

Influenza Surveillance 2015–2016

Week 45 and 46 (Nov.8 – 21, 2015)

Data extracted Nov.27, 2015 at 11:00 am

Laboratory-confirmed influenza cases in Week 45 and 46:

- 0 cases of influenza A
- 0 cases of influenza B

Since Sept. 1, 2015:

- 2 cases of influenza A
- 1 case of influenza B

Laboratory

Cases and cumulative incidence rates (cases per 10,000 population) since Sept. 1, 2015:

- Winnipeg: 1 (*)
- Southern: 1 (*)
- Interlake-Eastern: 0 (*)
- Prairie Mountain: 1 (*)
- Northern: 0 (*)

*Rates were not calculated due to small numbers.

Regional Health Authority

Severe outcomes associated with laboratory-confirmed influenza diagnosis in Week 45 and 46:

- 0 hospitalizations
- 0 ICU admissions
- 0 deaths

Since Sept. 1, 2015:

- 1 hospitalization
- 0 ICU admissions
- 0 deaths

Severity

Calls to Influenza Service at Health Links–Info Santé:

- 23 in Week 45
- 18 in Week 46

Percent of visits to sentinel physicians due to ILI:

- 0% in Week 45
- 0% in Week 46

Average ILI cases per day in Emergency Department:

- 128 per day in Week 45
- 123 per day in Week 46

15%–20% of total visits due to ILI in Week 45 and 46

Influenza-Like-Illness (ILI)

Laboratory-confirmed outbreaks in Week 45 and 46:

- 0 outbreaks of influenza A
- 0 outbreaks of influenza B

Since Sept. 1, 2015:

- 0 outbreaks of influenza A
- 0 outbreaks of influenza B

Outbreak

As of Nov. 27, 2015:

- Percent of total influenza vaccine doses ordered from manufacturers received by MHLS: 88%
- Percent of total doses ordered by immunization service providers shipped from MHLS across Manitoba: 99%

As of Nov. 25:

- Percent of Manitobans immunized with the seasonal influenza vaccine: 11%*

*Immunizations by pharmacists excluded due to a delay of data entry.

Immunization

Units of Oseltamivir dispensed from community retail pharmacies:

- 13 units in Week 45
- 16 units in Week 46
- 101 units since Oct. 1, 2015

Isolates resistant to antiviral since Sept. 1, 2015 in Manitoba:

- Oseltamivir: 0
- Zanamivir: 0

Antiviral

The current influenza/ILI activity level in Manitoba is low according to a number of surveillance indicators. In Week 45 and 46, there was no laboratory-confirmed influenza activity reported. This is normal at this time of year.

Influenza activity in Canada overall is low and there was a slight increase of activity. More regions reported sporadic activity in week 45 compared to previous weeks.

So far this season, influenza A(H3N2) has been the most common subtype affecting Canadians. The largest proportion of influenza cases (49%) was among those aged 65 years and older.

Summary: Low activity

Note. Numbers are subject to change. Missed events in the current weekly report due to a delay of submission to MHLS will be reported in later weeks when data become available.

Laboratory Surveillance

Reports of influenza nucleic acid detection, culture isolation, and enzyme immunoassay (EIA) detections are reported from Cadham Provincial Laboratory (CPL), and occasionally other laboratories, to Epidemiology and Surveillance (E&S) within 24 hours of confirmation. CPL also performs testing for other respiratory viruses including parainfluenza, RSV, adenovirus, rhinovirus, coronavirus, enterovirus, and bocavirus, which are reported to E&S on a weekly basis.

