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

British Columbia Influenza Surveillance Bulletin

Influenza Season 2013-14, Number 09, Week 2
January 5 to January 11, 2014

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A(H1N1)pdm09 activity peaking in BC

In week 2 (January 5 to 11, 2014), influenza activity predominantly due to A(H1N1)pdm09 virus remained high in BC. Some indicators suggest illness due to A(H1N1)pdm09 is peaking in BC but further monitoring is required to confirm a downward trend in activity. The absolute number of influenza specimens tested at the BC Provincial Health Microbiology & Reference Laboratory increased again in week 2, while the percent of specimens that were positive for influenza fell to below 40% for the first time since week 51. The BC Medical Services Plan claims for influenza illness as a proportion of all claims remained above the 10-year maximum throughout the province, while both this proportion and the absolute number of services showed signs of decrease. One care facility outbreak due to lab-confirmed influenza A(H1N1)pdm09 was reported from FHA in week 2.

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Report Disseminated: January 16, 2014

Provincial Health Services Authority
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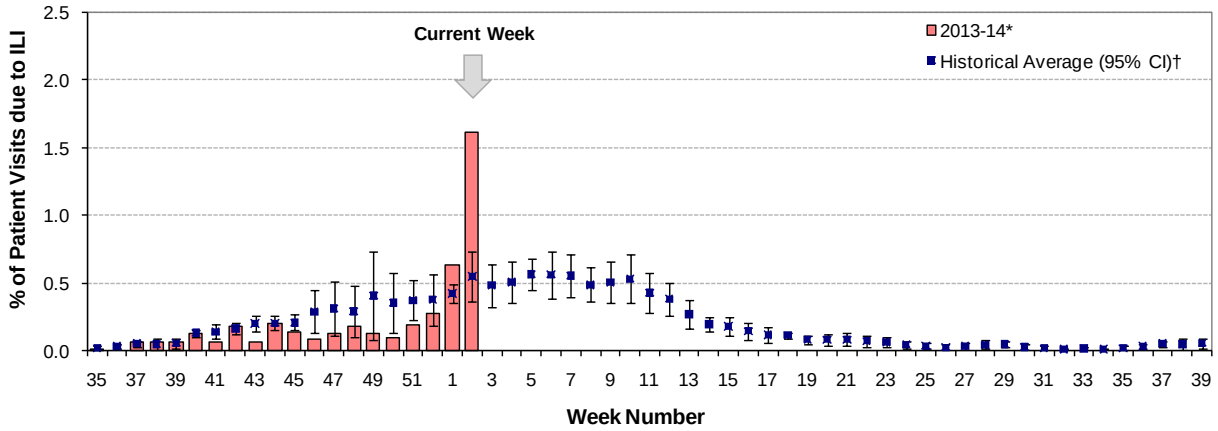
British Columbia

Sentinel Physicians

The proportion of patients with influenza-like illness (ILI) among those presenting to sentinel physicians increased to 0.6% in week 1 and 1.6% in week 2. In both weeks, rates were significantly higher than the historical average for this time of year. However, these rates are subject to change as reporting becomes more complete. To date, 68% and 58% of sentinel sites have reported data for weeks 1 and 2, respectively.

Percent of patient visits to sentinel physicians due to influenza-like illness (ILI) compared to historical average, British Columbia, 2013-14

