

**Section 1: Summary**

During Week 4, influenza activity was similar to the previous week with areas of sporadic and localized activity; however, there continues to be increased numbers of lab-confirmed influenza isolates detected.

**North** Sporadic activity. 4 confirmed influenza A (H3) isolates – 2 in children, 1 in an adult, and 1 in a senior.

**Edmonton** Localized activity. 21 confirmed influenza A (H3) isolates – 1 in an infant, 4 in children, 6 in adults, and 10 in seniors. 2 confirmed influenza A (H1N1) isolates - 1 in a child, and 1 in an adult. 1 confirmed influenza B isolate in a child. 1 confirmed influenza A (H3) outbreak in a supportive living site.

**Central** No activity.

**Calgary** Sporadic activity. 5 confirmed influenza A (H3) isolates – 1 in an adult and 4 in seniors. 1 confirmed influenza A (H1N1) isolate in a child. 2 confirmed influenza A (untyped) isolates – 1 in an infant, and 1 in a senior. 1 confirmed influenza B isolate in an adult.

**South** No activity.



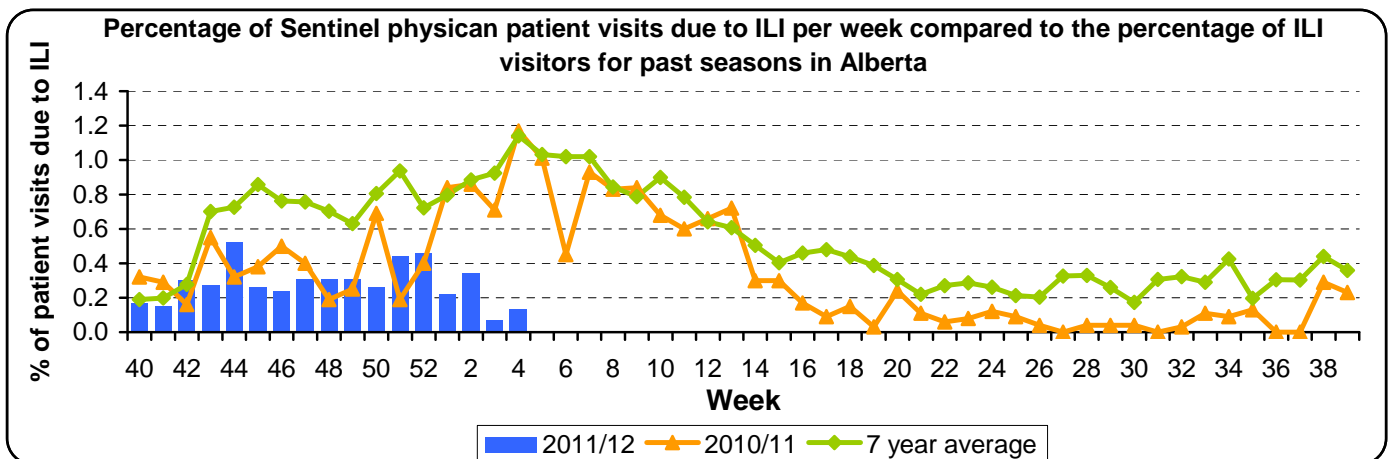
*\*Isolates reported above only include those found in Alberta residents.*

**Section 2: Influenza-Like Illness – TARRANT**

Sentinel physicians reported in all health zones except the North Zone during Week 4, and saw 3,158 patients. These 47 physicians diagnosed influenza-like-illness (ILI) or lower respiratory tract illness (LRTI) in **1.52%** of the patients seen, which is higher than the previous week (0.56%). The ILI rate for Week 4 (**0.13%**) is higher than in Week 3 (0.07%) and less than the average from previous seasons (1.14%).

