

2017/2018 INFLUENZA REPORT

Overview

- ⇒ There were 912 laboratory-confirmed cases of influenza during the 2017/2018 season. Of these cases, there were 342 hospitalizations, 65 ICU admissions and 39 influenza-related deaths. This season peaked later compared to the 5-year average (Figure 1).
- ⇒ Influenza A and B circulated across all regional health authorities this season, with both types contributing fairly equally to the burden (Figure 2).
- ⇒ The number of hospitalizations, ICU admissions and deaths reported this season was the highest since the start of the influenza surveillance system in Newfoundland and Labrador.

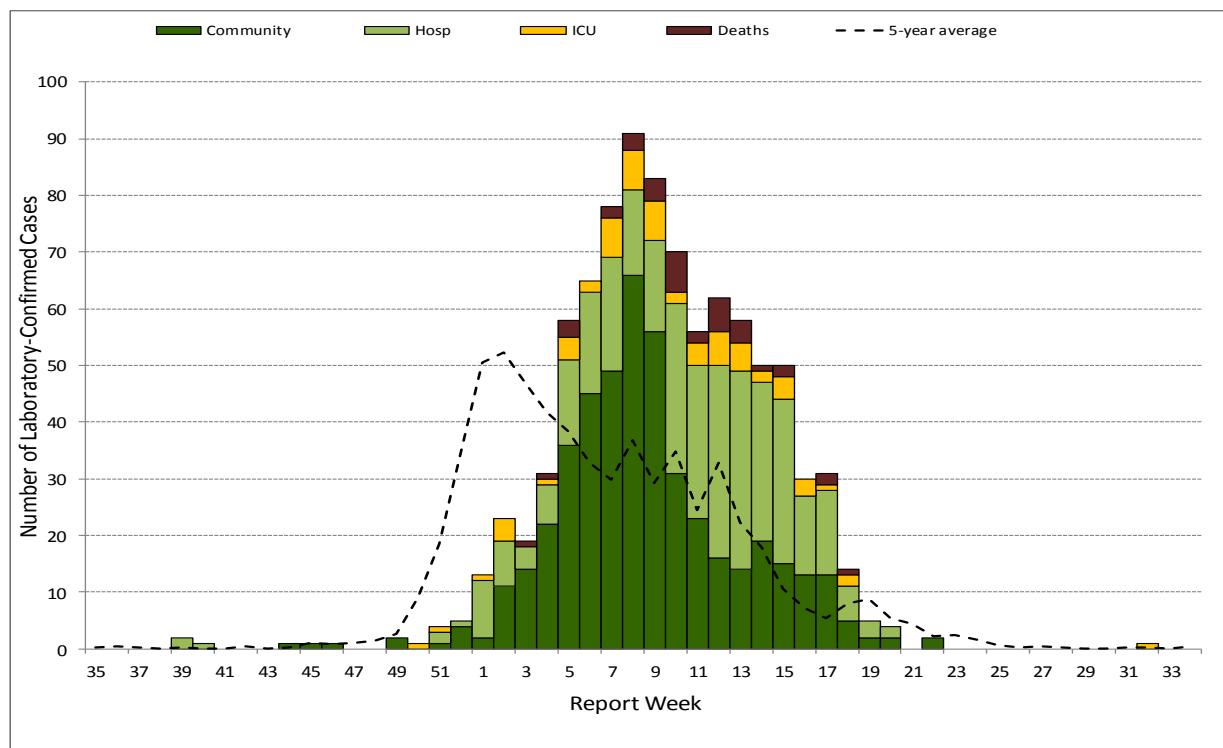


Figure 1: Number of cases, hospitalizations, ICU admissions and deaths, by week virus identified, NL, 2017/2018

- ⇒ Adults 65 years of age and older accounted for the largest proportion of cases overall (45%) (Figure 3).
- ⇒ The average age of confirmed cases was highest for those who had died:
 - ⇒ Cases, mean: 53.3 years
 - ⇒ Hospitalizations, mean: 63.0 years
 - ⇒ ICU admissions, mean: 53.5 years
 - ⇒ Deaths, mean: 82.1 years
- ⇒ Over half (54.2%) of laboratory-confirmed cases were female, and they accounted for 54.1% of hospitalizations, 46.2% of ICU admissions and 46.2% of deaths. (Table 1).

