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

British Columbia Influenza Surveillance Bulletin

Influenza Season 2013-14, Number 04, Weeks 46-47
November 10 to November 23, 2013

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Influenza activity remains low in BC

In weeks 46-47 (November 10 to 23, 2013), most surveillance indicators suggested that influenza activity remained low in BC. The proportion of patients with influenza-like illness (ILI) among those presenting to sentinel physicians remained stable and within expected ranges for this time of year. The proportion of emergency room visits to BC Children's Hospital attributed to ILI increased but remained consistent with previous seasons. Following a slight increase in previous weeks, the proportion of Medical Services Plan (MSP) claims for influenza illness remained stable at 10-year median levels in most regions. Six specimens tested at the provincial laboratory were positive for influenza viruses, including two influenza A(H1N1)pdm09, one influenza A(H3N2), and three influenza A (subtype pending). Compared to previous weeks, the influenza positivity rate increased to 3.6% in week 47, the highest observed to date this season. Rhino/enteroviruses continued to be the predominant respiratory viruses in circulation. No influenza viruses were detected by the BC Children's and Women's Centre Laboratory. No laboratory-confirmed ILI outbreaks due to influenza were reported.

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Provincial Health Services Authority
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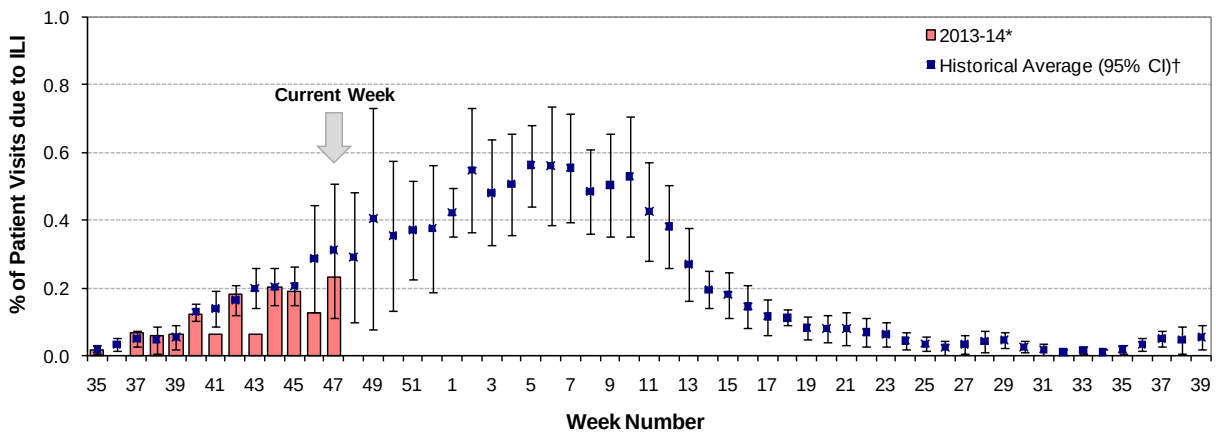
A research and teaching centre affiliated with UBC

British Columbia

Sentinel Physicians

In weeks 46-47, the proportion of patients with influenza-like illness (ILI) among those presenting to sentinel physicians was slightly below historical averages (0.13% in week 46 and 0.23% in week 47) but remained within expected ranges for this time of year. To date, the proportion of sentinel physician sites reporting is 68% and 39% for weeks 46 and 47, respectively. Since week 40, the ILI consultation rate has been within, if not slightly below, expected ranges.