Zone	Sentinel Doctors (#)	Sentinel Recorders (#)	Patients Seen (#)	ILI Cases (#)	Patients with ILI (%)	LRTI Cases (#)	Patients with LRTI (%)	Total ILI & LRTI Cases (#)	Patients with either ILI or LRTI (%)
North	7	1	0	0	0.00	0	0.00	0	0.00
Edmonton	10	7	742	0	0.00	15	2.02	15	2.02
Central	16	12	626	2	0.32	9	1.44	11	1.76
Calgary	32	21	1,174	2	0.17	20	1.70	22	1.87
South	8	6	616	0	0.00	0	0.00	0	0.00
<b>Alberta</b>	<b>73</b>	<b>47</b>	<b>3,158</b>	<b>4</b>	<b>0.13</b>	<b>44</b>	<b>1.39</b>	<b>48</b>	<b>1.52</b>

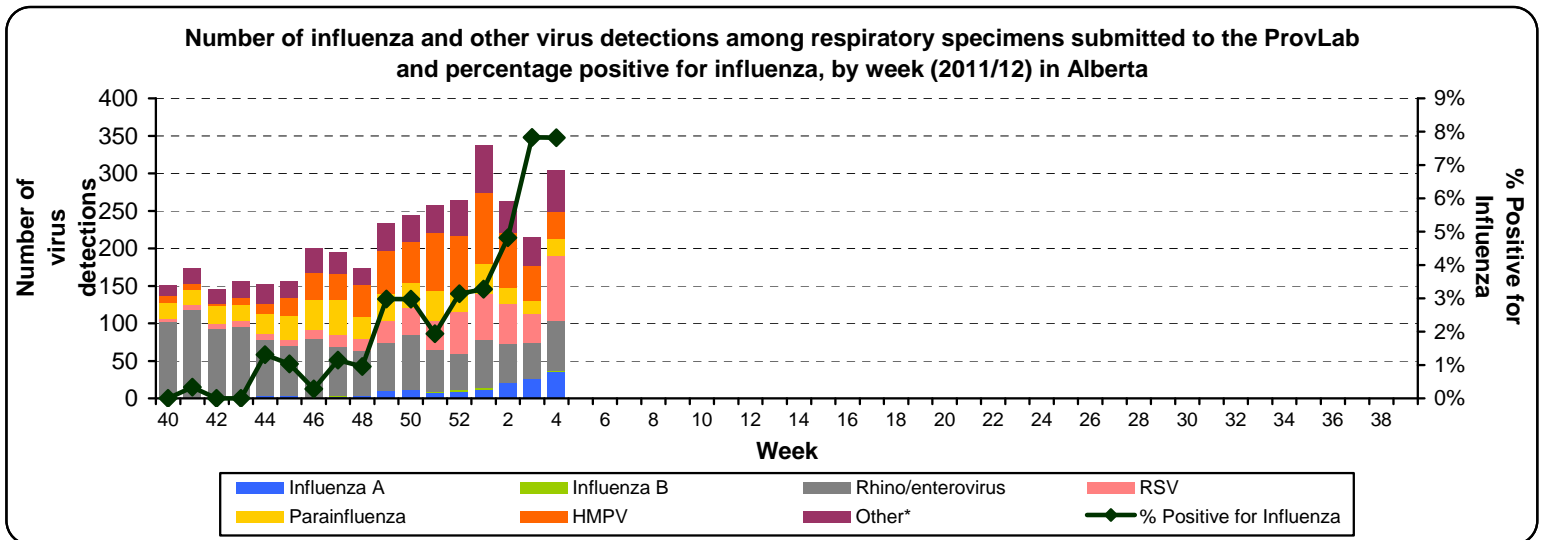
Source: TARRANT. For more information, please go to the website: [www.tarrantviralwatch.ca](http://www.tarrantviralwatch.ca). ILI= Influenza-Like Illness; LRTI = Lower Respiratory Tract Infection



Source: TARRANT; Of note: 7 year average is 2003/04 to 2010/11, excluding 2009/10 due to pandemic H1N1.