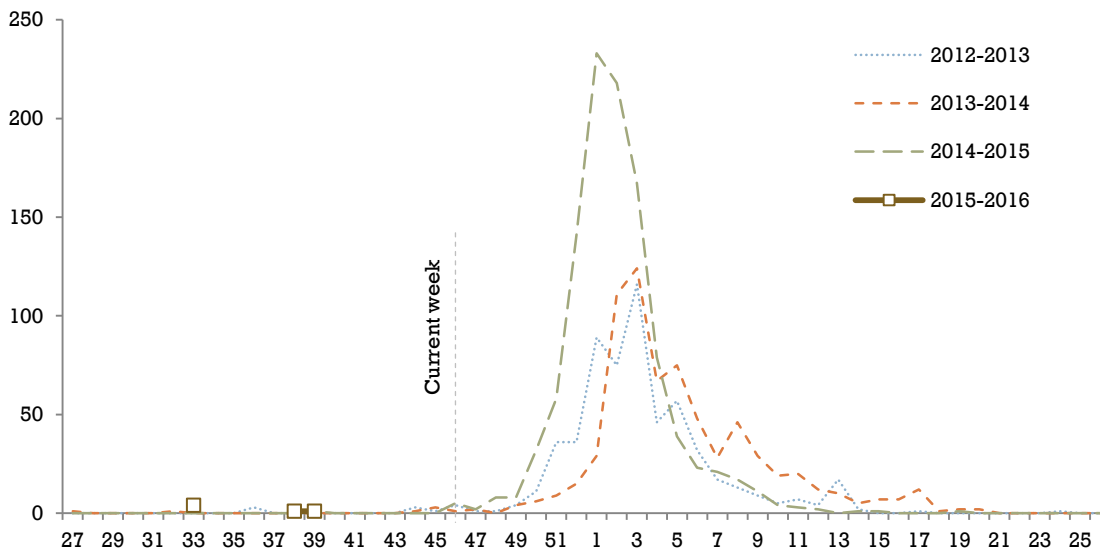


Figure 1. Laboratory-confirmed influenza A cases by week, Manitoba, 2015–2016

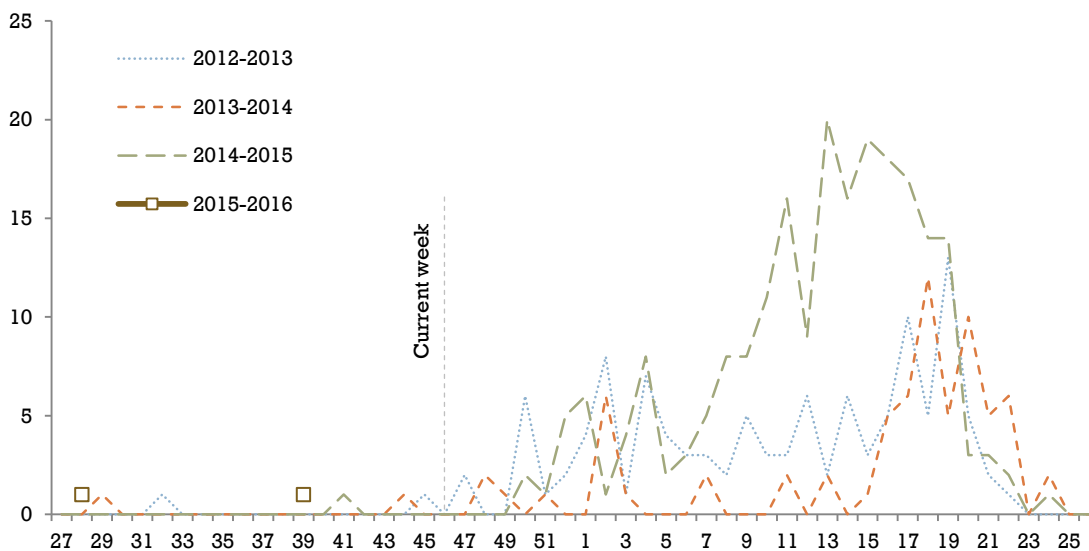


Figure 2. Laboratory-confirmed influenza B cases by week, Manitoba, 2015–2016

Health Links – Info Santé

Health Links–Info Santé is a 24-hour, 7-days a week telephone information service. It is staffed by registered nurses with the knowledge to provide answers to health care questions and guidance to appropriate care over the phone. When a caller phones Health Links–Info Santé and selects Influenza Service, they are given an option to select on (1) the groups of individuals who are at an increased risk of serious illness, (2) how to arrange an

influenza vaccine, (3) the annual influenza immunization campaign, or (4) the management of influenza and its potential complications.

