

Section 1: Summary

There is influenza activity throughout Alberta, with increased rates in Calgary Zone, South Zone and Central Zone. Influenza A(H3N2) continues to be the predominant strain; as would be expected, the rates of illness is highest in infants, seniors and the elderly.

Section 2: Outbreaks

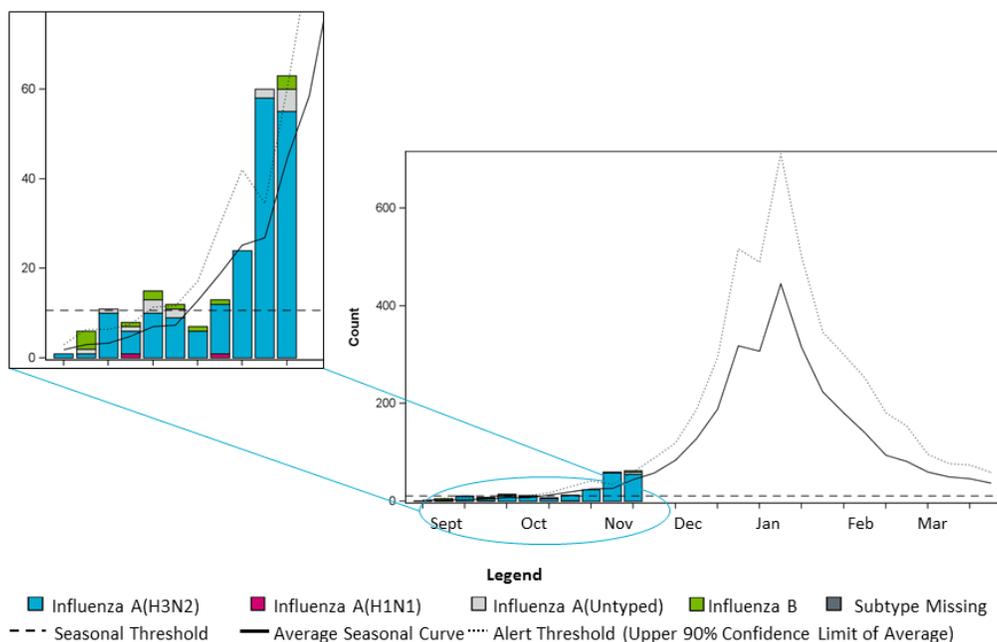
There was 1 influenza A(H3N2) outbreak reported in week 45. Thirteen outbreaks have been reported to date.

	Outbreaks	
	Current Week	YTD
North	0	0
Edmonton	0	1
Central	0	0
Calgary	1	9
South	0	3
Alberta	1	13

Section 3: Laboratory-Confirmed Influenza Surveillance & Peak Prediction

To date in the 2016/17 season, the Provincial Laboratory for Public Health (Provlab) has reported 220 lab-confirmed influenza cases: 207 influenza A, and 13 influenza B. Influenza A(H3N2) constitutes 86% of isolates. The median peak for influenza A(H3N2)-predominant seasons is week 52. The rate of illness to date is highest in Calgary Zone and South Zone at 8.0 per 100,000 and 10.6 per 100,000 respectively. The Alberta average rate to date is 5.2 per 100,00. As would be expected from an H3N2-predominant season, the rate of illness is highest in infants, seniors, and the elderly.

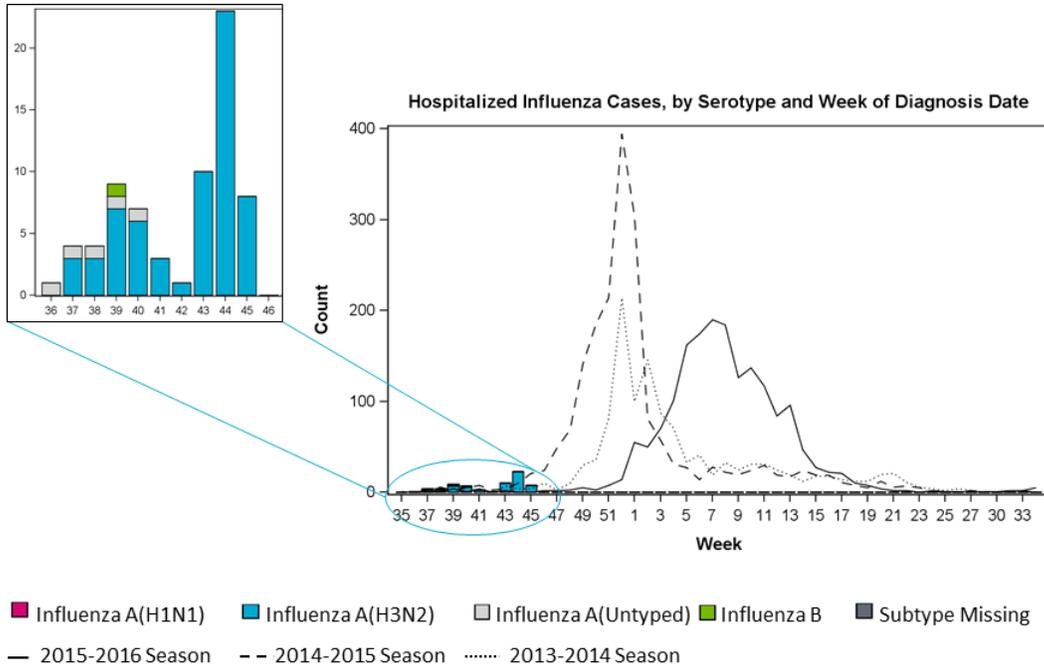
2016/17 Lab-Confirmed Influenza Cases by Serotype and Week, Compared to Seasonal Average