**Section 3: Influenza Isolates**

In Week 4, the Provincial Laboratory for Public Health (ProvLab) tested 473 specimens. ProvLab confirmed **30 influenza A (H3)** isolates - Calgary Zone (5), Edmonton Zone (21), and North Zone (4); **3 influenza A (H1N1)** isolates - 1 Calgary Zone (1), and Edmonton Zone (2); and **2 influenza A (untyped)** isolates in Calgary Zone. Provlab also confirmed **2 influenza B** isolates – Calgary Zone (1) and Edmonton Zone (1). The percentage positive rate for influenza was **7.8%**, which was the same as the previous week. RSV and rhino/enterovirus made up the largest number of virus detections during Week 4.



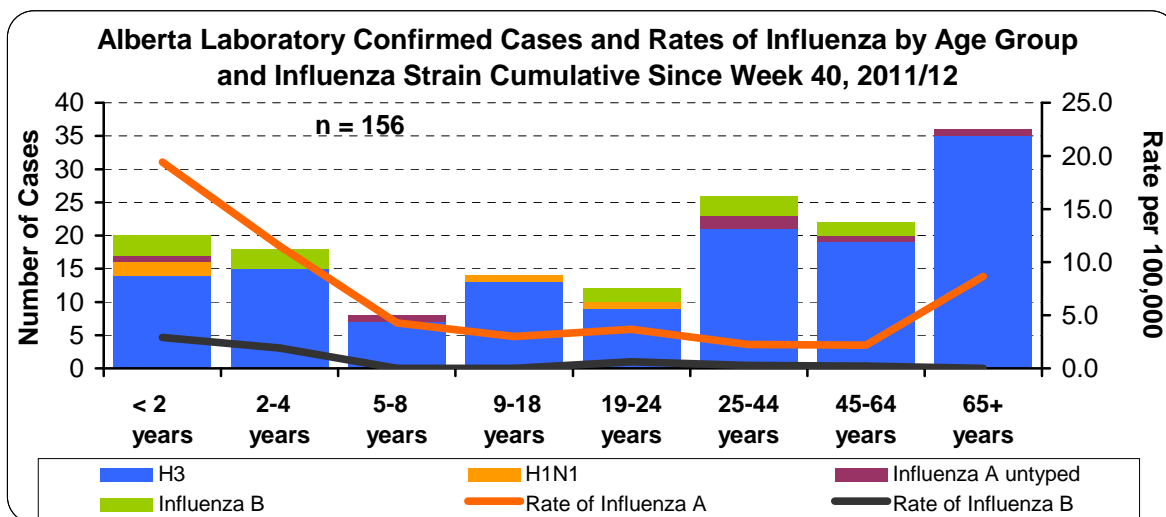
Sources: ProvLab, Dial System; Other\* refers to Adenovirus, Coronavirus human Metapneumovirus (HMPV), Parainfluenza and Mixed infections. Human respiratory syncytial virus (RSV); Isolates for cases which seek treatment within Alberta, but are out-of-provinces residents have been excluded.

Influenza Isolates (A&B) Reported by ProvLab				
AHS Health Zone	Week 4 Influenza A	Week 4 Influenza B	YTD (A) 2011/12*	YTD (B) 2011/12*
South	0	0	4	0
Calgary	8	1	35	3
Central	0	0	15	2
Edmonton	23	1	65	8
North	4	0	24	0
<b>Alberta</b>	<b>35</b>	<b>2</b>	<b>143</b>	<b>13</b>

\*Season begins Week 40 (October 2, 2011)

Source: ProvLab – Note: Isolates reported by week subtyped

The graph below shows the 156 lab-confirmed cases of influenza seen since October 2, 2011 by age group and influenza isolate, as well as the rate of influenza (both A & B) by age group. Children under 2 years of age had the highest rate of influenza A (**19.44 cases per 100,000**) and influenza B (**2.92 cases per 100,000**).