The number of calls to Health Links – Info Santé in Week 45 and 46 continues to decrease after a peak in mid October. Overall, there were less weekly calls to Health Links – Info Santé in 2015–2016 than in previous seasons.

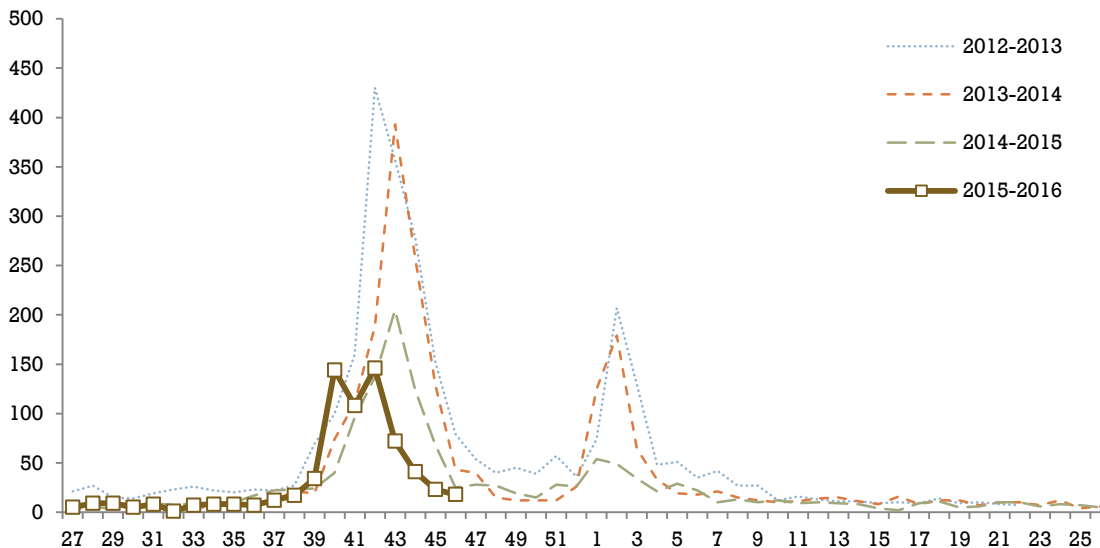


Figure 3. Calls to Health Links – Info Santé, Manitoba, 2015–2016

ILI

ILI visits to sentinel physicians

Manitoba participates in *FluWatch*, the Canada’s national surveillance system co-ordinated by Public Health Agency of Canada (PHAC), which monitors the spread of influenza and ILI on a year-round basis. *FluWatch* consists of a network of laboratories, hospitals, doctor’s offices and provincial and territorial ministries of health. In 2015–2016, there were 19 sentinel physicians recruited throughout Manitoba. They are requested to report to *FluWatch* weekly. E&S receives weekly reports from *FluWatch* which present the ILI rate for Manitoba and for each of the participating sentinel physicians. Note that the reporting sentinel physicians are different by week and their reports may not be representative of ILI activity across the province.

