

British Columbia Influenza Surveillance Bulletin

Influenza Season 2014-15, Number 2, Weeks 39-40

September 21 to October 4, 2014

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Early A(H3) Activity Detected in BC

Although influenza activity levels remain low overall, in weeks 39-40 (September 21 to October 4, 2014), several surveillance indicators suggest early increase in influenza activity in BC, notably influenza A. Among influenza A viruses sub-typed provincially and nationally, influenza A(H3N2) has dominated so far this season.

At the BC provincial laboratory, influenza positivity increased from 2% in week 39 to 14% in week 40, driven in part by 2 lab-confirmed influenza A(H3N2) outbreaks in FHA and VCHA. Among the 20 influenza detections in weeks 39-40, 19 (95%) were influenza A [12 A(H3N2) and 7 subtype pending] and 1 (5%) was influenza B.

The proportion of patients presenting to sentinel physicians for ILI increased from 0.02% in week 39 to 0.15% in week 40, above the historical average for this time of year. MSP service claims for influenza illness showed a rising trend but still remained at inter-seasonal levels.

Entero/rhinoviruses continued to be the most commonly detected respiratory viruses, as expected for this time of year. As of October 8, 2014, the BC provincial laboratory has confirmed 18 cases of enterovirus D68.

Prepared by BCCDC Influenza & Emerging Respiratory Pathogens Team

Contributors: Helen Guiyun Li, Catharine Chambers, Danuta Skowronski, Lisan Kwindt

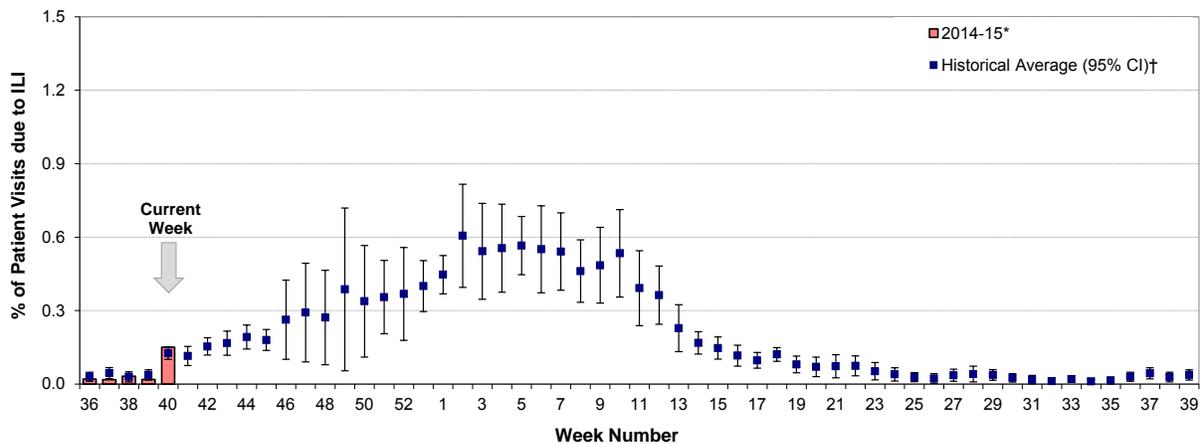
Report Disseminated: October 9, 2014

British Columbia

Sentinel Physicians

The proportion of patients with influenza-like illness (ILI) among those presenting to sentinel physicians increased from 0.02% in week 39 to 0.15% in week 40, above the historical average for this time of year. 72% and 50% of sentinel sites reported data in weeks 39 and 40, respectively. Rates are subject to change as reporting becomes more complete.