Source: ProvLab

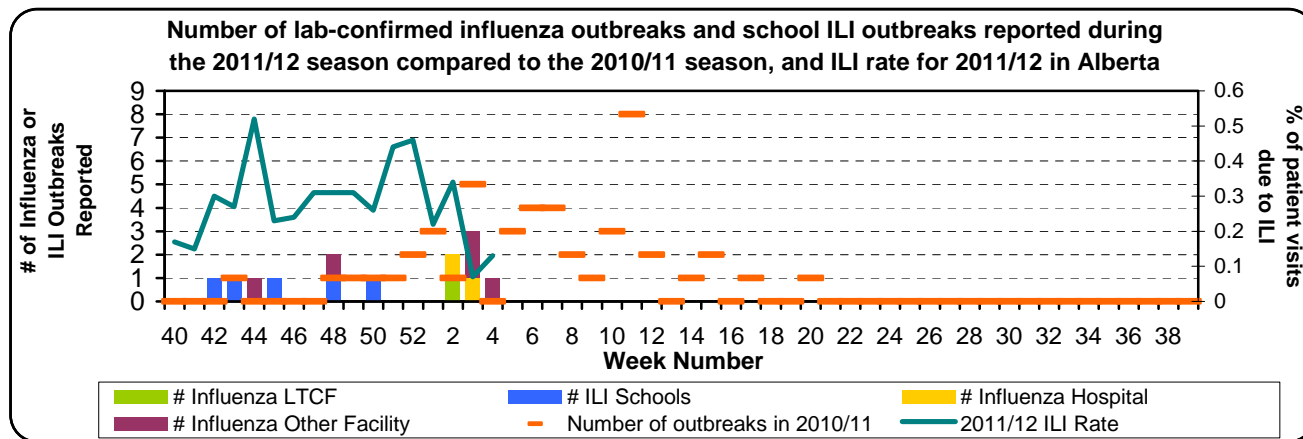
**Section 4: Outbreaks**

During Week 4 there was one confirmed influenza A (H3) outbreak in Edmonton Zone in a supportive living site.

Confirmed <u>New</u> Influenza or ILI Outbreaks Reported by Zones		
AHS Health Zone	Week 4	YTD 2011/12*
South	0	0
Calgary	0	3
Central	0	0
Edmonton	1	7
North	0	3
<b>Alberta</b>	<b>1</b>	<b>13</b>

Source: AHW outbreak database

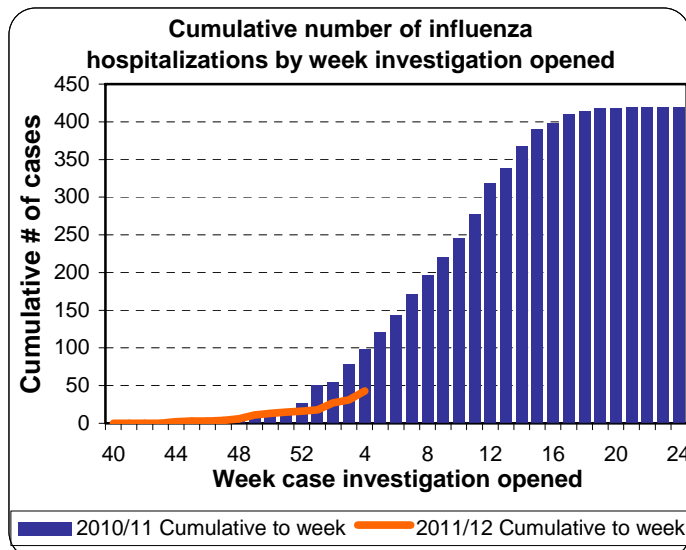
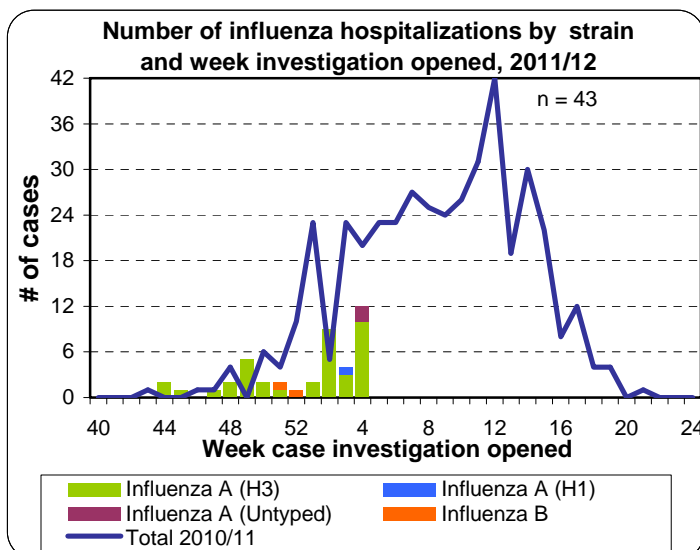
Each week Alberta Health and Wellness (AHW) receives reports of respiratory outbreaks. To be considered a **Long-Term Care facility (LTCF), Hospital or other facility** influenza outbreak, two or more cases of ILI within a seven-day period including at least one laboratory confirmed case, must occur. Of note, outbreaks (OBs) where the isolated agent is respiratory syncytial virus (RSV), parainfluenza, human metapneumovirus, or Rhino/enterovirus are also reported to AHW. Finally, **school outbreaks** are reported when greater than 10% of a school population are absent on any given day, most likely due to ILI. Outbreaks are reported by date investigation of outbreak is opened.