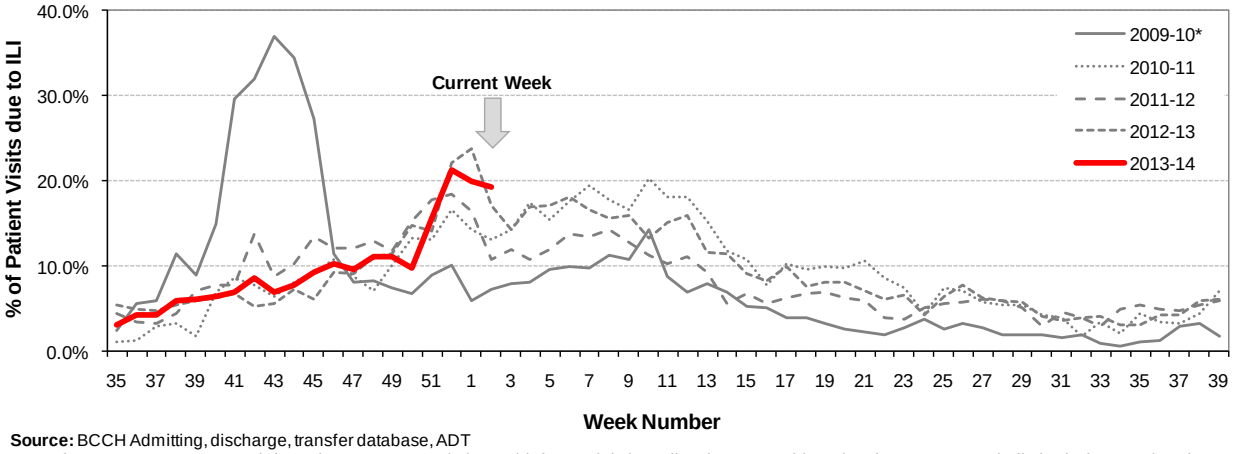


* Data are subject to change as reporting becomes more complete.
† Historical average based on 2001-02 to 2012-13 seasons, excluding 2008-09 and 2009-10 due to atypical seasonality; CI=confidence interval.

BC Children's Hospital Emergency Room

In week 2, the proportion of visits to BC Children's Hospital Emergency Room (ER) attributed to ILI decreased slightly from 21.3% in week 52 to 19.9% in week 1 and 19.3% in week 2. Rates remained consistent with those for this time of year compared to previous seasons.

Percent of patients presenting to BC Children's Hospital ER with triage chief complaint of "flu," or "influenza" or "fever/cough," British Columbia, 2013-14

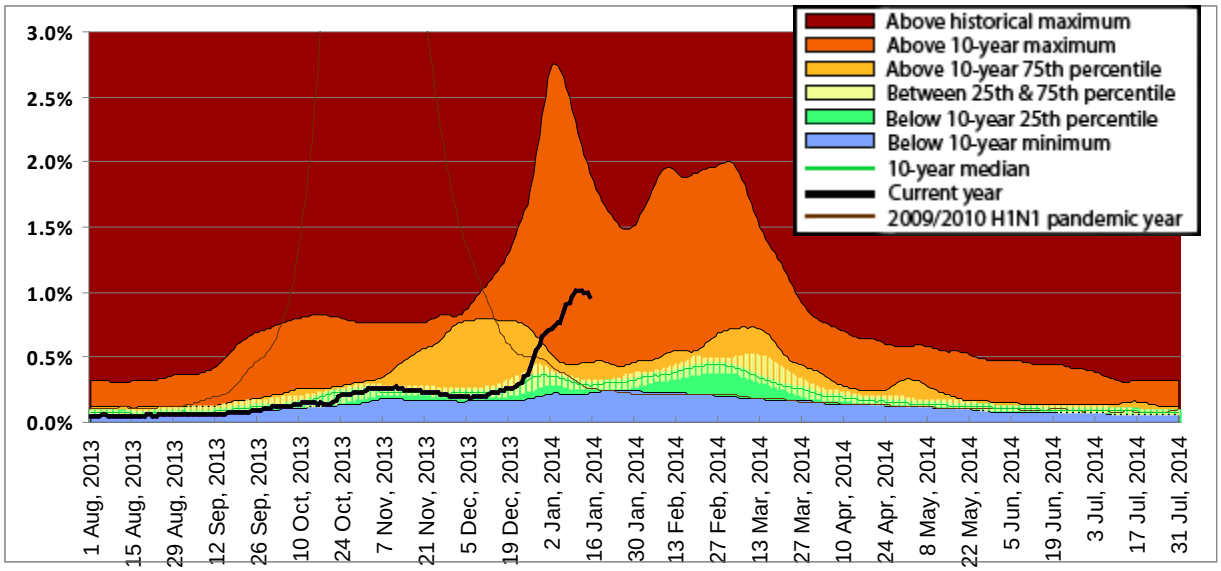


Source: BCCH Admitting, discharge, transfer database, ADT
* Data from 2010-11 to 2013-14 is based on new system (Triage Chief Complaint) not directly comparable to data for 2009-10. In bulletins before week 9 of 2011-12 season, data is based on old system.

