

Influenza Surveillance 2016–2017

Week 44 & 45 (Oct. 30–Nov. 12, 2016)

Data extracted Nov. 18, 2016 at 11:00 am

Next report date: Dec. 2, 2016

Laboratory-confirmed influenza A cases:

- Week 44: **1**
- Week 45: **1**

Laboratory-confirmed influenza B cases:

- Week 44: **0**
- Week 45: **0**

Since Sept. 1, 2016:

- Influenza A cases: **10**
- Influenza B cases: **1**

Laboratory

Cases and cumulative incidence rates (cases per 10,000 population) since Sept. 1, 2016:

- Winnipeg: **2** (*)
- Southern: **1** (*)
- Interlake-Eastern: **2** (*)
- Prairie Mountain: **6** (*)
- Northern: **0** (*)

* Rates were not calculated due to small numbers.

Regional Health Authority

Severe outcomes associated with a laboratory-confirmed diagnosis of influenza in Week 44 and 45:

- Hospitalizations: **1**
- ICU admissions: **1**
- Deaths: **0**

Since Sept. 1, 2016:

- Hospitalizations: **1**
- ICU admissions: **1**
- Deaths: **0**

Severity

Calls to Influenza Service at Health Links–Info Santé:

- Week 44: **39**
- Week 45: **23**

Percent of visits to sentinel physicians due to ILI:

- Week 44: **0.6** %
- Week 45: **0.7** %

In Emergency Department this week, ILI patients per day:

- Week 44: **137**
- Week 45: **144**

Influenza-Like-Illness (ILI)

Laboratory-confirmed outbreaks in Week 44 and 45:

- Influenza A outbreaks: **0**
- Influenza B outbreaks: **0**

Since Sept. 1, 2016:

- Influenza A outbreaks: **1**
- Influenza B outbreaks: **0**

Outbreak

As of Nov. 11, 2016:

Percent of total influenza vaccine doses ordered from manufacturers received by MHSAL: **98.9**%

Percent of total doses ordered by immunization service providers shipped from MHSAL across Manitoba: **99.5**%

Immunization

Units of Oseltamivir dispensed from community retail pharmacies:

- Week 44: **38** units
- Week 45: **29** units
- Since Oct. 1, 2016: **189** units

Isolates resistant to antiviral since Sept. 1, 2016 in Manitoba:

- Oseltamivir: **0**
- Zanamivir: **0**

Antiviral

The influenza activity level in Manitoba overall is low. Manitoba is experiencing sporadic influenza activity at this time. Note that the number of patients in Emergency Rooms due to ILI increased slightly in last two weeks. The majority of influenza vaccines ordered by immunization providers in this province have been shipped.

Nationally, influenza activity is at inter-seasonal levels with the majority of regions in Canada reporting low influenza activity. Influenza A(H3N2) continues to be the most common subtype detected. Typically, the onset of the influenza season in Manitoba is a few weeks behind the west coast and east coast provinces.

Globally, influenza activity in the temperate zone of both the northern and southern hemispheres remained at inter-seasonal levels as Oct. 30.

Summary: Low activity

Note. Numbers are subject to change. Missed events in the current report due to a delay of submission to MHSAL will be included in later reports when data become available.

Laboratory Surveillance

Reports of influenza nucleic acid detection, culture isolation, and enzyme immunoassay (EIA) detections are received from Cadham Provincial Laboratory (CPL) and occasionally other laboratories. These reports are forwarded 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.