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

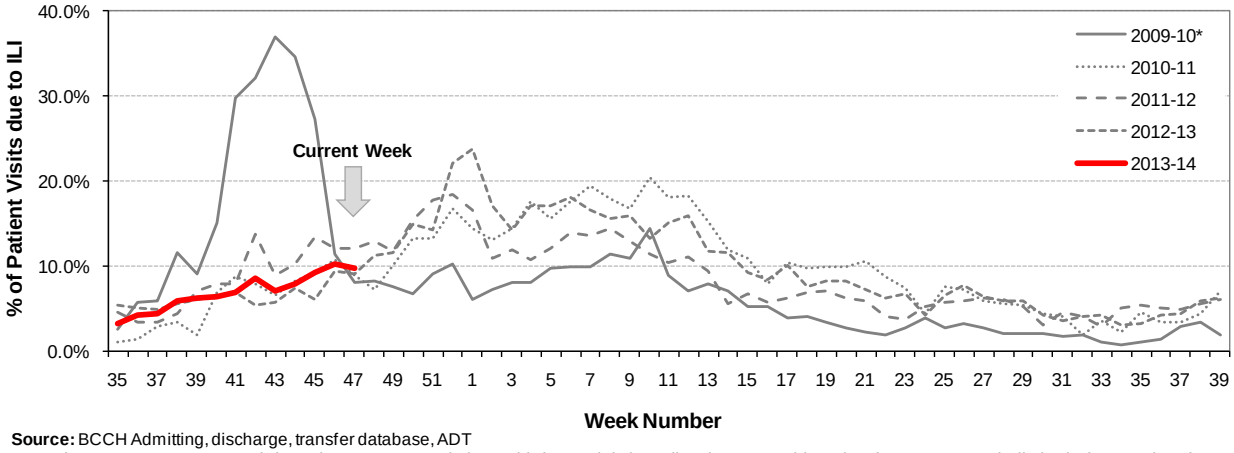


* Data are subject to change as reporting becomes more complete.
† Historical average based on 2001-02 to 2012-13 seasons, excluding 2008-09 and 2009-10 due to atypical seasonality; CI=confidence interval.

BC Children's Hospital Emergency Room

Compared to previous weeks, the proportion of visits to BC Children's Hospital Emergency Room (ER) attributed to influenza-like illness (ILI) increased in week 46 (10.3%) and week 47 (9.7%) but remained consistent with 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

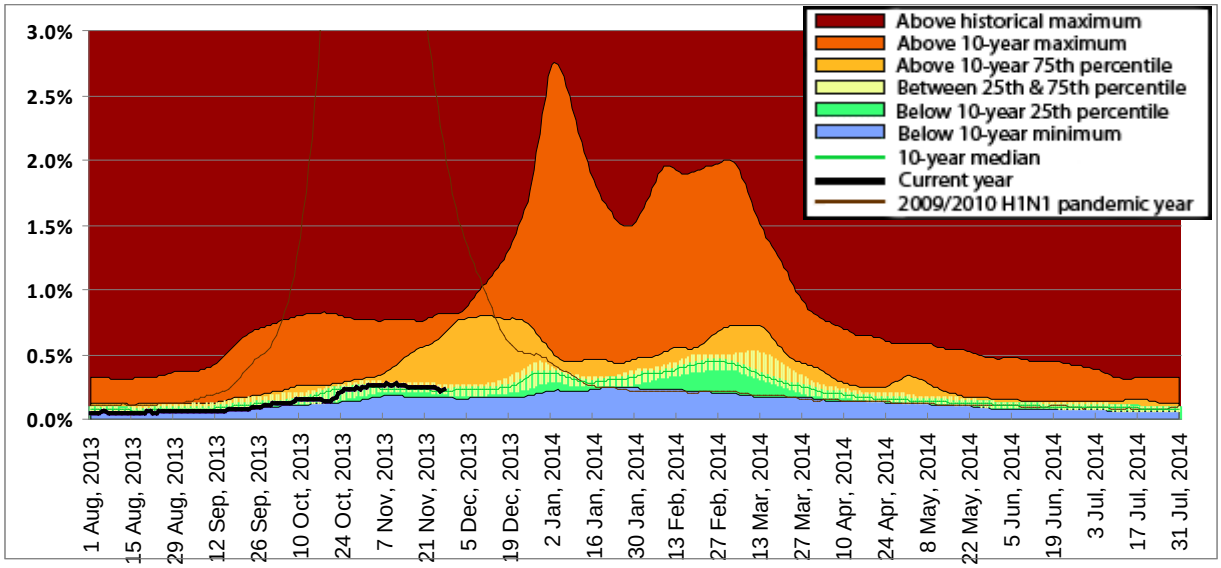


Source: BCCH Admitting, discharge, transfer database, ADT
* Data from 2010-11 to 2013-14 is based on new system (Triage Chief Complaint) not directly comparable to data for 2009-10. In bulletins before week 9 of 2011-12 season, data is based on old system.