Percent of patient visits to sentinel physicians due to influenza-like illness (ILI) compared to historical average, British Columbia, 2014-15

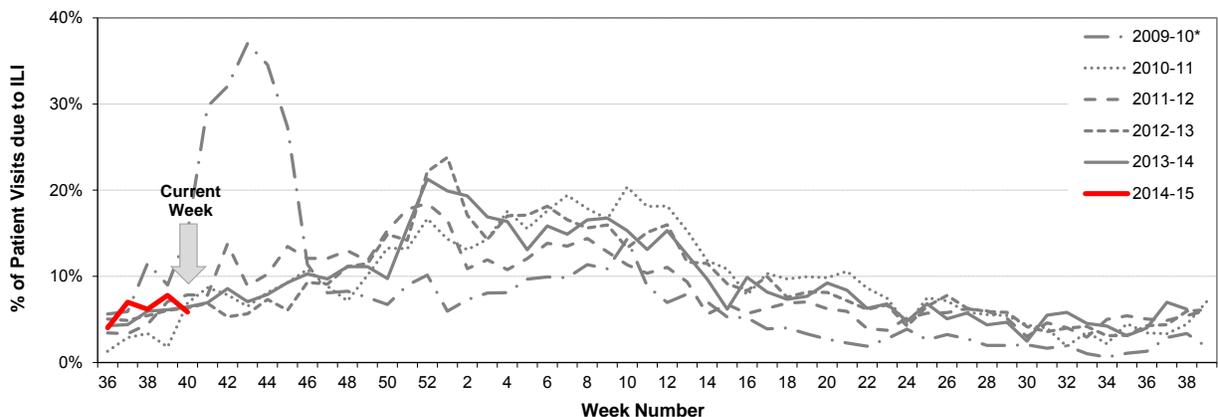


* Data are subject to change as reporting becomes more complete.
† Historical average based on 2002-03 to 2013-14 seasons, excluding 2008-09 and 2009-10 due to atypical seasonality; CI=confidence interval.

BC Children’s Hospital Emergency Room

In weeks 39-40, the proportion of visits to BC Children’s Hospital Emergency Room (ER) attributed to ILI remained consistent with rates observed in previous seasons for this time of year, ranging from 6-8%.

Percent of patients presenting to BC Children’s Hospital ER with triage chief complaint of “flu,” “influenza” or “fever/cough,” British Columbia, 2014-15



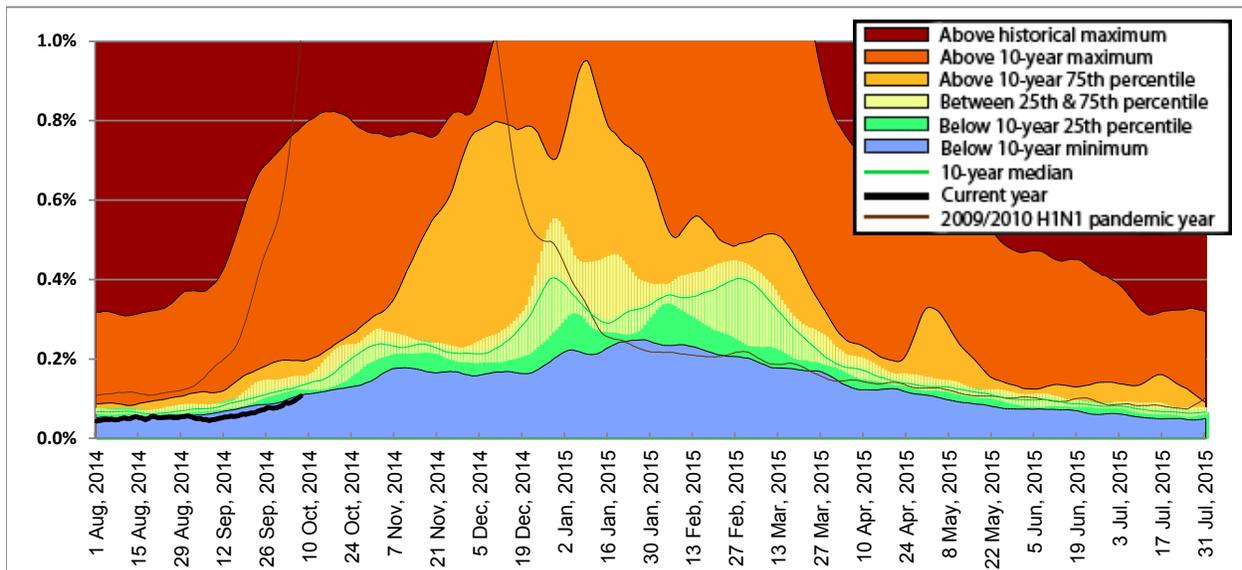
Source: BCCH Admitting, discharge, transfer database, ADT

* Data from 2010-11 to 2014-15 are based on new variable (Triage Chief Complaint) for capturing ILI symptoms and are not directly comparable to data for 2009-10. In week 9 of the 2011-12 season, the BCCH ER implemented a new data collection system the National Ambulatory Care Reporting System (NACRS); data are not directly comparable to data collected using old system.

