

Section 1: Summary

Influenza activity continues decrease and Influenza A (H3N2) continues to be predominant strain overall this season.

Section 2: Outbreaks

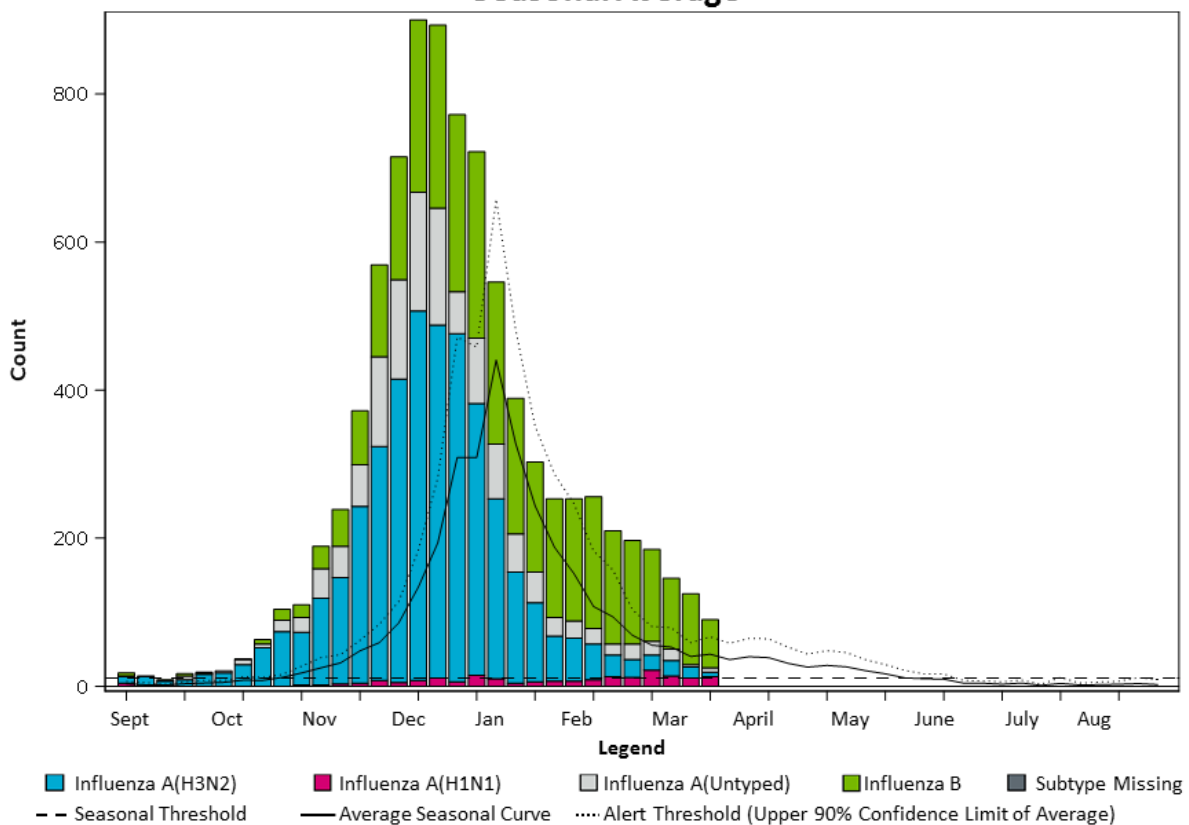
As of week 13, there are 274 outbreaks reported to date.

| Outbreaks | | |
|-----------|--------------|-----|
| | Current Week | YTD |
| North | 0 | 32 |
| Edmonton | 0 | 85 |
| Central | 0 | 33 |
| Calgary | 0 | 98 |
| South | 0 | 25 |
| Unknown | 0 | 1 |
| Alberta | 0 | 274 |

Section 3: Laboratory-Confirmed Influenza Surveillance & Peak Prediction

To date in the 2017/18 season, the Provincial Laboratory for Public Health (ProvLab) has reported 8,736 lab-confirmed influenza cases: 5,543 influenza A and 3,193 influenza B. The predominant subtype is influenza A (H3N2) with 47% of all isolates. Influenza B activity is dominant following the peak while activity overall continues to decrease.