Medical Services Plan

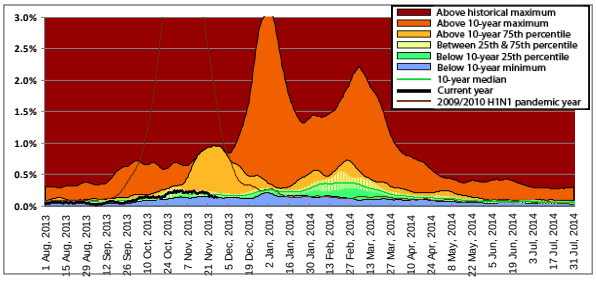
In weeks 46-47, BC Medical Services Plan (MSP) general practitioner claims for influenza illness (II), as a proportion of all submitted MSP claims, remained near 10-year median levels at the provincial level and in most health authorities. Following an increase in previous weeks, the proportion of MSP claims for II has since stabilized and has even decreased to below historical norms in some health authorities (e.g., IHA, VCHA, NHA), with the exception of FHA where rates were above the 10-year median level. The atypical spike in MSP claims in NHA in week 41 was attributed to a surveillance artefact.

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

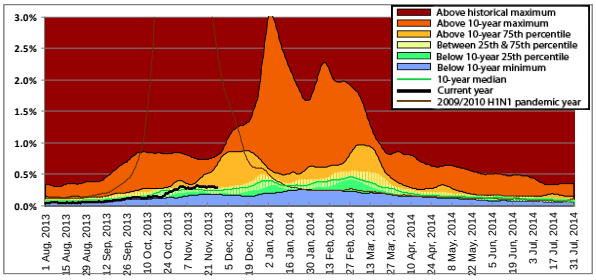


* Influenza illness is tracked as the percentage of all submitted MSP general practitioner claims with ICD-9 code 487 (influenza).
Data provided by Population Health Surveillance and Epidemiology, BC Ministry of Health Services
Note: MSP week beginning 1 August 2013 corresponds to sentinel ILI week 31; data current to 27 November 2013.