Medical Services Plan

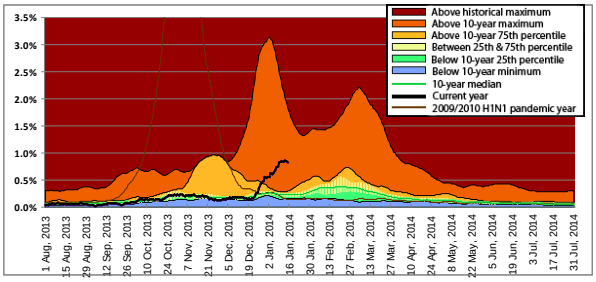
In week 2, BC Medical Services Plan (MSP) general practitioner claims for influenza illness (II), as a proportion of all submitted MSP claims, remained above the 10-year maximum throughout the province. However, while the proportion of claims remained above historical norms, both the proportion and the absolute number of services (data not shown) began to decrease in all regions of the province.

Service claims submitted to MSP for influenza illness (II)* as a proportion of all submitted general practitioner service claims, British Columbia, 2013-14

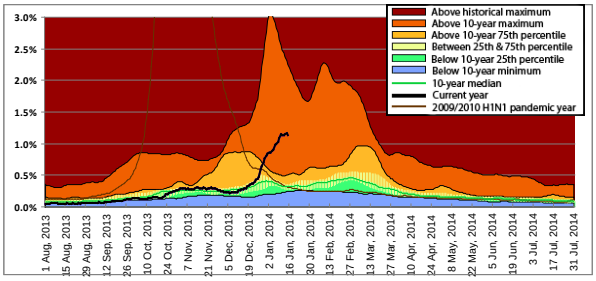


* Influenza illness is tracked as the percentage of all submitted MSP general practitioner claims with ICD-9 code 487 (influenza).
Data provided by Population Health Surveillance and Epidemiology, BC Ministry of Health Services
Note: MSP week beginning 1 August 2013 corresponds to sentinel ILI week 31; data current to 15 January 2014.