Influenza by type, RHA

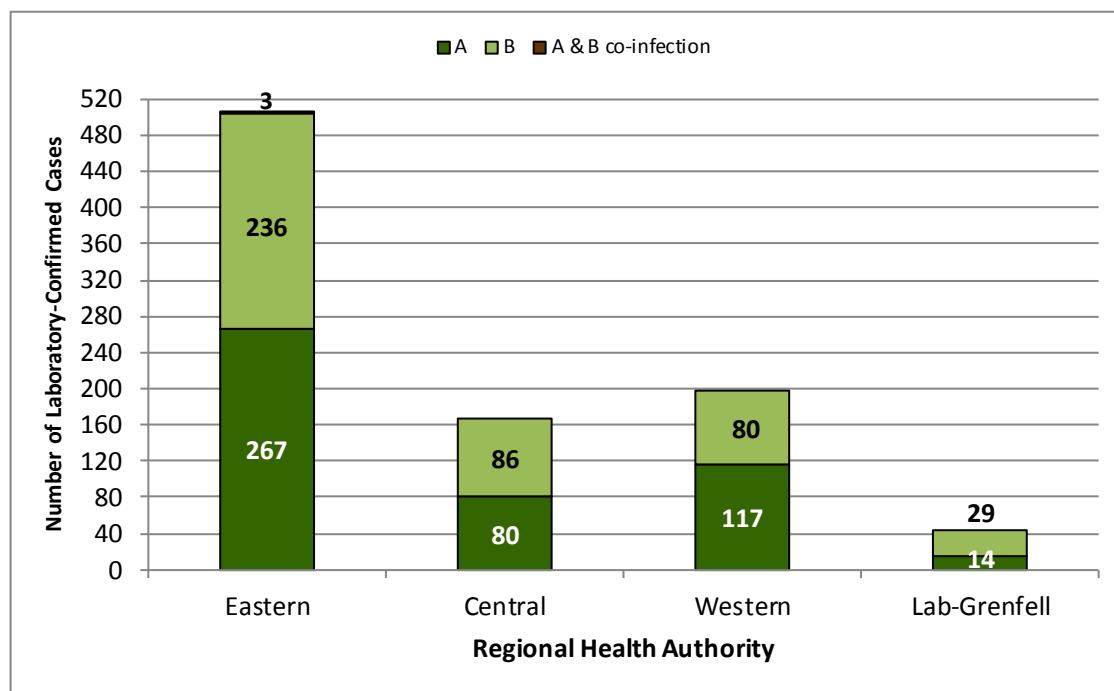


Figure 2: Total number of laboratory-confirmed influenza A and B, by RHA, 2017/2018