Medical Services Plan

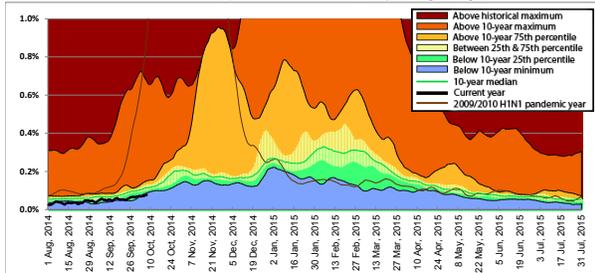
In weeks 39-40, BC Medical Services Plan (MSP) general practitioner claims for influenza illness (II), as a proportion of all submitted MSP claims, for the province overall showed an increasing trend but remained within or below the expected range for this time of year.

Service claims submitted to MSP for influenza illness (II)* as a proportion of all submitted general practitioner service claims, British Columbia, 2014-15

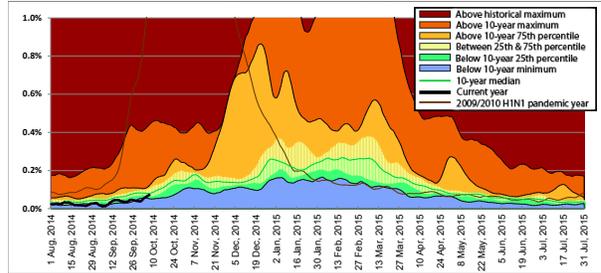


* Influenza illness is tracked as the percentage of all submitted MSP general practitioner claims with ICD-9 code 487 (influenza). Data provided by Population Health Surveillance and Epidemiology, BC Ministry of Health Services. Note: MSP week beginning 3 August 2014 corresponds to sentinel ILI week 32; data current to October 7, 2014.