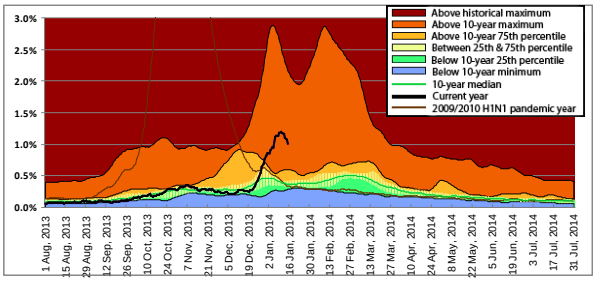
Interior



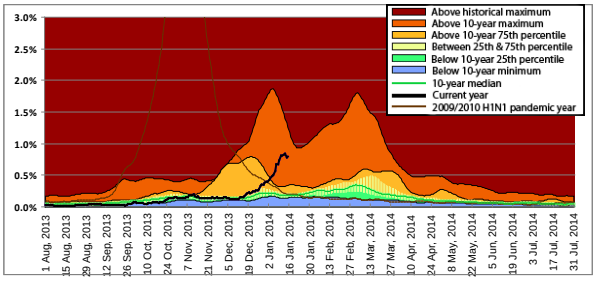
Fraser



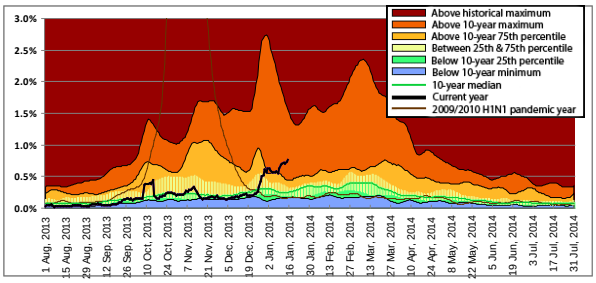
Vancouver Coastal



Vancouver Island



Northern

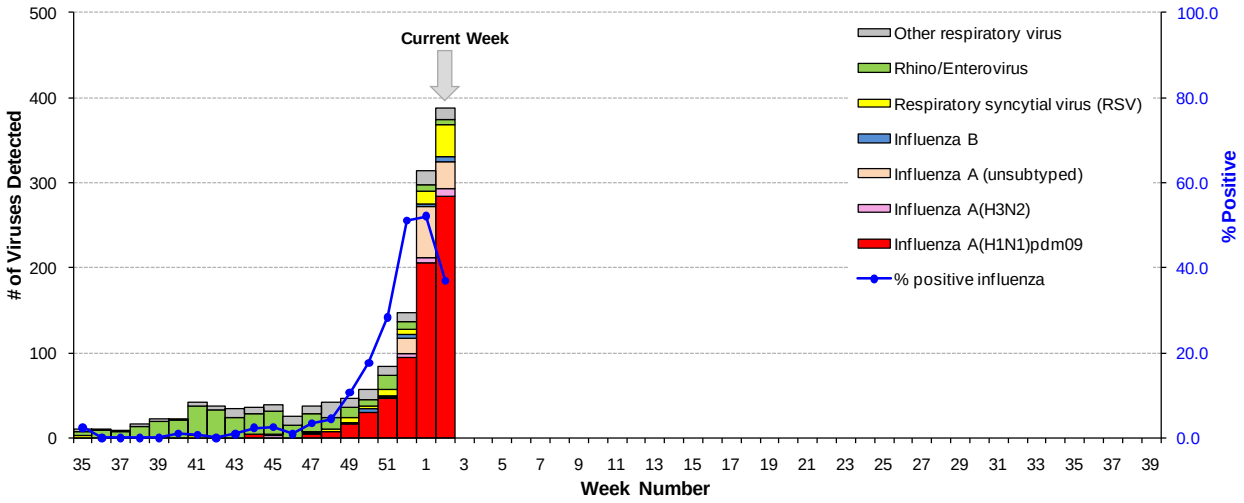


Laboratory Reports

To date since week 40 (September 29 – October 5, 2013), 845 specimens have tested positive for influenza at the BC Public Health Microbiology & Reference Laboratory (PHMRL). Of the 734 specimens with type/subtype information available, 688 (94%) were influenza A(H1N1)pdm09, 24 (3%) were influenza A(H3N2), and 22 (3%) were influenza B.

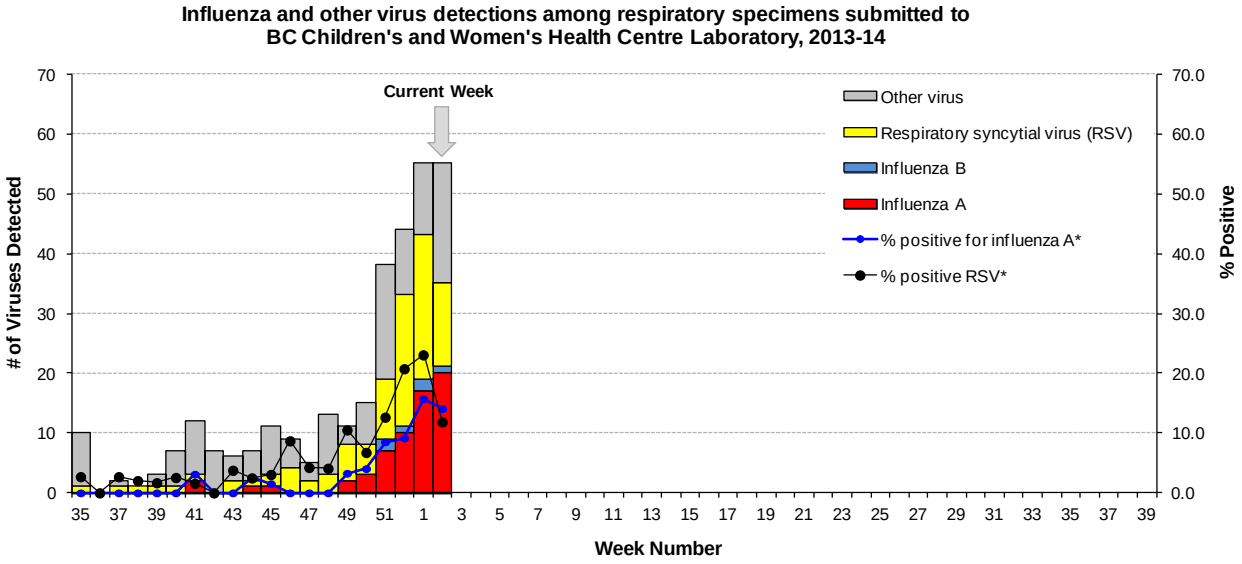
While the absolute number of specimens submitted for influenza testing to the BC PHMRL continued to increase in week 2, the proportion testing positive for influenza fell to below 40% for the first time since week 51. Of the 892 specimens tested, 330 (37%) were positive for influenza, including 284 A(H1N1)pdm09, 9 A(H3N2), 6 influenza B, and 31 influenza A (subtype pending). Influenza A(H1N1)pdm09 continued to predominate in week 2, representing 284/299 (95%) of influenza viruses with type/subtype information available. Among other respiratory viruses, RSV continued to be the most commonly detected virus.