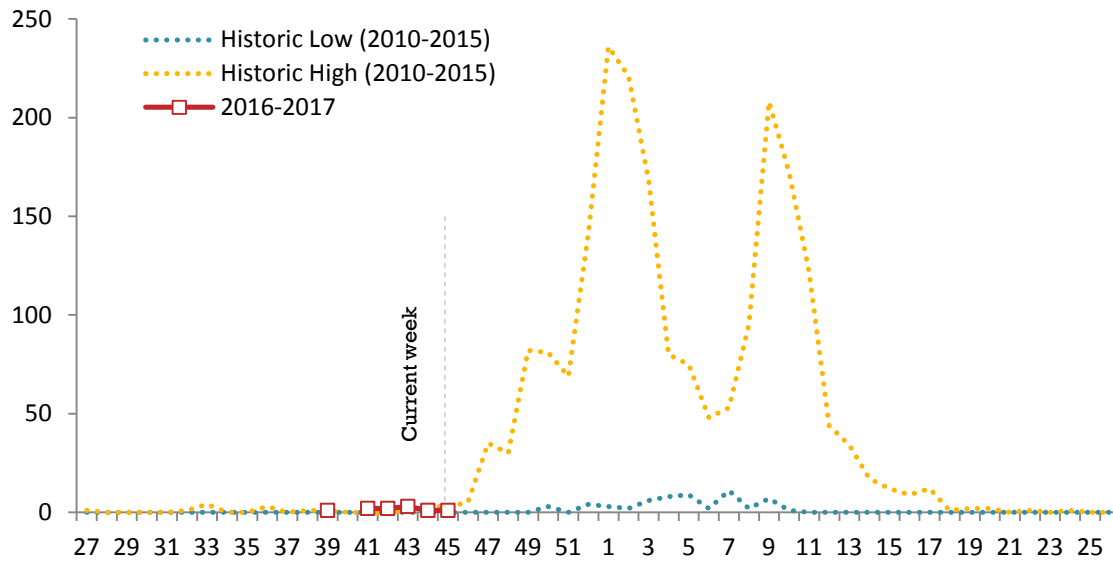


Figure 1. Laboratory-confirmed influenza A cases by week, Manitoba, 2016-2017

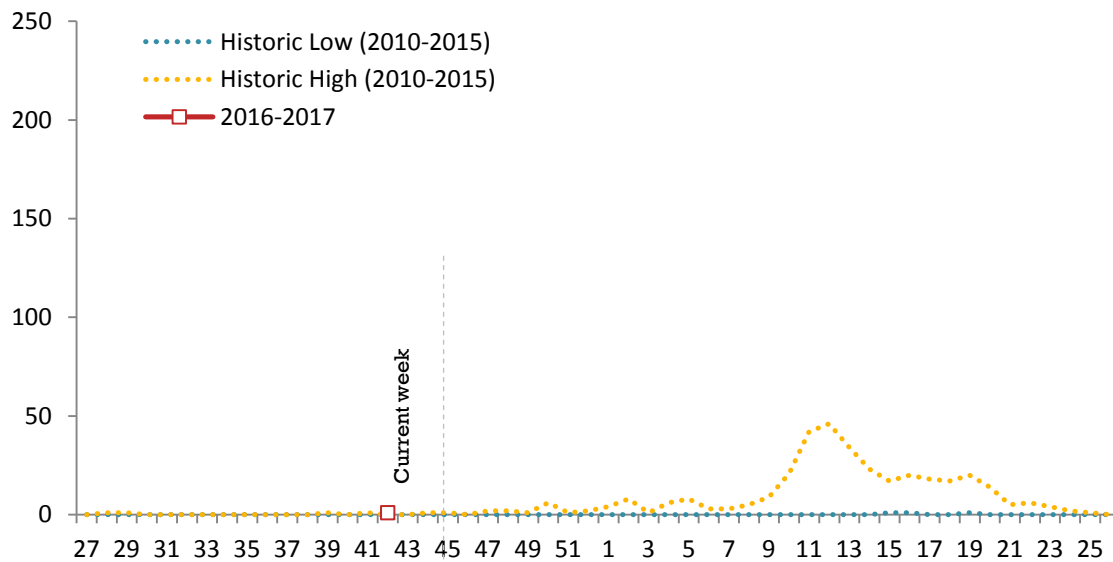


Figure 2. Laboratory-confirmed influenza B cases by week, Manitoba, 2016-2017

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 information 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.