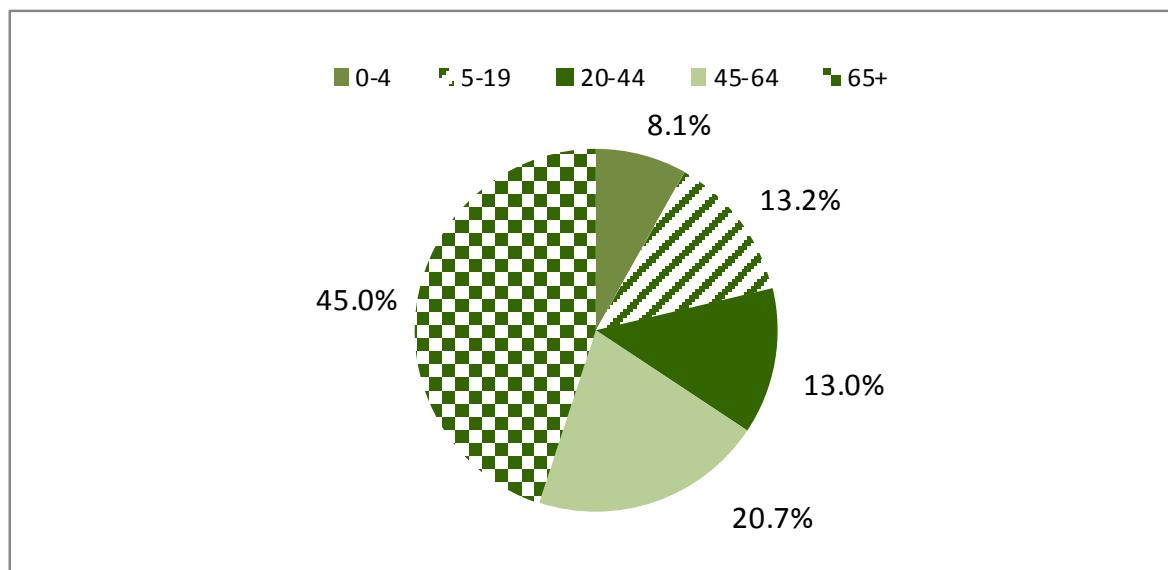


Figure 3: Number of laboratory-confirmed influenza cases, by age group, NL, 2017/2018

Table 1: Number and percent of influenza cases, hospitalizations, ICU admissions and deaths, by sex, NL, 2017/2018

	Cases	Hospitalizations	ICU Admissions	Deaths
Female	494 (54.2)	185 (54.1)	30 (46.2)	18 (46.2)
Male	418 (45.8)	157 (45.9)	35 (53.8)	21 (53.8)
Total	912	342	65	39

Influenza Strain

- ⇒ Influenza A and B co-circulated with similar pre-dominance during the 2017/2018 season in NL. Of cases, 478 were influenza A (52.4%), 431 were influenza B (47.3%) and 3 were co-infected with influenza A and B (0.3%).
- ⇒ Across Canada, influenza A(H3N2) accounted for the majority of laboratory-confirmed cases.
- ⇒ Over the 2017/2018 season, the National Microbiology Laboratory tested influenza A and B viruses for antiviral resistance: 3 viruses were resistant to oseltamivir, 2 viruses were resistant to zanamivir, and 8 viruses were resistant to amantadine (Table 3).

Table 2: Number and percent of influenza cases, hospitalizations, ICU admissions and deaths, by type, NL, 2017/2018

Flu Type	Cases	Hospitalizations	ICU Admissions	Deaths
A	478 (52.4)	200 (58.5)	39 (60.0)	12 (30.8)
B	431 (47.3)	140 (40.9)	26 (40.0)	27 (69.2)
A & B co-infection	3 (0.3)	2 (0.6)	0 (0)	0(0)

Table 3: Cumulative antiviral resistance by influenza virus type and sub-type, Canada, 2017/2018

	Oseltamivir			Zanamivir			Amantadine		
	Tested	Resistant		Tested	Resistant		Tested	Resistant	
		#	%		#	%		#	%
A (H3N2)	602	1	0.2	598	0	0	1624	1616	99.5
A (H1N1)	280	1	0.4	280	0	0	334	334	100
B	897	1	0.1	897	2	0.2	--	--	--
Total	1779	3	0.2	1775	2	0.1	1958	1950	99.6

Source: Influenza and Respiratory Viruses Section, National Microbiology Laboratory (NML), Public Health Agency of Canada

Immunization

- ⇒ In NL, influenza vaccine is offered to all individuals six months of age and older. The flu vaccine is especially important for those who are at high risk of complications from the flu such as individuals with underlying health conditions. For more information visit http://www.health.gov.nl.ca/health/publichealth/cdc/infoforpros_edu.html
- ⇒ The National Microbiology Laboratory (NML) characterized 3872 influenza viruses (1586 H3N2, 341 H1N1 and 1945 B viruses) during the 2017/2018 influenza season.
- ⇒ Most flu strains were antigenically similar to those covered by the quadrivalent flu vaccine, which was available in this province.
- ⇒ Analysis completed by the NML indicates that all A(H1N1) viruses characterized were antigenically similar to the A(H1N1) component of the vaccine.
- ⇒ Approximately, 93% of the A(H3N2) viruses tested were antigenically or genetically similar to the vaccine strain.
- ⇒ Approximately, 97% of B viruses characterized were antigenically similar to one of the two vaccine components in the quadrivalent flu vaccine.