Influenza and other virus detections among respiratory specimens submitted to BC Public Health Microbiology & Reference Laboratory, PHSA, 2013-14



In week 2, 142 tests for influenza A and 118 tests for influenza B were performed at the BC Children's and Women's Health Centre Laboratory. Of these, 20/142 (14%) were positive for influenza A (un-subtyped) and 1/118 (0.8%) was positive for influenza B. The percent positivity for influenza A was relatively stable at 16% in week 1 and 15% in week 2. The absolute number of positive tests and the percent positivity for influenza A slightly surpassed that of RSV in week 2. These viruses continue to co-circulate and RSV remains the most commonly detected of the other respiratory viruses identified during this period; of the 118 tests performed for RSV, 14 (12%) were positive.

Influenza and other virus detections among respiratory specimens submitted to BC Children's and Women's Health Centre Laboratory, 2013-14



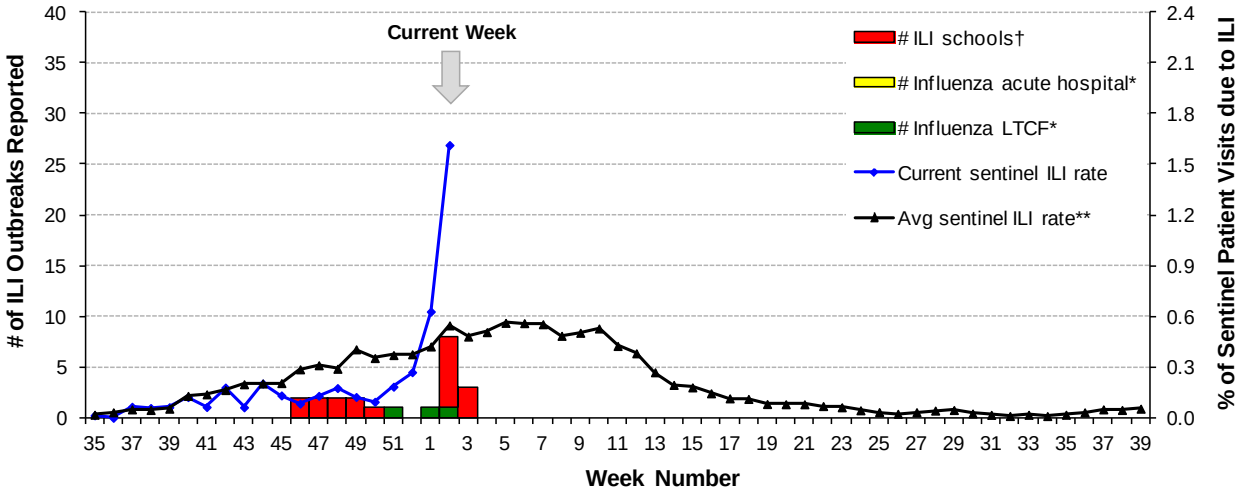
* Positive rates were caculated using aggregate data. The denominators for each rate represent the total number of tests; multiple tests may be performed for a single specimen and/or patient.

Influenza-like Illness (ILI) Outbreaks

In week 2, four ILI outbreaks were reported from long-term care facilities (LTCF), including three in FHA (one A(H1N1)pdm01, one entero/rhinovirus, and one with no pathogen identified) and one in VIHA with laboratory results pending. Seven school outbreaks were also reported in week 2.

In total during the 2013-14 season, 37 ILI outbreaks have been reported, including 18 in LTCFs and 19 in schools. Of these, four were due to laboratory-confirmed influenza: two LTCF outbreaks due to A(H1N1)pdm09 (week 51 in IHA and week 2 in FHA); one LTCF outbreak due to influenza B (week 1 in FHA); and one school outbreak due to A(H1N1)pdm09 in NHA in week 47.

Number of influenza-like illness (ILI) outbreaks reported, compared to current sentinel ILI rate and historical average sentinel ILI rate, British Columbia 2013-14



* Facility-based influenza outbreaks defined as 2 or more ILI cases within 7-day period, with at least one **laboratory-confirmed** case of influenza.
† School-based ILI outbreak defined as >10% absenteeism on any day, most likely due to ILI.
** Historical values exclude 2008-09 and 2009-10 seasons due to atypical seasonality.