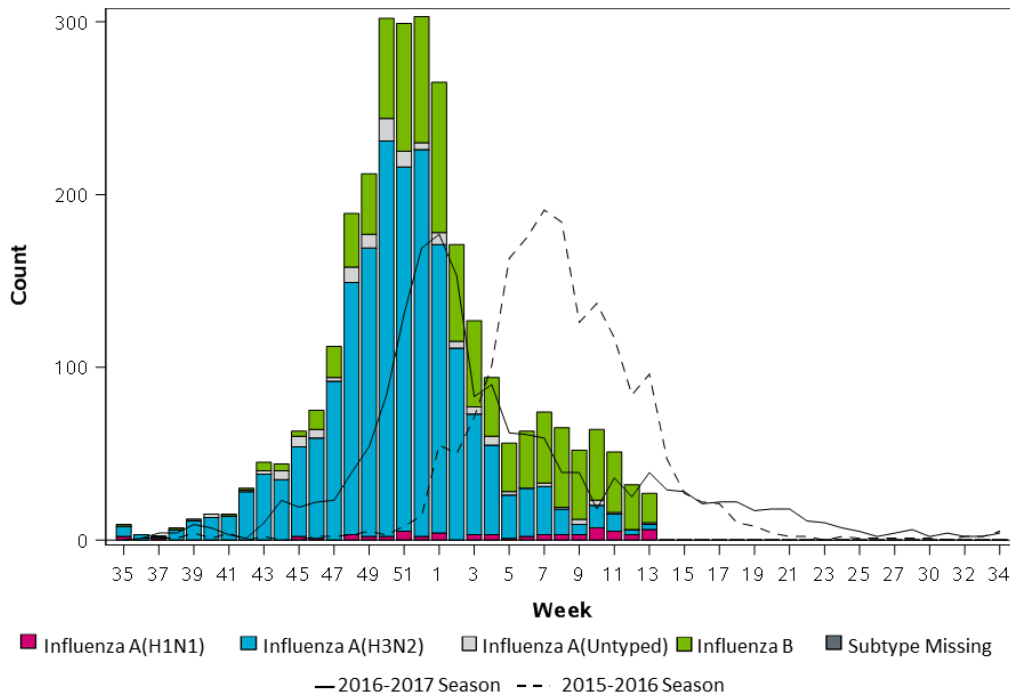
2017/18 Lab-Confirmed Influenza Cases by Serotype and Week, Compared to Seasonal Average



Section 4: Hospitalizations

There have been 2,878 hospitalized influenza cases and 223 patients admitted to the ICU to date. The predominant subtype in hospitalized patients is Influenza A (H3N2).

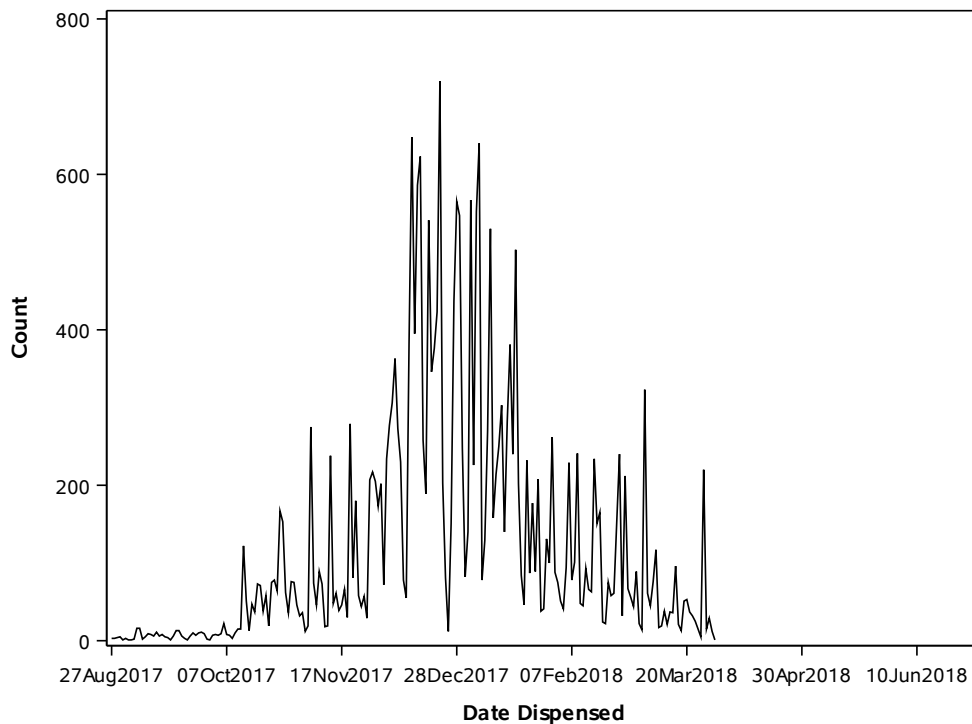
Hospitalized Influenza Cases in 2017/2018, by Serotype and Week



Section 5: Antiviral Prescriptions

The number of antivirals dispensed by community pharmacists provides an indication of the amount of influenza circulating in the community. There were 282 prescriptions dispensed in week thirteen. There have been 25,890 prescriptions dispensed to date.