Note: The NML receives a proportion of the influenza positive specimens from provincial laboratories for strain characterization and antiviral resistance testing. Strain characterization data reflect the results of hemagglutination inhibition (HI) testing compared to the reference influenza strains recommended by WHO.

Outbreak Reports (CNPHI: Outbreak Summaries)

- ⇒ There were 126 respiratory outbreaks during the 2017/2018 season. Of these, 39 were confirmed influenza outbreaks (Figure 4).
- ⇒ Outbreaks occurred in all regions, peaking in February.

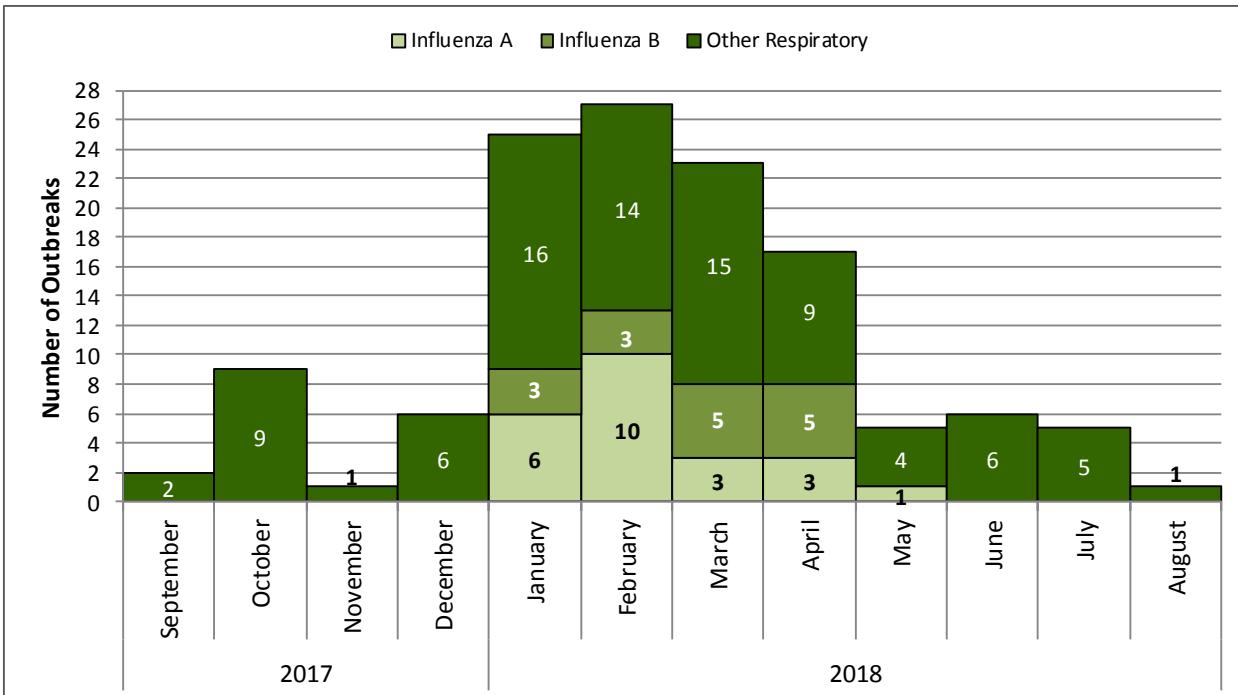


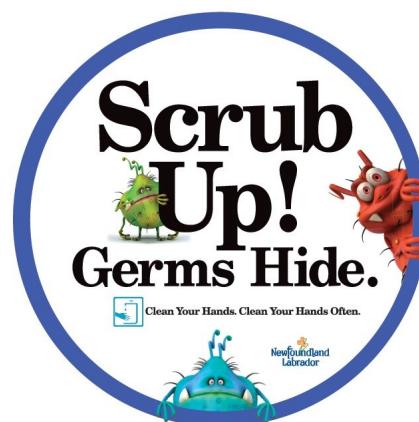
Figure 4: Number of confirmed influenza outbreaks reported in Canadian Network for Public Health Intelligence (CNPHI) Outbreak Summaries by month of onset of outbreak, NL, 2017/2018 season

Other Respiratory Viruses

- ⇒ In addition to influenza, there were a number of other respiratory viruses circulating during the 2017/2018 season (Table 4). The most predominant virus other than influenza was entero/rhinovirus.