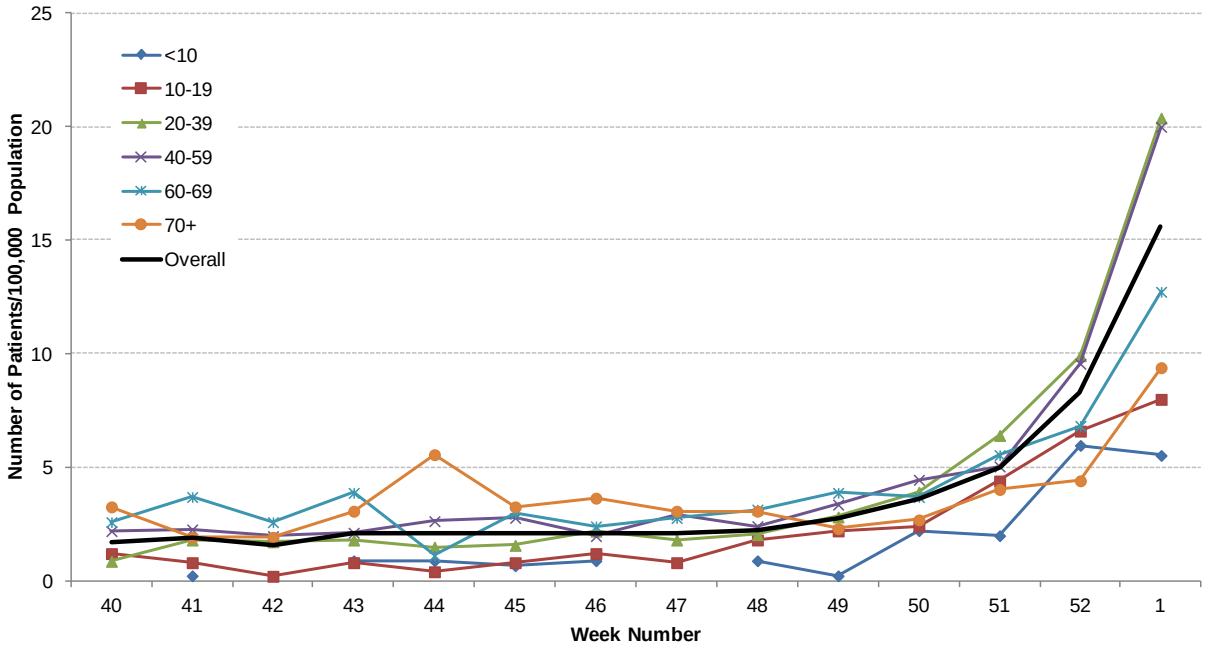
BC Sentinel Hospital Influenza Surveillance (IMPACT)

In week 1, four new laboratory-confirmed influenza-associated paediatric (≤16 years of age) hospitalizations were reported by the BC Children's Hospital to the Immunization Monitoring Program Active (IMPACT) network, PHAC. All were influenza A: two were children less than 2 years of age, one was 2-4 years and one was a child aged 5-9 years old.

Antiviral Prescriptions, PharmaNet

The aggregate weekly number of patients receiving antiviral prescriptions for influenza from community pharmacies in BC was obtained from PharmaNet. The overall weekly prescription rate increased from <2 patients per 100,000 population before week 50 to 15.6 patients per 100,000 in week 1. The highest rates were observed in adults 20-39 and 40-59 years of age.

Weekly prescription rate for neuraminidase inhibitors (Relenza, Tamiflu) by age group, PharmaNet, British Columbia, 2013-14*



* Data includes 2,474 prescription records, representing 2,421 unique patients, for the time period 29 September 2013 to 4 January 2014; 19 patients with missing data for age group were excluded.
Data provided by Pharmaceutical Services Division, BC Ministry of Health

National

FluWatch (week 1):

Influenza activity in Canada continued to increase in week 1, with 2 regions in Alberta reporting widespread activity. The percent of positive influenza tests increased to 28.4% in week 1. Of the 2,308 influenza detections in week 1, 2,227 (97%) were influenza A [50% A(H1N1)pdm09, 1% A(H3), 50% influenza A (un-subtyped)] and 81 (4%) were influenza B. RSV remained the second most frequently detected virus, after influenza, in week 1. Influenza A(H1N1)pdm09 has been the predominant subtype so far this season, representing 96% of subtyped influenza A viruses. A significantly greater proportion of laboratory detections have been reported among adults 20-64 years of age than those ≥65 years of age this season compared to the 2012-13 season when A(H3N2) was the predominant circulating strain. Details are available at: www.phac-aspc.gc.ca/fluwatch/13-14/w52_13/index-eng.php.