Sources: ProvLab, TARRANT, and AHW outbreak database; Of note, week 44 had the highest average number of outbreaks reported (44 outbreaks) for the previous four seasons.

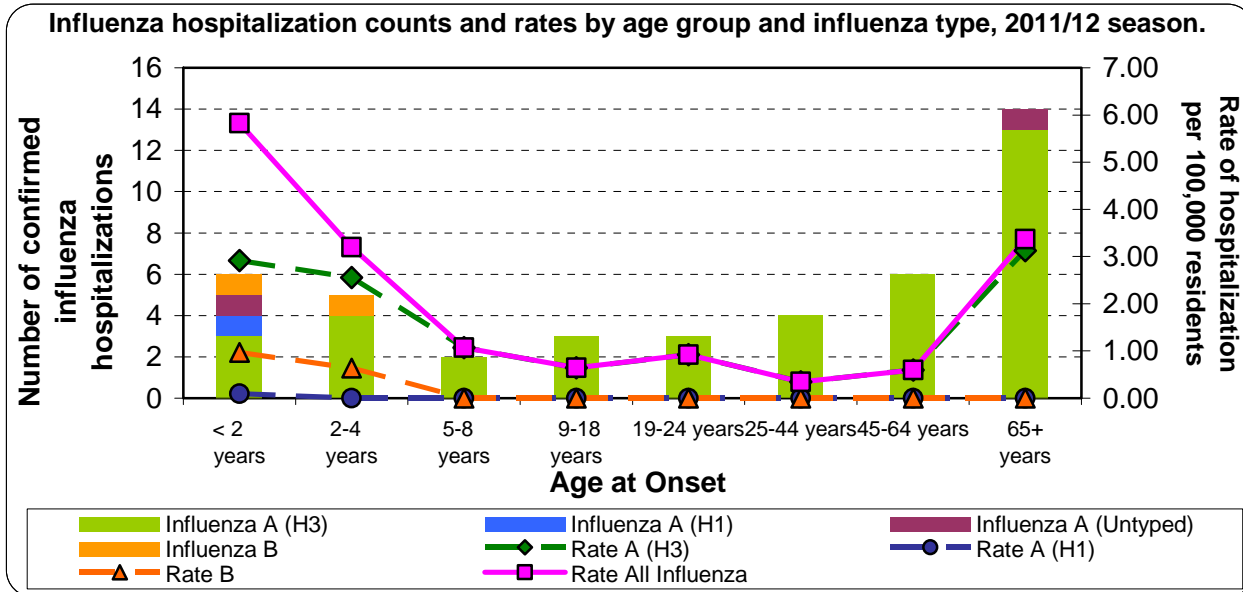
**Section 5: Hospitalizations**

There were **12 hospitalizations** reported for influenza in Week 4. The number of new hospitalizations was below the number of new hospitalizations seen in the same week during the 2010/11 season, and the 2011/12 total to date (n=43) is below the 2010/11 total to date (n=98). 38 of the 2011/12 hospitalizations were confirmed influenza A (H3), 1 was influenza A (H1N1), 2 were untyped influenza A, and 1 was influenza B.