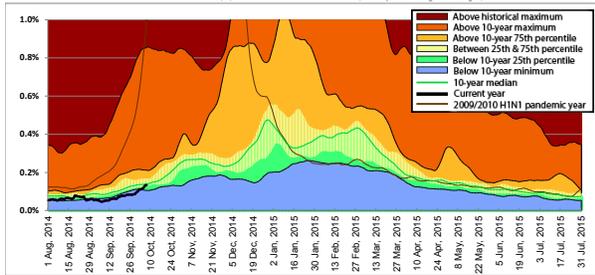
Interior



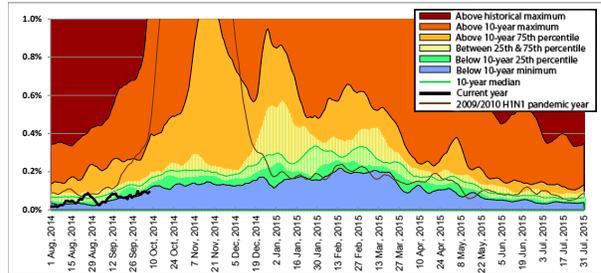
Vancouver Island



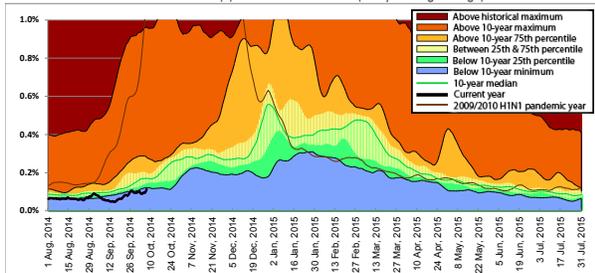
Fraser



Northern



Vancouver Coastal

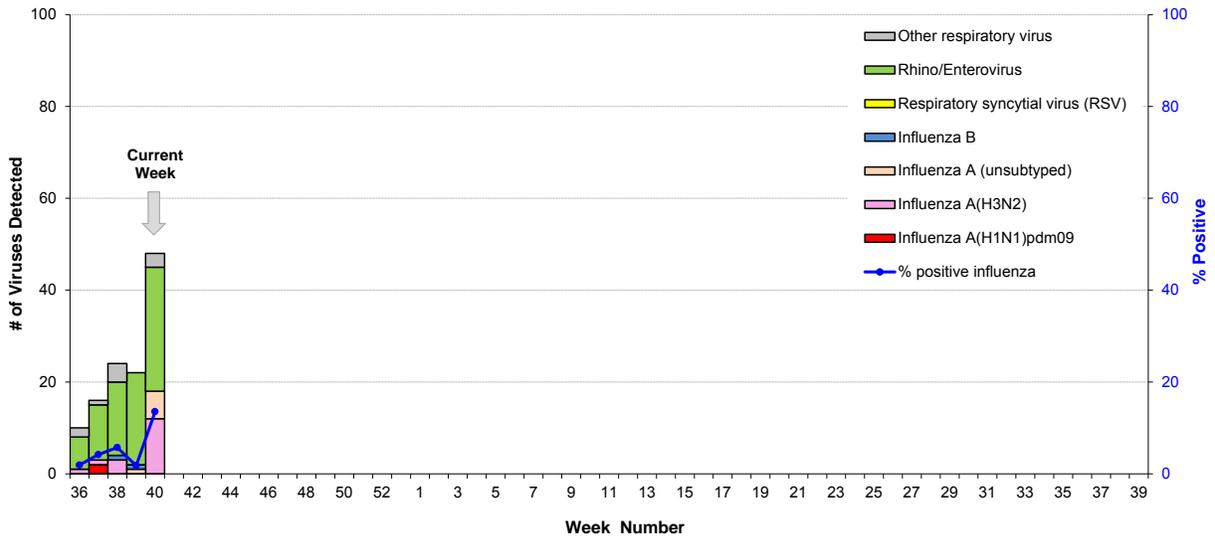


Laboratory Reports

BC Public Health Microbiology & Reference Laboratory (PHMRL)

Influenza positivity increased sharply from 2% in week 39 to 14% in week 40, driven in part by reports of 2 lab-confirmed influenza A(H3N2) outbreaks in long-term care facilities (LTCFs), both with onset dates in week 39 but specimen collection in week 40, and concurrent with an overall increase in testing volumes compared to prior weeks. The BC Public Health Microbiology & Reference Laboratory (PHMRL) tested 243 patients for respiratory viruses in weeks 39-40. Of these, 20 (8%) were positive for influenza, including 19 (95%) influenza A [12 A(H3N2) and 7 subtype pending] and 1 (5%) influenza B. Consistent with reports of lab-confirmed influenza outbreaks in LTCFs, the majority of influenza A cases (80%) were detected in elderly adults (≥65 years of age), with the remaining 20% detected in adults 20-64 years of age. Enteroviruses were the most commonly detected respiratory virus during this period.

Influenza and other virus detections among respiratory specimens submitted to BC Public Health Microbiology & Reference Laboratory, PHSA, 2014-15