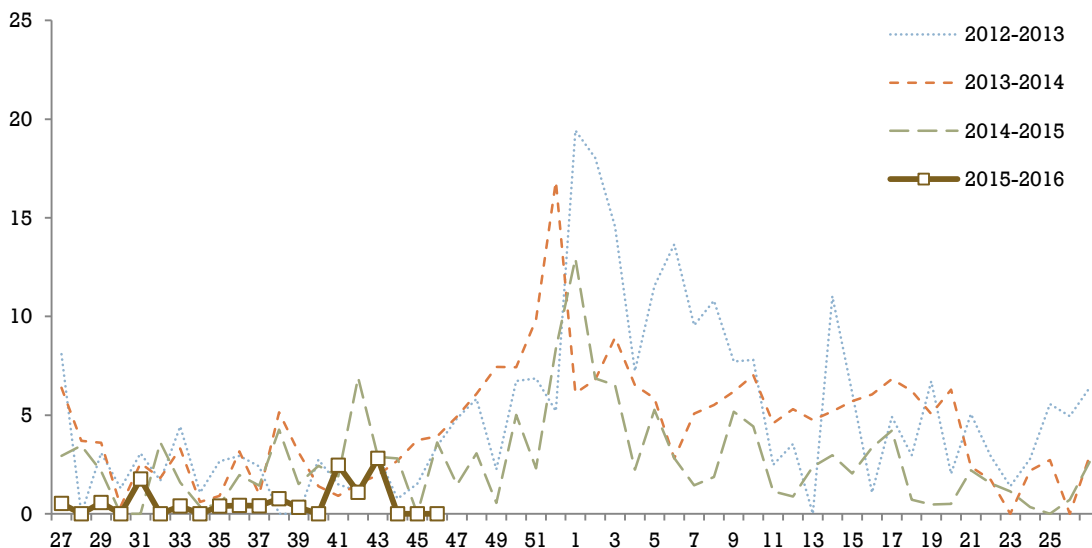


Figure 4 Percent of patient visits to sentinel physicians due to ILI by week, Manitoba, 2015–2016

ILI visits to Emergency Rooms

E&S receives the aggregate level information for the daily ILI related visits to Emergency Department in Winnipeg Regional Health Authority (WRHA) on a weekly basis. ILI cases are defined as patients whose triage chief complaints contain either of these symptoms: weakness, shortness of breath, cough, headache, fever, cardiac/respiratory arrest, sore throat, and upper respiratory tract infection complaints.

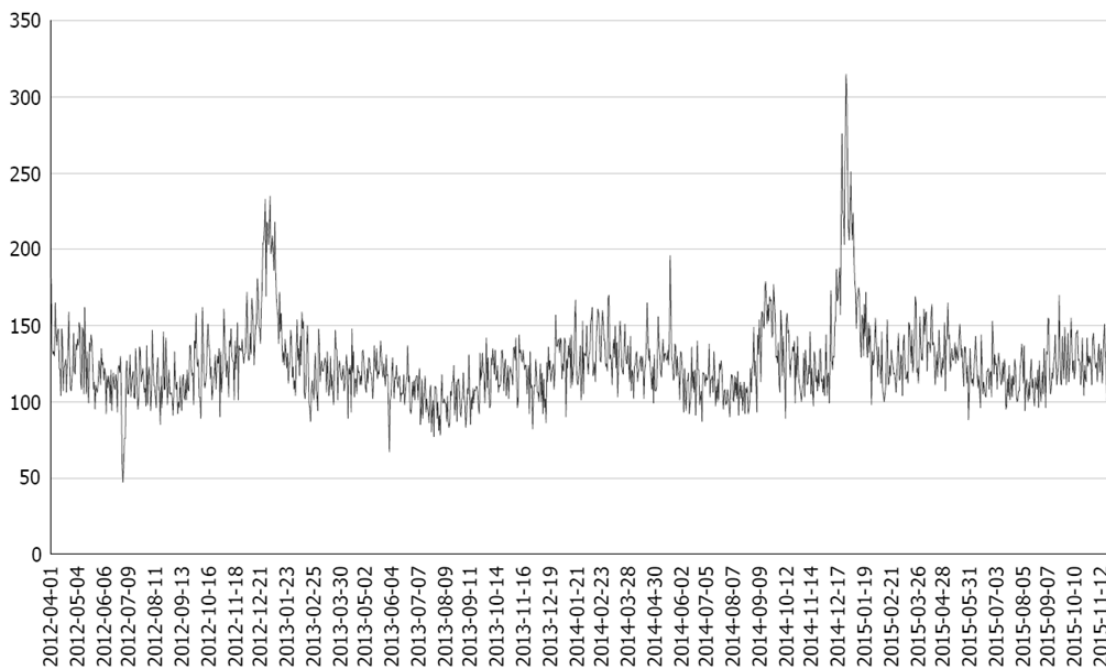


Figure 5 ILI cases in Emergency Department at WRHA, Manitoba

Antiviral dispensing

Daily units of antiviral drug, Oseltamivir (Tamiflu®), dispensed to Manitoba residents during an influenza season are reported to E&S from Drug Programs Information Network (DPIN) on a weekly basis since October 1 each season. Only drugs dispensed from community retail pharmacies are included in this report. Antiviral drugs dispensed to in-patients or through nursing stations could not be included due to the lack of data.