Number of Patients Filling a Prescription for an Antiviral, by Date Dispensed



Section 6: Antiviral Resistance

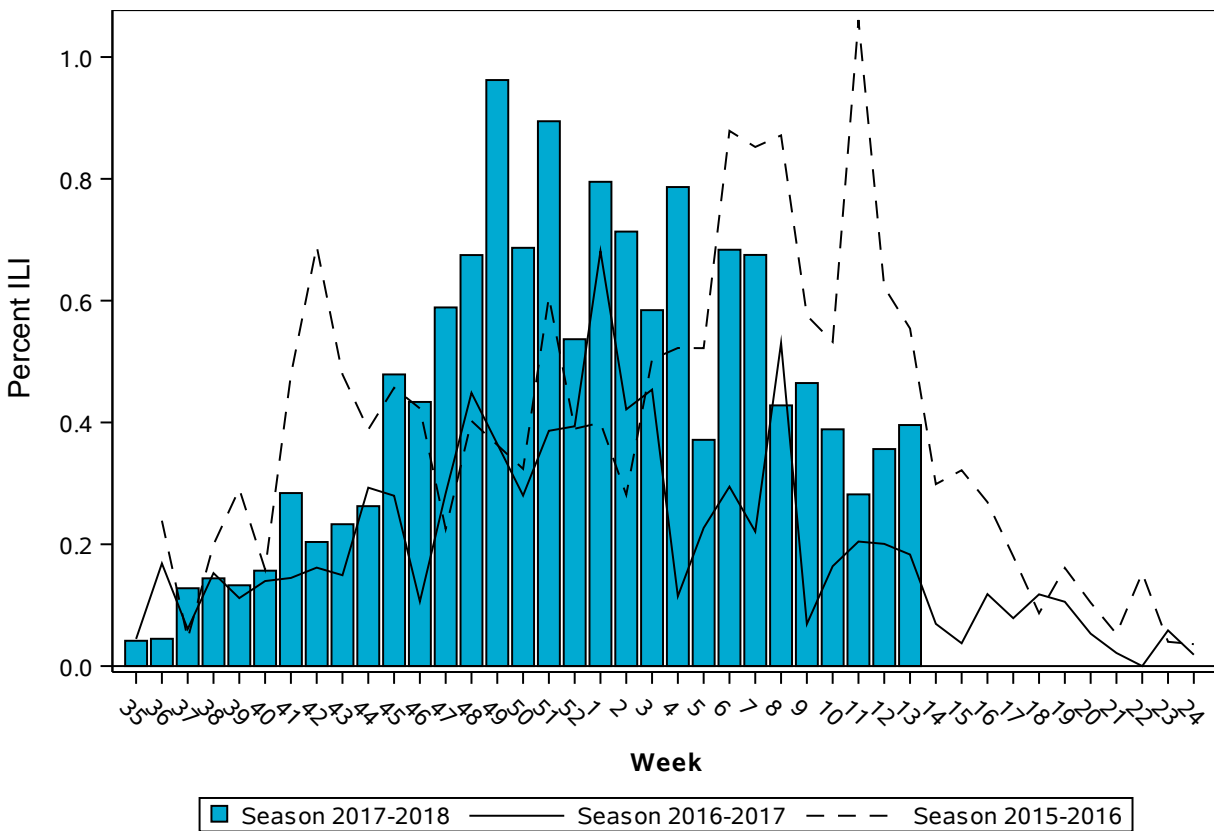
As of Sept. 1, 2017, 2,856 influenza isolates have been characterized by the National Medical Laboratory (NML). Of the 1,103 influenza viruses tested for resistance to Oseltamivir, all H3N2 and influenza B viruses were sensitive while one of the H1N1 viruses was resistant with H275Y mutation. All 1,099 influenza viruses tested were sensitive to Zanamivir except one Influenza B virus.