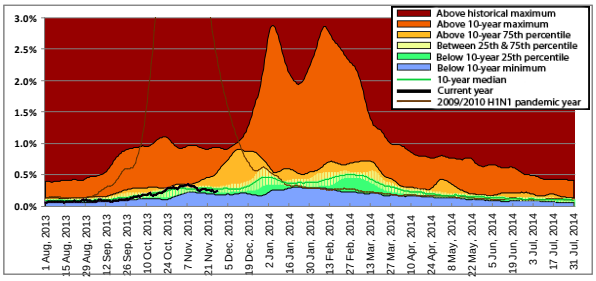
Interior



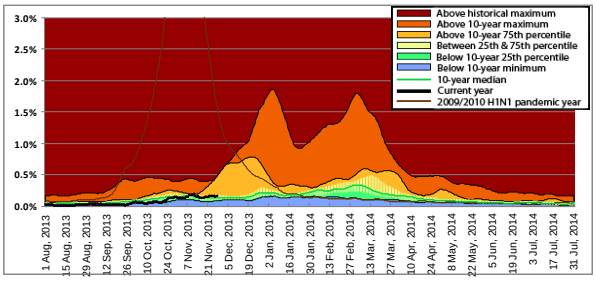
Fraser



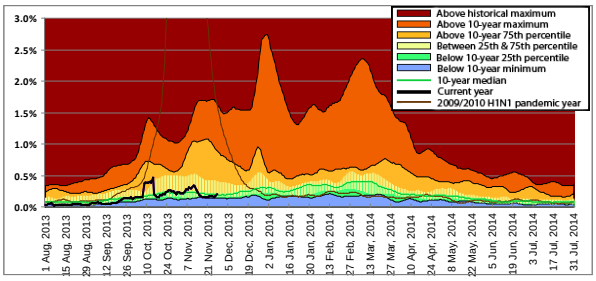
Vancouver Coastal



Vancouver Island



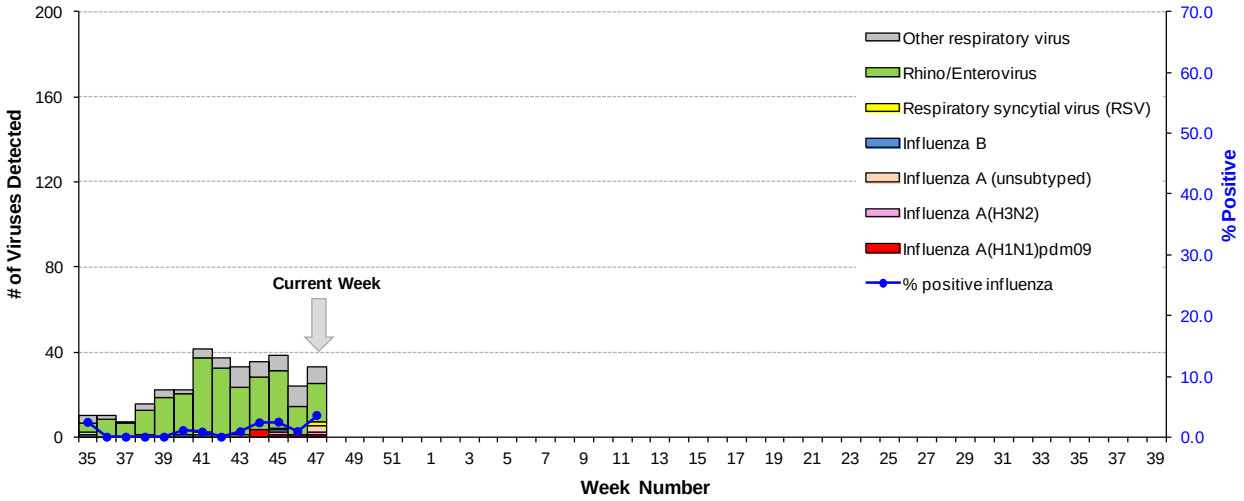
Northern



Laboratory Reports

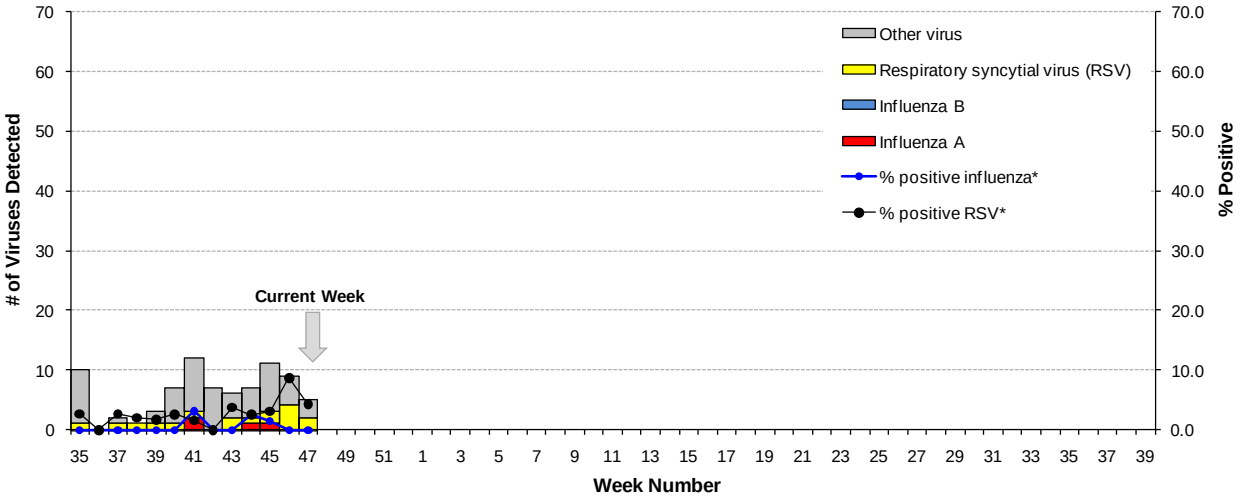
In weeks 46-47, 248 respiratory specimens were tested for influenza viruses by the BC Public Health Microbiology & Reference Laboratory, PHSA. Of these, six (2.4%) were positive for influenza, including two for influenza A(H1N1)pdm09, one for influenza A(H3N2), and three for influenza A (subtype pending). Compared to previous weeks, the weekly influenza positivity rate increased to 3.6% in week 47, the highest (albeit still low-level) rate observed to date this season. Rhino/enteroviruses continued to be the most common respiratory viruses in circulation.