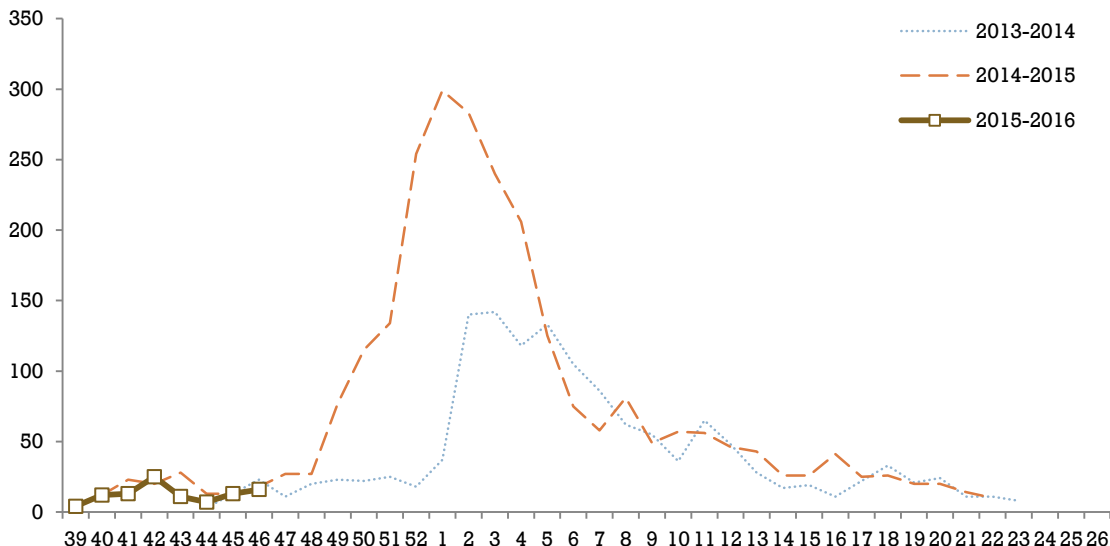


Figure 6 Units of Oseltamivir dispensed by week, Manitoba, 2015–2016

Antiviral Resistance

Influenza and Respiratory Viruses Section of National Microbiology Laboratory (NML) undertakes enhanced surveillance, investigations, and research on influenza and other respiratory pathogens. A random sample of positive influenza specimens isolated by culture is referred from each provincial laboratory to NML for strain characterization and antiviral resistance testing. The aggregate level information is then shared with provinces and territories on a weekly basis.

Nationally, all influenza viruses tested were sensitive to Oseltamivir and Zanamivir. In comparison, all viruses tested were resistant to Amantadine.

Table 1. Antiviral resistance of isolates by influenza type and subtype since September 1, 2015 in Canada and Manitoba, 2015–2016

		Oseltamivir		Zanamivir		Amantadine	
		# Resistant	# Sensitive	# Resistant	# Sensitive	# Resistant	# Sensitive
Canada	A(H3N2)	0	34	0	34	33	1
	A(H1N1)	0	1	0	1	1	0
	B	0	8	0	8	N/A	N/A
Manitoba	A(H3N2)	0	0	0	0	0	0
	A(H1N1)	0	0	0	0	0	0
	B	0	0	0	0	0	0

N/A = Not applicable

Immunization

As per World Health Organization (WHO), all seasonal quadrivalent influenza vaccines for 2015–2016 in the northern hemisphere contain:

- A/Switzerland/9715293/2013(H3N2)-like virus;
- A/California/7/2009(H1N1)pdm09-like virus;
- B/Phuket/3073/2013-like virus.
- B/Brisbane/60/2008-like virus.

For the 2015–2016 influenza season, MHLS is allotted quadrivalent inactivated vaccine (QIV), Fluzone® Quadrivalent (Sanofi Pasteur), and quadrivalent live attenuated influenza vaccine (QLAIV) FluMist® Quadrivalent (AstraZeneca), as part of the province's Publicly-Funded Seasonal Influenza Immunization Program.

