINet physician visits for ILI was 3.6%, which was above the national baseline of 2.5%. The CDC further reported that the proportion of deaths attributed to pneumonia and influenza was below the epidemic threshold in the USA.

As of January 28, influenza activity continues to increase in Europe, particularly in the West. The United Kingdom reported that flu activity has peaked and the number of severe cases is now declining. In many other countries of Western Continental Europe such as Denmark and France, significant numbers of severe and fatal cases of influenza are now reported. Of the samples tested from sentinel sites across Europe, 43% were positive for influenza. Overall in Europe, pandemic H1N1 remains the dominant strain, co-circulating with A/H3N2 and type B. In North Africa and the Middle East, influenza activity appears to have peaked, though Morocco, Pakistan, and Tunisia reported increased activity. Pandemic H1N1 is the predominant strain in this area. Influenza activity has peaked in Egypt in late December or early January. In North Asia (including Mongolia, northern China, the Republic of Korea, and Japan), influenza activity has recently peaked and is now declining. Influenza activity was associated with A/H3N2 in Mongolia and northern China, but had peaked in late December when number of pandemic H1N1 cases began to be detected. Japan had earlier detections of A/H3N2 but pandemic H1N1 has become the predominant virus. The Republic of Korea reported mainly pandemic H1N1 circulation.
http://www.hpa.org.uk/web/HPAweb&HPAwebStandard/HPAweb_C/1287147913271
http://www.who.int/csr/disease/influenza/2011_01_28_GIP_surveillance/en/index.html

Avian Influenza: As of February 2, 2011, one new human case of A/H5N1 was reported. A 7-year-old male with exposure to sick poultry developed symptoms and was hospitalized on January 20. He is in stable condition. More details and a complete tally of A/H5N1 detections can be found at the links below:
http://www.who.int/csr/don/2011_02_02/en/index.html
www.who.int/csr/disease/avian_influenza/en/

WHO Recommendations for 2010-11 Northern Hemisphere Influenza Vaccine

On February 18, 2010 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