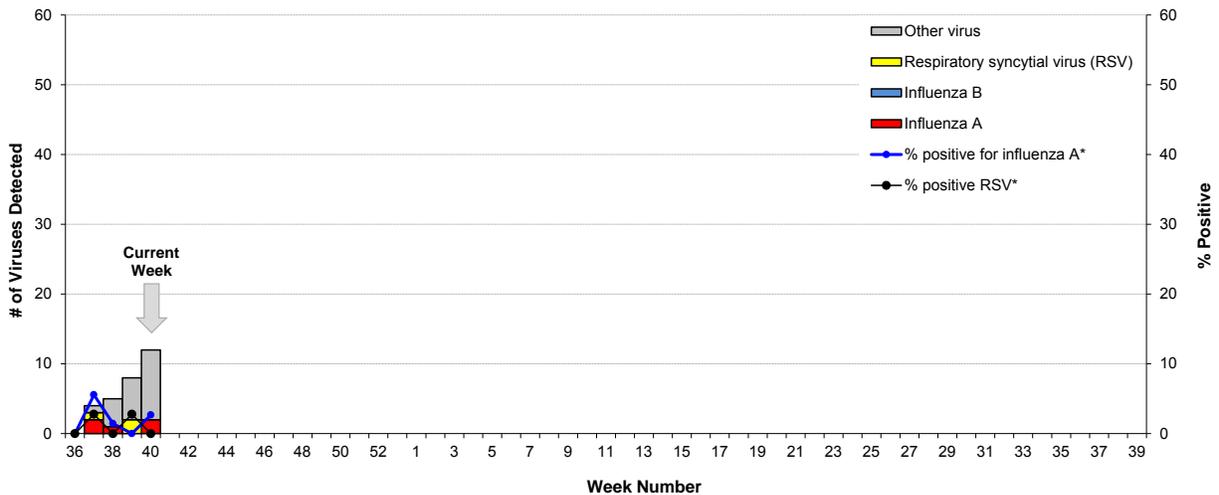


Note: Data current to October 9, 2014.

BC Children's and Women's Health Centre Laboratory

In weeks 39-40, the BC Children's and Women's Health Centre Laboratory conducted 147 tests for influenza A and 146 tests for influenza B. Of these, 2 (1%) were positive for influenza A, both in week 40, and none were positive for influenza B. Enteroviruses were the most commonly detected respiratory virus during this period.

Influenza and other virus detections among respiratory specimens submitted to BC Children's and Women's Health Centre Laboratory, 2014-15

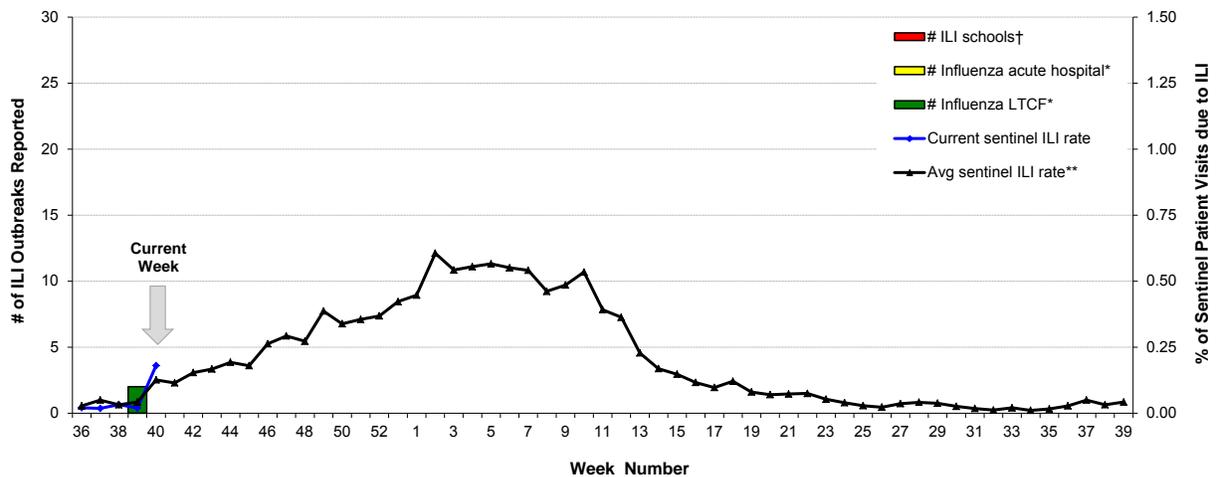


* Positive rates were calculated using aggregate data. The denominators for each rate represent the total number of tests; multiple tests may be performed for a single specimen and/or patient.

Influenza-like Illness (ILI) Outbreaks

In weeks 39-40, 6 ILI outbreaks were reported from long-term care facilities (LTCFs), including 2 due to lab-confirmed influenza A(H3N2) in FHA and VCHA, both with onset dates in week 39, one due to lab-confirmed entero/rhinovirus from IHA in week 39, and one with no pathogen identified in VIHA in week 40. The remaining 2 ILI outbreaks in LTCFs (IHA in week 39 and VIHA in week 40) were pending lab results at the time of writing. No school outbreaks were reported during this period.