Source: AHW 2011/12 Influenza/ Severe Respiratory Infection (SRI) reporting database.

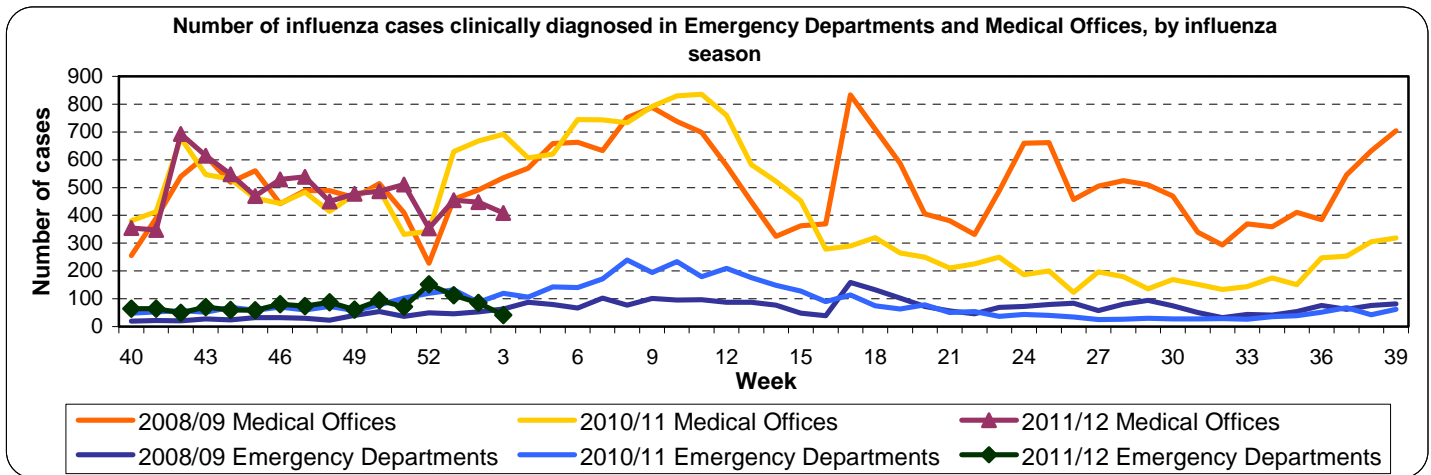
Hospitalization rates for influenza B and A (H1N1) are highest among children under 2 years of age. The hospitalization rate for influenza A (H3) is highest among seniors.



Source: AHW 2011/12 Influenza/ Severe Respiratory Infection (SRI) reporting database.

### Section 6: Clinically Diagnosed Influenza

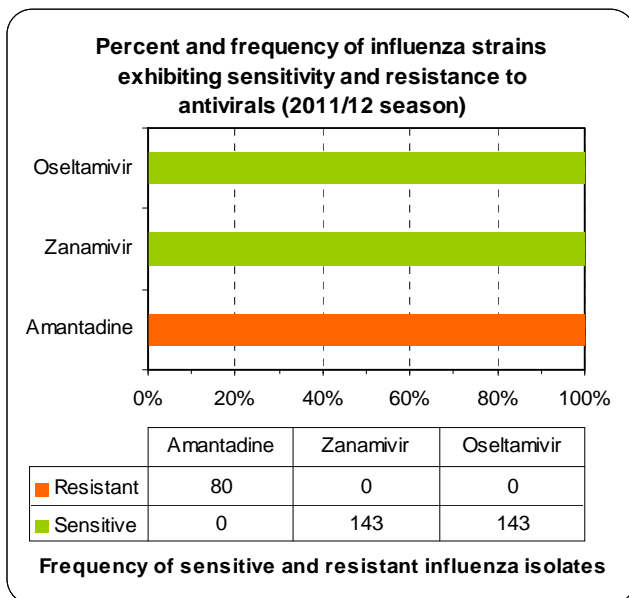
This graph is based on physician claims and hospitalization data and presents the number of influenza cases clinically diagnosed in Alberta’s emergency departments and general practitioner offices. Data for the 2011/2012 season, as well as 2008/09 and 2010/11 are shown. Please note that this data captures the majority of claims within two weeks of reporting and will be updated on a weekly basis.