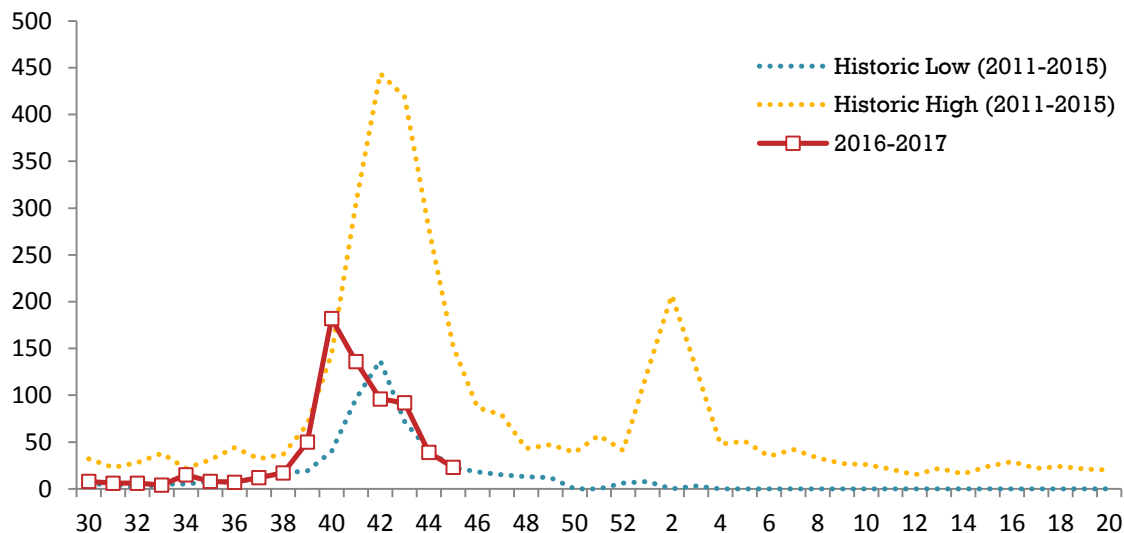


Figure 3. Calls to Health Links – Info Santé, Manitoba, 2016–2017

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 2016–2017, there were 19 sentinel physicians recruited throughout Manitoba reporting 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.

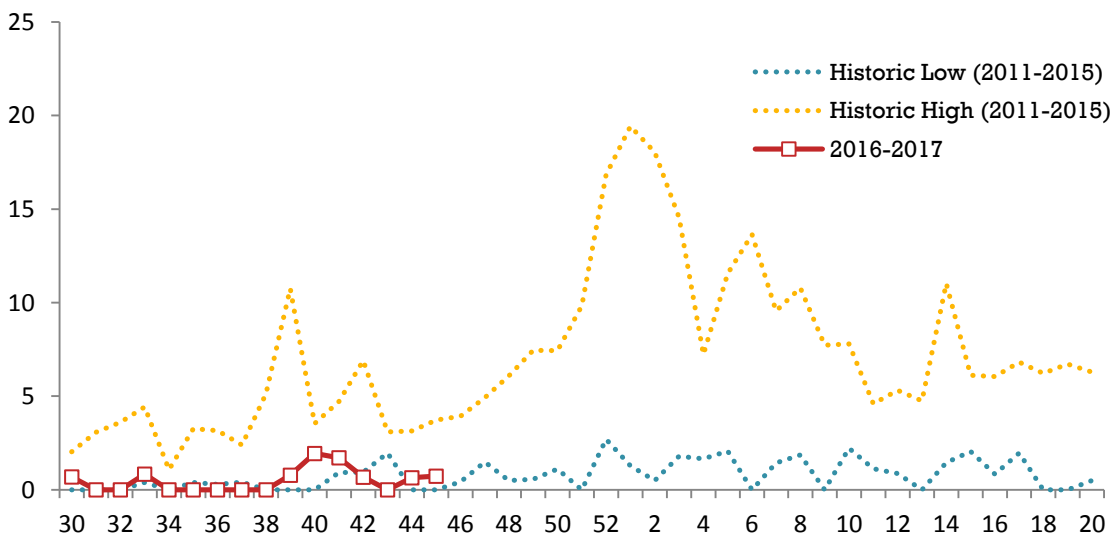


Figure 4. Percent of patient visits to sentinel physicians due to ILI by week, Manitoba, 2016–2017

ILI visits to Emergency Rooms

Daily ILI related visits to Emergency Department (ED) at Winnipeg Regional Health Authority (WRHA) are submitted to E&S weekly. 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.