Number of influenza-like illness (ILI) outbreaks reported, compared to current sentinel ILI rate and historical average sentinel ILI rate, British Columbia 2014-15



* 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 38, one new laboratory-confirmed influenza A(H3N2)-associated paediatric hospitalization was reported by the BC Children’s Hospital to the Immunization Monitoring Program Active (IMPACT) network. The child was 10-16 years of age and co-infected with enterovirus D68.

National

FluWatch (week 37-38)

Several influenza indicators (activity levels, influenza detections, ILI and hospitalizations) increased in weeks 37 and 38 compared to recent weeks. However, the percent positive for influenza remains low at <1%. Influenza A(H3N2) was the predominant circulating virus with some co-circulation of influenza B. In weeks 37-38, 35 influenza viruses were detected, including 28 (80%) influenza A [14 A(H3N2), 3 A(H1N1)pdm09, and 11 untyped] and 7 (20%) influenza B. In week 38, one influenza outbreak in a long-term care facility and three ILI outbreaks in schools were reported. Details are available at: www.phac-aspc.gc.ca/fluwatch/14-15/index-eng.php.

National Microbiology Laboratory (NML)

National Microbiology Laboratory (NML) reports for influenza strain characterization and antiviral drug susceptibility testing for the 2014-15 influenza season are not available at this time.

International

USA (week 39)

Influenza activity in the USA remained at inter-seasonal levels. In weeks 37-39, 299 influenza positive tests were reported to the US CDC, including 193 (65%) influenza A [83 A(H3N2) and 110 sub-typing not performed] and 106 (35%) influenza B. Details are available at: www.cdc.gov/flu/weekly/.

WHO (as of October 6, 2014)

Globally, the southern hemisphere influenza season seems to be coming to an end, with high activity persisting in Oceania. Elsewhere, influenza activity remained low, except for some tropical countries in the Americas. In Europe and North America, influenza activity remained at inter-seasonal levels. In tropical countries of the Americas, influenza B co-circulated with respiratory syncytial virus (RSV). In Africa and western Asia, influenza activity was low. In eastern Asia, influenza activity in most countries remained low or decreased following influenza A(H3N2) activity in August and September. In the southern hemisphere, influenza activity decreased in most countries. In the temperate zone of South America, influenza-like illness (ILI) decreased and was still mainly associated with RSV. Influenza A(H3N2) virus was the most detected influenza virus. In Australia and New Caledonia, the influenza season continued with high activity associated with A(H1N1)pdm09 and A(H3N2) viruses. ILI activity increased in several of the Pacific Islands. During weeks 37-38, the WHO Global Influenza Surveillance and Response System (GISRS) laboratories tested more than 21,796 specimens, of which 1,540 were positive for influenza viruses: 1,049 (68%) were typed as influenza A and 491 (32%) as influenza B. Of the sub-typed influenza A viruses, 289 (39%) were influenza A(H1N1)pdm09 and 454 (61%) were influenza A(H3N2). Of the characterized B viruses, 52 (96%) belonged to the B-Yamagata lineage and 2 (4%) to the B-Victoria lineage. Details are available at: www.who.int/influenza/surveillance_monitoring/updates/en/.

Emerging Respiratory Pathogens

Enterovirus D68

As of October 8, 2014, the BC provincial laboratory has confirmed 18 cases of EV-D68: 7 cases are <5 years of age, 5 are 5-9 years of age, 3 are 10-14 years of age, 1 is 15-19 years of age, and 2 are 20-24 years of age; 14/18 are male. Cases have been reported from all regional health authorities in BC, with 2 from out of province. On September 26, 2014, the US CDC issued a Health Advisory to clinicians reporting a cluster of polio-like illness in 9 children (aged 1-18 years) in Colorado, of which 4 were confirmed as EV-D68 and 2 had typing results pending at the time of report. As part of this advisory, the US CDC requested further information on patients ≤ 21 years of age presenting with acute onset of focal limb weakness occurring on or after August 1, 2014, and an MRI showing spinal cord lesion largely restricted to gray matter. In response to this request, the BC Centre for Disease Control in collaboration with Fraser and Interior Health Authorities issued a notice through ProMED-mail providing additional information on 2 BC cases with lab-confirmed EV-D68 infection and presenting with neurologic illness. It remains unclear whether EV-D68 is causally or coincidentally associated with neurologic findings. Since then, clusters of polio-like illness have been cited in other provinces including Ontario and Alberta, although information about whether these may have been associated with EV-D68 is still pending. For more information on EV-D68: www.bccdc.ca/dis-cond/a-z/_e/EnterovirusD68/overview/default.htm.