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



In weeks 46-47, 96 respiratory specimens were tested at the BC Children's and Women's Health Centre Laboratory; none were positive for influenza viruses. RSV was the most commonly detected respiratory virus; parainfluenza viruses and adenoviruses were also sporadically detected.

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

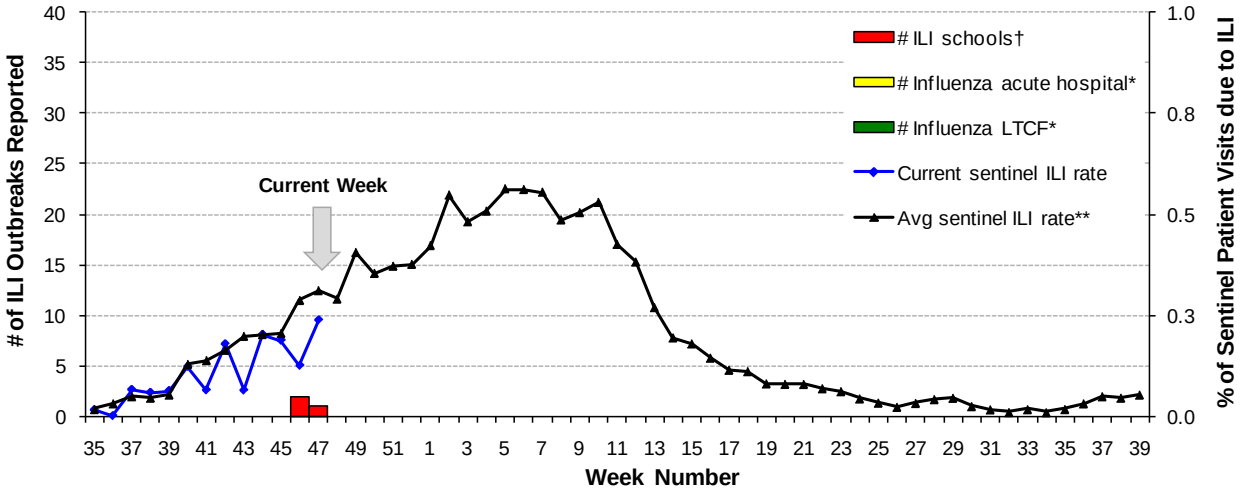


* Positive rates were caculated using aggregate data. The denominators for each rate represent the total number of tests; multiple tests may be performed for a single specimen and/or patient.

Influenza-like Illness (ILI) Outbreaks

In weeks 46-47, two ILI outbreaks due to laboratory-confirmed entero/rhinoviruses were reported from long-term care facilities (LTCF) in IHA. Three school outbreaks, based on a daily absenteeism rate of >10%, most likely due to ILI were reported from IHA (2) and NHA (1). So far during the 2013-14 season, no ILI outbreaks due to laboratory-confirmed influenza have been reported.

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.

National

FluWatch (week 46):

National influenza activity increased for the fourth week in a row. Laboratory detections of influenza continued to increase, primarily due to influenza A(H1N1)pdm09, but influenza A(H3N2) and influenza B viruses were also detected. Two influenza outbreaks in LTCFs were reported in week 46. The ILI consultation rate decreased slightly from a peak earlier this season and has remained relatively stable in the past four weeks. Two new influenza-associated paediatric hospitalizations due to influenza A(H1N1)pdm09 were reported, and two new influenza-associated adult hospitalizations due to influenza A (un-subtyped) were reported in week 46. Details are available at: http://www.phac-aspc.gc.ca/fluwatch/13-14/w46_13/index-eng.php.