Circulating Strain

NML antigenically characterizes influenza viruses received from Canadian laboratories year-round. In Manitoba, a random sample of positive influenza specimens isolated by culture is referred from CPL to NML.

Since September 1, 2015, NML has characterized 36 influenza A and B viruses.

1. 27 influenza A(H3N2) viruses:
 - One influenza A(H3N2) virus was antigenically characterized as A/Switzerland/9715293/2013, the influenza A(H3N2) component in the 2015–2016 influenza vaccine.
 - 26 influenza A(H3N2) viruses did not grow to sufficient hemagglutination titers for antigenic characterization by hemagglutination inhibition assays. Therefore, genetic characterization was performed to these viruses. Sequence analyses showed that those influenza A(H3N2) viruses belonged to a genetic group in which most viruses were antigenically related to A/Switzerland/9715293/2013.
2. One influenza A(H1N1) virus:
 - One influenza A(H1N1) virus characterized was antigenically similar to A/California/7/2009, the influenza A(H1N1) component in the vaccine.
3. Eight influenza B viruses:
 - Six influenza B viruses characterized were antigenically similar to B/Phuket/3073/2013, the influenza B component in the vaccine.
 - Two influenza B viruses were characterized as B/Brisbane/60/2008-like, the influenza B component in the vaccine.

Table 2 Influenza Strain Characterization reported by NML since September 1, 2015, Canada, 2015–2016

Strain	Number of viruses	
	Canada	Manitoba
A/Switzerland/9715293/2013(H3N2)-like	1	0
A/California/7/2009(H1N1)-like	1	0
B/Phuket/3073/2013-like	6	0
B/Brisbane/60/2008-like	2	0

Abbreviations

- CPL = Cadham Provincial Laboratory
- E&S = Epidemiology and Surveillance
- ICU = Intensive Care Unit
- ILI = Influenza-Like-Illness
- LTCF = Long Term Care Facility
- MHLS = Manitoba Health, Healthy Living and Seniors
- NML = National Microbiology Laboratory
- PHAC = Public Health Agency of Canada
- RHA = Regional Health Authority
- WRHA = Winnipeg Regional Health Authority

Explanatory Notes and Definitions

Cumulative data

Cumulative data include updates to previous weeks; due to reporting delays or amendments, the sum of weekly report totals may not add up to cumulative totals.

Data extraction date

Manitoba-specific information contained within this update is based on data confirmed in databases maintained by E&S at 11:00 am on the date of data extraction.

Epidemiology week

Time trends in this report were analyzed by [epidemiology week](#), a schedule used by the national FluWatch program coordinated by the Public Health Agency of Canada (PHAC).

Incidence rate

Incidence rate measures the frequency with which influenza occurs in a region. It is calculated as the total number of new cases this influenza season multiplied by 10,000 and divided by the total population in each region. Population counts were calculated from the registry file maintained by MHLS as of June 1, 2014.

ILI in the general population

Acute onset of respiratory illness with fever and cough and with one or more of the following – sore throat, arthralgia, myalgia, or prostration, which is likely due to influenza. In children under 5, gastrointestinal symptoms may also be present. In patients under 5 or 65 and older, fever may not be prominent.

ILI outbreaks

Schools: Greater than 10% absenteeism (or absenteeism that is higher (e.g. >5-10%) than expected level as determined by school or public health authority) which is likely due to ILI.

Hospitals and residential institutions: Two or more cases of ILI within a seven-day period, including at least one laboratory confirmed case.

Other settings: Two or more cases of ILI within a seven-day period, including at least one laboratory confirmed case; i.e. workplace, closed communities.

Specimen collection date

The date the laboratory specimen was taken is used to assign cases to epidemiology weeks in this report. However, hospitalized/ICU cases are reported based on laboratory report date.

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For other Epidemiology and Surveillance reports, please view the Manitoba Health internet website:
<http://www.gov.mb.ca/health/publichealth/surveillance/index.html>

For national surveillance data, refer to:
<http://www.phac-aspc.gc.ca/fluwatch/index-eng.php>