WHO Recommendations for Influenza Vaccines

WHO Recommendations for 2014-15 Northern Hemisphere Influenza Vaccine

On February 20, 2014, the WHO announced the recommended strain components for the 2014-15 Northern Hemisphere trivalent influenza vaccine (TIV):*

- an A/California/7/2009(H1N1)pdm09-like virus;
- an A/Texas/50/2012(H3N2)-like virus;
- a B/Massachusetts/2/2012-like (Yamagata-lineage) virus.

*These recommended strains are the same as those used for the 2013-14 Northern Hemisphere vaccine.

For further details: www.who.int/influenza/vaccines/virus/recommendations/2014_15_north/en/.

WHO Recommendations for 2015 Southern Hemisphere Influenza Vaccine

On September 25, 2014, the WHO announced the recommended strain components for the 2015 Southern Hemisphere trivalent influenza vaccine (TIV):

- an A/California/7/2009(H1N1)pdm09-like virus;*
- an A/Switzerland/9715293/2013(H3N2)-like virus;†
- a B/Phuket/3073/2013-like (Yamagata-lineage) virus.‡

*Recommended strain has been retained as the A(H1N1) component since the 2009 pandemic and has been included in the Southern Hemisphere vaccine since 2010 and in the Northern Hemisphere vaccine since 2010-11.

†A/South Australia/55/2014, A/Norway/466/2014 and A/Stockholm/6/2014 are A/Switzerland/9715293/2013-like viruses. Recommended strain is considered antigenically distinct from the A/Texas/50/2012-like virus recommended for the 2014-15 Northern Hemisphere vaccine and clusters within the emerging phylogenetic clade 3C.3a.

‡ Recommended strain is the same influenza B-Yamagata lineage as the B/Massachusetts/2/2012-like virus recommended for the 2014-15 Northern Hemisphere vaccine but represents a phylogenetic clade-level change from clade 2 to clade 3.

For further details: www.who.int/influenza/vaccines/virus/recommendations/2015_south/en/.

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

Current 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

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 | <u>Reporting Information</u> Health unit/medical health officer notified? <input type="checkbox"/> Yes <input type="checkbox"/> No |
| | Person Reporting: _____ Title: _____ |
| | Contact Phone: _____ Email: _____ |
| | Health Authority: _____ HSDA: _____ |
| | Full Facility Name: _____ |
| | Is this report: <input type="checkbox"/> First Notification (<i>complete section B below; Section D if available</i>) <input type="checkbox"/> Update (<i>complete section C below; Section D if available</i>) <input type="checkbox"/> Outbreak Over (<i>complete section C below; Section D if available</i>) |

| | |
|---|--|
| B | <u>First Notification</u> |
| | Type of facility: <input type="checkbox"/> LTCF <input type="checkbox"/> Acute Care Hospital <input type="checkbox"/> Senior's Residence <i>(if ward or wing, please specify name/number: _____)</i> |
| | <input type="checkbox"/> Workplace <input type="checkbox"/> School (grades: _____) <input type="checkbox"/> Other (_____) |
| | Date of onset of first case of ILI (dd/mm/yyyy): <u>DD/MMM/YYYY</u> |

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

| | |
|---|--|
| C | <u>Update AND Outbreak Declared Over</u> |
| | Date of onset for most recent case of ILI (dd/mm/yyyy): <u>DD/MMM/YYYY</u> |
| | If over, date outbreak declared over (dd/mm/yyyy): <u>DD/MMM/YYYY</u> |
| | |

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

| | |
|---|---|
| D | <u>Laboratory Information</u> |
| | Specimen(s) submitted? <input type="checkbox"/> Yes (location: _____) <input type="checkbox"/> No <input type="checkbox"/> Don't know If yes, organism identified? <input type="checkbox"/> Yes (specify: _____) <input type="checkbox"/> No <input type="checkbox"/> Don't know |