National Microbiology Laboratory (NML): Strain Characterization

From September 1 to November 28, 2013, 32 isolates were collected from provincial and hospital labs for antigenic characterization at the NML:

- 4 A/Texas/50/2012-like (H3N2)[¶] from ON and AB;
- 17 A/California/07/09-like [A(H1N1)pdm09]***** from NL, NB, ON, MB, SK and AB;
- 7 B/Massachusetts/02/12-like[†] from ON and AB;
- 4 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 to November 28, 2013, thirteen influenza A [6 A(H3N2) and 7 A(H1N1)pdm09] viruses were tested for resistance to amantadine at the National Microbiology Laboratory (NML); all tested viruses were found to be resistant. Twenty-nine influenza viruses [4 A(H3N2), 14 A(H1N1)pdm09, and 11 B] were tested for resistance to oseltamivir and zanamivir; all tested viruses were sensitive to both antiviral drugs.

International

USA (week 46): Influenza activity in the United States increased slightly in week 46. Of the 4,457 specimens tested, 312 (7.0%) were positive for influenza viruses, of which 89.7% were influenza A [42.1% A(H1N1)pdm09, 5.0% A(H3N2), 52.9% un-subtyped] and 10.3% were influenza B. Details are available at: www.cdc.gov/flu/weekly/.

WHO (as of November 22, 2013): Overall influenza activity in North America increased slightly over the past three weeks, but remained at low levels throughout the region. Countries from the WHO European Region continued to report low levels of influenza activity, with only a few countries reporting sporadic influenza activity. In northern Asia, influenza activity slightly increased in the north of China and Mongolia; whereas in southern Asia, influenza transmission was low. In South East Asia, influenza activity decreased in Viet Nam, but increased in Cambodia, Lao People's Democratic Republic, and Thailand; co-circulation of influenza A(H1N1)pdm09, influenza A(H3N2), and influenza B was reported in this area. In the Caribbean region of Central America and tropical South America, influenza A detections remained at low levels. According to the WHO, the influenza season in the southern hemisphere is largely over. Details are available at: www.who.int/influenza/surveillance_monitoring/updates/en/.

Avian Influenza A(H7N9) Virus: This week, a new case of human infection with influenza A(H7N9) was reported from Zhejiang province in China. Four human cases, with symptom onset dates in October 2013, were previously reported this fall, following a period of inactivity in late August and September. This most recent case brings the total number of confirmed cases to 141, including 45 deaths. The overall risk assessment and recommendations remain unchanged at this time. However, given the natural seasonality of influenza in temperate regions, 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/influenza/human_animal_interface/influenza_h7n9.

Middle East Respiratory Syndrome Coronavirus (MERS-CoV): Since September 2012, the WHO has been informed of a total of 160 lab-confirmed cases of MERS-CoV and 68 deaths. Six countries in the Middle East have been affected, including the Kingdom of Saudi Arabia (which accounts for ~80% of case reports), the United Arab Emirates, Jordan, Qatar, Oman, and Kuwait. The two imported cases in Spain associated with the Hajj in October are still classified as probable, pending confirmatory laboratory testing. No other Hajj-associated cases have been reported to date. Human-to-human transmission has been observed in households, health care settings, and other non-health care workplaces. However, continued reports of sporadic cases from affected regions of the Middle East suggest that introduction of the virus into human populations from animals or other non-human sources is ongoing. Four camels, including one reported previously from Saudi Arabia and three confirmed today by the WHO from Qatar, have now tested positive for the MERS-CoV virus following epidemiological investigations of reported human cases. However, the reservoir of infection and the role of camels and other non-human animals in the MERS-CoV transmission cycle remain unknown at this time. 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/disease/coronavirus_infections/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
RSV: Respiratory syncytial virus
VCHA: Vancouver Coastal Health Authority
VIHA: Vancouver Island Health Authority
WHO: World Health Organization

Web Sites:

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