Section 7: Influenza-Like Illness – TARRANT

Sentinel physicians report cases of ILI seen in their practices. Sentinel physicians saw 18 cases of influenza-like illness in week 13 (0.4% of all patients seen). There were 22 cases of ILI (0.4%) seen by physicians in week 12.

| | Sentinel Doctors (#) | Sentinel Recorders This Week (#) | Patients Seen (#) | ILI Cases (#) | Patients with ILI (%) |
|----------------------|----------------------|----------------------------------|-------------------|---------------|-----------------------|
| Calgary Zone | 69 | 33 | 2157 | 17 | 0.8 |
| Central Zone | 14 | 9 | 276 | 0 | 0.0 |
| Edmonton Zone | 11 | 6 | 609 | 0 | 0.0 |
| Northern Zone | 7 | 4 | 105 | 0 | 0.0 |
| South Zone | 12 | 10 | 1403 | 1 | 0.1 |
| Alberta | 113 | 62 | 4548 | 18 | 0.4 |

Percent of Patient Visits Due to Influenza-Like Illness at Sentinel Physicians, by Week and Season



For more information, please go to: <http://calgaryfamilymedicine.ca/tarrant/>

Section 8: Acknowledgments

Alberta Health would like to thank Alberta Health Services (AHS), First Nations Inuit Health Branch (FNIHB), the Provincial Laboratory for Public Health (ProvLab), the National Microbiology Laboratory (NML), and TARRANT sentinel physician system for their partnership in influenza surveillance in Alberta.

Section 9: Canadian and International Influenza Activity

The following links provide access to other websites related to influenza and ILI.

- Alberta Health (Influenza Reports) <http://www.health.alberta.ca/professionals/influenza-evidence.html>
- Alberta Health (Influenza Forms) <http://www.health.alberta.ca/professionals/notifiable-diseases-guide.html>
- Alberta Health Services <http://www.albertahealthservices.ca/2891.asp>
- Canada – FluWATCH www.phac-aspc.gc.ca/fluwatch/index-eng.php
- World Health Organization www.who.int/topics/influenza/en/
- USA – CDC www.cdc.gov/flu/weekly/

Section 10: Data Notes

This report utilized data from the Provincial Laboratory for Public Health (ProvLab), Alberta's influenza like illness (ILI) sentinel physician system (TARRANT), Supplemental Enhanced Service Event (SESE) physician claims data, the Pharmacy Information Network (PIN), as well as outbreak reports and hospitalized case report forms from Alberta Health's Communicable Disease Reporting System (CDRS).

Defining Baselines and Thresholds for Lab-Confirmed Influenza Surveillance

An important function of influenza surveillance is to determine whether the timing or magnitude of the influenza season is unusual compared to previous seasons. The World Health Organization recommends comparing current-season influenza activity to the average epidemic curve, and to create two thresholds – one to determine when the influenza season has begun (seasonal threshold) and to determine at what point current influenza activity would be unusually high (alert threshold)¹.

The average epidemic curve for lab-confirmed influenza surveillance was estimated using data collected between the 2010/11 and 2014/15 seasons. Lab-confirmed influenza became routinely reported in 2009; however, the 2009/10 pandemic season was excluded. The peaks of each season were aligned, and the average number of cases reported per aligned week was calculated as well as the 90 per cent confidence limit. The 90 per cent confidence limit acts as the Alert Threshold. If the number of cases reported in a week passes this threshold it is considered to be unusually high. Until the current season has peaked, the best estimate of the peak is utilized to align the current season to the average epidemic curve. The first estimate utilized was the median of the previous five seasons, week².

The seasonal threshold was estimated as the average number of cases reported per week, in weeks considered outside of the influenza season (i.e., pre-season weeks). The start of the influenza epidemic was defined as the week in which the percent positivity of influenza A laboratory tests at ProvLab were ≥ 10 per cent of all respiratory laboratory tests ordered that week². The end of the influenza epidemic was defined as the week in which the per cent positivity of influenza B was < 10 per cent of all respiratory laboratory tests ordered that week². All weeks in between these time periods were considered part of the influenza epidemic. Per cent positivity is an accepted method of determining the influenza season¹, however visual inspection was also utilized to ensure face validity.

¹ World Health Organization 2013 "Global Epidemiological Surveillance Standards for Influenza". Geneva. http://www.who.int/influenza/resources/documents/influenza_surveillance_manual/en/

² Provincial Laboratory for Public Health (ProvLab) Weekly Respiratory Summary