National Microbiology Laboratory (NML): Strain Characterization

From September 1, 2013 to January 16, 2014, 303 isolates were collected from provincial and hospital laboratories for antigenic characterization at the NML:

- 24 A/Texas/50/2012-like A(H3N2)¶ from NB, ON, AB and BC
- 243 A/California/07/09-like [A(H1N1)pdm09]* from NL, NS, NB, QC, ON, MB, SK, AB, BC, NT and NU; of these, 2 viruses showed reduced titres with antiserum produced against A/California/7/2009 signalling possible antigenic change
- 31 B/Massachusetts/02/12-like† from QC, ON and AB
- 5 B/Brisbane/60/2008-like** from ON, MB, and AB

¶ Virus most closely related to the recommended H3N2 reference virus for the 2013-14 northern hemisphere influenza vaccine.

* Virus most closely related to the recommended H1N1 reference virus for the 2013-14 northern hemisphere influenza vaccine.

† Virus most closely related to the recommended influenza B component for the 2013-14 northern hemisphere influenza vaccine; belongs to the B Yamagata lineage.

** Virus most closely related to the recommended influenza B component for the 2011-2012 northern hemisphere influenza vaccine; belongs to the B Victoria/02/87 lineage.

NML: Antiviral Resistance

From September 1, 2013 to January 16, 2014, 167 influenza A [29 A(H3N2) and 138 A(H1N1)pdm09] viruses were tested for resistance to amantadine at the NML; all tested viruses were found to be resistant. Also during this period, 257 influenza viruses [23 A(H3N2), 201 A(H1N1)pdm09, and 33 B] were tested for resistance to oseltamivir and 255 influenza viruses [23 A(H3N2), 199 A(H1N1)pdm09, and 33 B] to zanamivir; all tested viruses were sensitive to both antiviral drugs.

International

USA (week 1): Influenza activity in the United States continued to increase in week 1. Of the 9,482 specimens tested, 2,486 (26.2%) were positive for influenza viruses, of which 97.4% were influenza A [56.7% A(H1N1)pdm09, 0.8% A(H3N2), 42.5% un-subtyped] and 2.6% were influenza B. Widespread influenza activity was reported from 35 states to the US CDC over this period. Details are available at: www.cdc.gov/flu/weekly/.

WHO (as of 13 January 2014): In North America, influenza activity increased sharply in recent weeks. The predominant subtype was influenza A(H1N1)pdm09. In China, influenza activity has been increasing, with influenza (H1N1)pdm09, A(H3N2) and influenza B co-circulating. In other parts of the northern hemisphere as well as in the southern hemisphere, influenza activity has remained low. In countries of tropical areas, variable influenza activity was reported. Based on FluNet reporting (as of 9 January 2014), during weeks 50 to 52, the WHO Global Influenza Surveillance and Response System (GISRS) laboratories tested more than 88,471 specimens. Of these, 17,640 were positive for influenza viruses, including 15,233 (86%) influenza A and 2,406 (14%) influenza B. Of the subtyped influenza A viruses, 67% were A(H1N1)pdm09 and 33% were A(H3N2). Of the characterized influenza B viruses, 81% belong to the Yamagata lineage and 19% to the Victoria lineage. The details are available at: www.who.int/influenza/surveillance_monitoring/updates/en/.

Avian Influenza A(H7N9) Virus: Since our last surveillance bulletin, 30 new human cases of avian-origin influenza A(H7N9) have been reported in mainland China from Zhejiang (13), Guangdong (10), Fujian (4), Shanghai (2), and Jiangsu (1) and one new case has been reported in Hong Kong SAR in a patient with recent travel to Guangdong province. Of these latest cases, 3 have died. The median age of these latest cases was 54 years old (range: 20-79 years old), and 21/31 (68%) were male. Zhejiang and Guangdong in southeastern China continue to be the most affected provinces in recent months. Since the start of the outbreak in February 2013, 188 human cases and 52 deaths have been reported. (As of 16 January 2014, 181 cases and 52 deaths have been confirmed by the WHO.) At this time, there is no evidence of sustained human-to-human transmission and the risk assessment remains unchanged. Clinicians should remain vigilant for patients presenting with severe acute respiratory illness (SARI) with recent travel or epidemiological links to affected areas. Details are available at: www.who.int/csr/don/2013_12_17influenza/en/index.html.