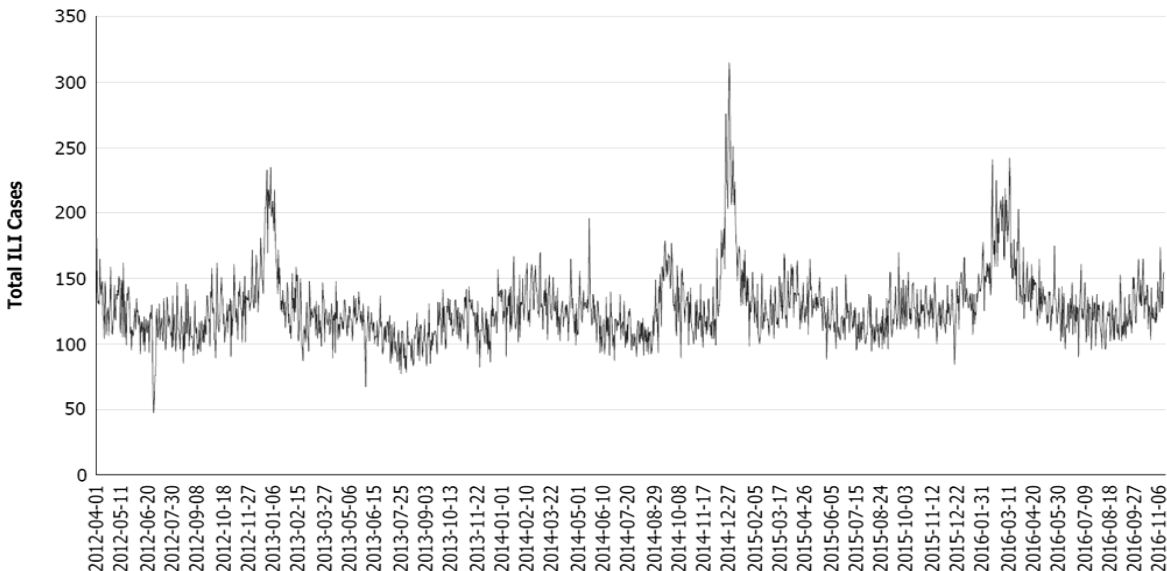


Figure 5. Time trend of percent of ED visits due to ILI, Manitoba

Antiviral dispensing

The units of antiviral drug, Oseltamivir (Tamiflu®), dispensed since October, 1, 2015 to Manitoba residents during the influenza season are reported to E&S from Drug Programs Information Network (DPIN) on a weekly basis. Only drugs dispensed from community retail pharmacies were included in this report. Antiviral drugs dispensed to in-patients or through nursing stations could not be included due to lack of data.

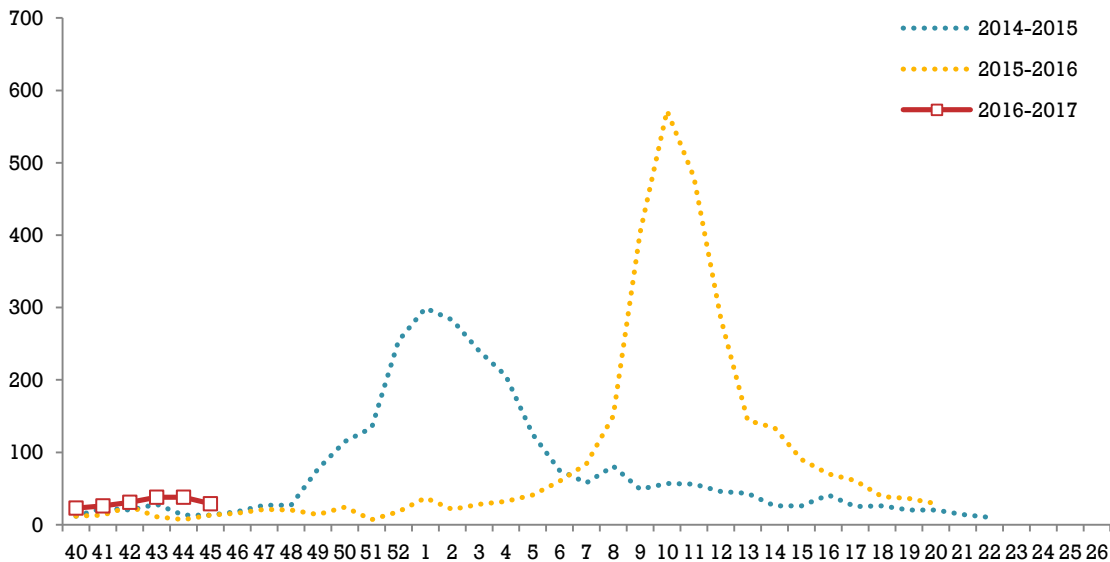


Figure 6. Units of Oseltamivir dispensed by week, Manitoba, 2016-2017



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.