Source: Morbidity and Ambulatory Care Reporting (MACAR) system, Supplemental Enhanced Service Event (SESE) database. **Note: 2009/10 data excluded due to the pandemic.** Sudden increase around Week 16 in 2008/09 season for both Emergency Department visits and Medical Office visits coincides with the emergency of pH1N1.

The number of influenza cases diagnosed by both medical and emergency departments dropped from the previous week and are below numbers seen in previous seasons.

## Section 7: Antigenic Characterization and Antiviral Resistance



The influenza strains covered by the 2011/12 Northern Hemisphere influenza vaccine are H3N2 (A/Perth/16/2009), H1N1 (A/California/7/2009), and influenza B (B/Brisbane/60/2008, Victoria lineage).

To date for the 2011/12 season, 150 influenza isolates have been tested for antigenic characterization by the National Microbiology Laboratory (NML):

- 47 influenza A H3N2 (A/Perth/16/2009)
  - Covered by the 2011/12 vaccine;
- 37 influenza A H1N1 (A/California/7/2009)
  - Covered by the 2011/12 vaccine;
- 40 influenza B (B/Brisbane/60/2008, Victoria lineage)
  - Covered by the 2011/12 vaccine; and
- 26 influenza B (B/Wisconsin/01/2010, Yamagata lineage)
  - Not covered by the 2011/12 vaccine.

Source: National Microbiology Laboratory

All influenza isolates tested by NML were sensitive to zanamivir and oseltamivir. All influenza isolates tested were resistant to amantadine (see graph). Last season, almost all influenza isolates tested by NML were sensitive to zanamivir. Almost all influenza isolates were sensitive to oseltamivir. Almost all influenza isolates were resistant to amantadine.

## Section 8: Canadian and International Influenza Activity

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

Canada – FluWATCH	<a href="http://www.phac-aspc.gc.ca/fluwatch/index-eng.php">http://www.phac-aspc.gc.ca/fluwatch/index-eng.php</a>
British Columbia	<a href="http://www.bccdc.ca/dis-cond/DiseaseStatsReports/influSurveillanceReports.htm">http://www.bccdc.ca/dis-cond/DiseaseStatsReports/influSurveillanceReports.htm</a>
Alberta	<a href="http://www.health.alberta.ca/professionals/influenza-evidence.html">http://www.health.alberta.ca/professionals/influenza-evidence.html</a>
Ontario	<a href="http://www.oahpp.ca/resources/flubulletin.html">http://www.oahpp.ca/resources/flubulletin.html</a>
Quebec	<a href="http://www.msss.gouv.qc.ca/sujets/prob_sante/influenza/index.php?aid=241">http://www.msss.gouv.qc.ca/sujets/prob_sante/influenza/index.php?aid=241</a>
New Brunswick	<a href="http://www2.gnb.ca/content/gnb/en/departments/ocmoh/cdc/content/influenza/influenza_surveillance_activities.html">http://www2.gnb.ca/content/gnb/en/departments/ocmoh/cdc/content/influenza/influenza_surveillance_activities.html</a>
Nova Scotia	<a href="http://www.gov.ns.ca/hpp/cdpc/respiratory-watch.asp">http://www.gov.ns.ca/hpp/cdpc/respiratory-watch.asp</a>
World Health Organization	<a href="http://www.who.int/topics/influenza/en/">www.who.int/topics/influenza/en/</a>
USA – CDC	<a href="http://www.cdc.gov/flu/weekly/">www.cdc.gov/flu/weekly/</a>
Avian Flu in Poultry	<a href="http://www.thepoultrysite.com/bird-flu">www.thepoultrysite.com/bird-flu</a>