Section 4: Hospitalizations

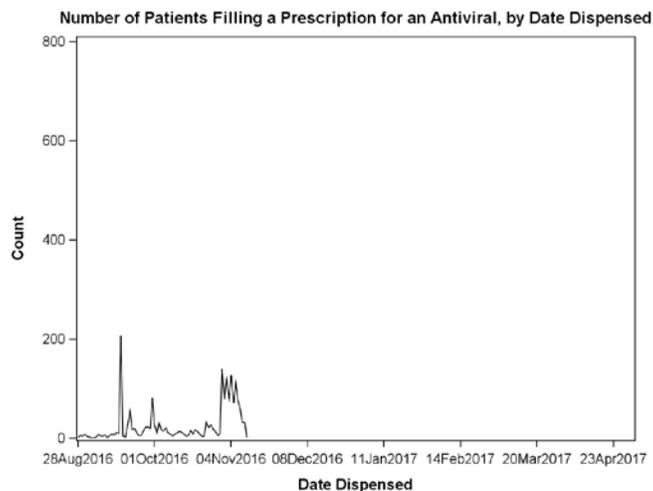
There have been 70 hospitalized influenza cases to date, which is not unusual for this point in an H3N2-predominant season. Influenza A(H3N2) comprises 91% of hospitalizations. As to be expected, the rate of hospitalizations and ICU admissions was highest in the elderly age 80+. The median age of hospitalized cases is 73, similar to the previous influenza A(H3N2)-predominant season, 2014/15, where the median age was 74.

Hospitalized Influenza Cases in 2016/17, 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 316 prescriptions dispensed in week 45. There have been 1985 prescriptions dispensed to date.



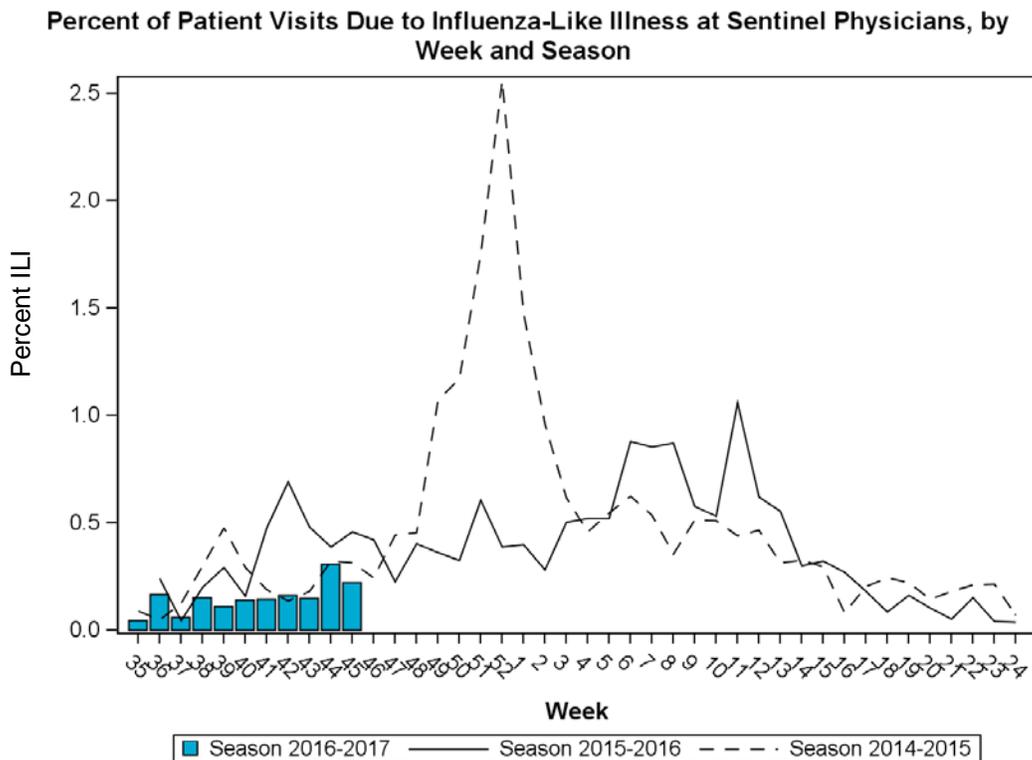
Section 6: Antiviral Resistance

As of November 12, 2016, 88 influenza isolates had been characterized by the National Medical Laboratory (NML). All isolates were sensitive to zanamivir and oseltamivir.

Section 7: Influenza-Like Illness – TARRANT

Sentinel physicians report cases of ILI seen in their practices. Sentinel physicians saw 7 cases of influenza-like illness in week 45 (0.2% of all patients seen). Eighteen cases of ILI (0.3%) were seen in week 44.

	Sentinel Doctors (#)	Sentinel Recorders in Week 15 (#)	Patients Seen (#)	ILI Cases (#)	Patients with ILI (%)
Calgary Zone	52	26	1335	4	0.3
Central Zone	12	10	368	0	0.0
Edmonton Zone	10	7	509	0	0.0
Northern Zone	6	3	67	1	1.5
South Zone	13	9	899	2	0.2
Alberta	93	55	3176	7	0.2



For more information, please go to: www.tarrantviralwatch.ca

Section 7: 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 8: 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 9: Data Notes

This reported 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% confidence limit. The 90% 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, week 2.

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 $\geq 10\%$ of all respiratory laboratory tests ordered that week². The end of the influenza epidemic was defined as the week in which the percent positivity of influenza B was $< 10\%$ of all respiratory laboratory tests ordered that week². All weeks in between these time periods were considered part of the influenza epidemic. Percent 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