Table 1. Antiviral resistance of isolates by influenza type and subtype since September 1, 2016 in Canada and Manitoba, 2016–2017

| | | Oseltamivir | | Zanamivir | | Amantadine | |
|-----------------|---------|-------------|-------------|-------------|-------------|-------------|-------------|
| | | # Resistant | # Sensitive | # Resistant | # Sensitive | # Resistant | # Sensitive |
| Canada | A(H3N2) | 0 | 62 | 0 | 62 | 36 | 0 |
| | A(H1N1) | 0 | 3 | 0 | 3 | 3 | 0 |
| | B | 0 | 9 | 0 | 9 | N/A | N/A |
| Manitoba | A(H3N2) | 0 | 2 | 0 | 2 | 2 | 0 |
| | A(H1N1) | 0 | 0 | 0 | 0 | 0 | 0 |
| | B | 0 | 1 | 0 | 1 | N/A | N/A |

Immunization

As per World Health Organization (WHO), all seasonal quadrivalent influenza vaccines for 2016–2017 in the northern hemisphere contain:

- A/Hong Kong/4801/2014 (H3N2)-like virus
- A/California/7/2009 (H1N1)pdm09-like virus
- B/Brisbane/60/2008-like virus
- B/Phuket/3073/2013-like virus

For the 2016–2017 influenza season, MHSAL has been allotted the quadrivalent inactivated vaccines (QIV), Fluzone® Quadrivalent (Sanofi Pasteur) and FluLaval Tetra® (GlaxoSmithKline), 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 for strain characterization.

Since September 1, 2016, NML has characterized 88 influenza A and B viruses.

1. 75 influenza A(H3N2) viruses:

- 31 influenza A(H3N2) viruses characterized were antigenically similar to A/Hong Kong/4801/2014, the influenza A(H3N2) component of the 2016-17 Northern Hemisphere influenza vaccine. Of those influenza A(H3N2) viruses characterized, 26 belonged to genetic group 3C.2a and 5 belonged to genetic group 3C.3a.
- 44 influenza A(H3N2) viruses did not grow to sufficient hemagglutination titers for antigenic characterization by hemagglutination inhibition assays. Therefore, genetic characterization was performed. Sequence analysis of the HA gene of these viruses showed that 21 H3N2 viruses belonged to genetic group 3C.2a. The vaccine strain, A/Hong Kong/4801/2014(H3N2)-like virus, belongs to genetic group 3C.2a.

2. 4 influenza A(H1N1) viruses:
 - 4 influenza A(H1N1) viruses characterized were antigenically similar to A/California/7/2009, the influenza A(H1N1) component in the vaccine.
3. 9 influenza B viruses:
 - 7 influenza B viruses were characterized as B/Brisbane/60/2008-like (Victoria lineage), the influenza B component in the vaccine.
 - 2 influenza B viruses characterized were antigenically similar to B/Phuket/3073/2013 (Yamagata lineage), the influenza B component in the quadrivalent vaccine.

Table 2. Influenza Strain Characterization reported by NML since September 1, 2016, Canada, 2016–2017

| Strain | Number of viruses | |
|-----------------------------------|-------------------|----------|
| | Canada | Manitoba |
| A/Hong Kong/4801/2014 (H3N2)-like | 31 | 2 |
| A/California/7/2009(H1N1)-like | 4 | 0 |
| B/Brisbane/60/2008-like | 7 | 0 |
| B/Phuket/3073/2013-like | 2 | 1 |

Abbreviations

- CPL = Cadham Provincial Laboratory
- E&S = Epidemiology and Surveillance
- ICU = Intensive Care Unit
- ILI = Influenza-Like-Illness
- LTCF = Long Term Care Facility
- MHSAL= Manitoba Health, Seniors and Active Living
- 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 SIS databases 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. Regional populations are based on the Manitoba Health Population Report 2013.

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 the appropriate week in this report. However, hospitalized/ICU cases are reported based on laboratory report date.

Epidemiology and Surveillance
Manitoba Health, Seniors and Active Living
flusurveillance@gov.mb.ca
(204)786-7335

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>