Middle East Respiratory Syndrome Coronavirus (MERS-CoV): Since our last surveillance bulletin, no new cases of MERS-CoV have been reported. As of 9 January 2014, the WHO has been informed of 178 laboratory-confirmed cases of MERS-CoV and 75 deaths. Given ongoing activity in affected regions and an incubation period of 10 days or more, clinicians are reminded to stay alert for possible importations among patients presenting with severe acute respiratory illness (SARI) and links to the Middle East. Details are available at: www.who.int/csr/don/2013_12_27/en/index.html.

WHO Recommendations for 2013-14 Northern Hemisphere Influenza Vaccine

On February 21, 2013, the WHO announced the recommended strain components for the 2013-14 northern hemisphere vaccine:

A/California/7/2009 (H1N1)pdm09 virus
A/Victoria/361/2011 (H3N2)-like virus*
B/Massachusetts/2/2012-(Yamagata lineage)-like virus**

*For A/H3N2, it is recommended that A/Texas/50/2012 be used as the A(H3N2) vaccine component because of antigenic changes in earlier A/Victoria/361/2011-like vaccine viruses (such as IVR-165) resulting from adaptation to propagation in eggs.

** This one of the three recommended components is different from the northern hemisphere seasonal TIV vaccines produced and administered in 2012-13 (although remaining of the same lineage).

For further details, see:
www.who.int/influenza/vaccines/virus/recommendations/2013_14_north/en/index.html.

Additional Information

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
A(H1N1)pdm09: Pandemic H1N1 influenza (2009)
RSV: Respiratory syncytial virus
VCHA: Vancouver Coastal Health Authority
VIHA: Vancouver Island Health Authority
WHO: World Health Organization

NEW – Updated AMMI Canada Guidelines on the Use of Antiviral Drugs for Influenza:
www.ammi.ca/guidelines

Web Sites:

BCCDC Emerging Respiratory Pathogen Updates:
www.bccdc.ca/dis-cond/DiseaseStatsReports/EmergingRespiratoryVirusUpdates.htm

Influenza Web Sites

Canada – Flu Watch: www.phac-aspc.gc.ca/fluwatch/
Washington State Flu Updates: www.doh.wa.gov/Portals/1/Documents/5100/fluupdate.pdf
USA Weekly Surveillance Reports: www.cdc.gov/flu/weekly/
European Influenza Surveillance Scheme:
ecdc.europa.eu/EN/HEALTHTOPICS/SEASONAL_INFLUENZA/EPIDEMIOLOGICAL_DATA/Pages/Weekly_Influenza_Surveillance_Overview.aspx
WHO – Weekly Epidemiological Record: www.who.int/wer/en/
WHO Collaborating Centre for Reference and Research on Influenza (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

Avian Influenza Web Sites

WHO – Influenza at the Human-Animal Interface: www.who.int/csr/disease/avian_influenza/en/
World Organization for Animal Health: www.oie.int/eng/en_index.htm

Contact Us:

Tel: (604) 707-2510
Fax: (604) 707-2516
Email: InfluenzaFieldEpi@bccdc.ca

Communicable Disease Prevention and Control Services (CDPACS)
BC Centre for Disease Control
655 West 12th Ave, Vancouver BC V5Z 4R4

Online: www.bccdc.ca/dis-cond/DiseaseStatsReports/influSurveillanceReports.htm

version: 26 Oct 2011

Influenza-Like Illness (ILI) Outbreak Summary Report Form

Please complete and email to ilioutbreak@bccdc.ca

Note: This form is for provincial surveillance purposes.
Please notify your local health unit per local guidelines/requirements.

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.

A — Reporting Information

Health unit/medical health officer notified? ☐ *Yes* ☐ *No*

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)*

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): DD / MMM / YYYY

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

C — Update AND Outbreak Declared Over

Date of onset for most recent case of ILI (dd/mm/yyyy): DD / MMM / YYYY

If over, date outbreak declared over (dd/mm/yyyy): DD / MMM / YYYY

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

D — Laboratory Information

Specimen(s) submitted? ☐ Yes (location: _____) ☐ No ☐ Don't know

If yes, organism identified? ☐ Yes (specify: _____) ☐ No ☐ Don't know

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ilioutbreak@bccdc.ca