Table 4: Number of positive respiratory virus specimens, by type, NL, 2017/2018 season¹

	Total
R.S.V.	244
Parainfluenza virus 1	98
Parainfluenza virus 2	22
Parainfluenza virus 3	66
Adenovirus	53
Enterov/Rhinovirus	276
hMPV	240



¹Source: Respiratory Virus Detections/Isolations for the period August 27, 2017- August 25, 2018, Public Health Agency of Canada

Syndromic Surveillance

- ⇒ Influenza-related HealthLine calls are consistent with the peak of the 2017/2018 influenza season (Figure 5).
- ⇒ Most callers to HealthLine were advised to see their family physician (47.6%) or to care for themselves at home (31.0%) (Figure 6).

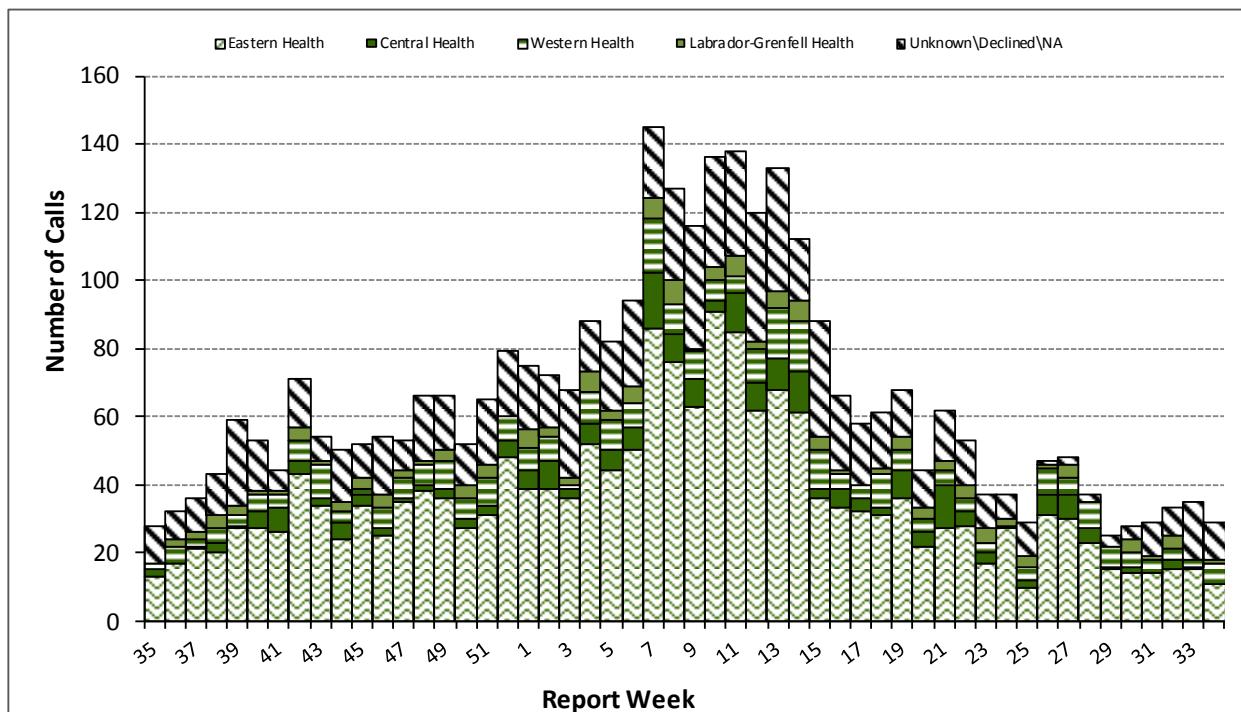


Figure 5: Number of influenza-related HealthLine calls by report week and RHA, 2017/2018 season

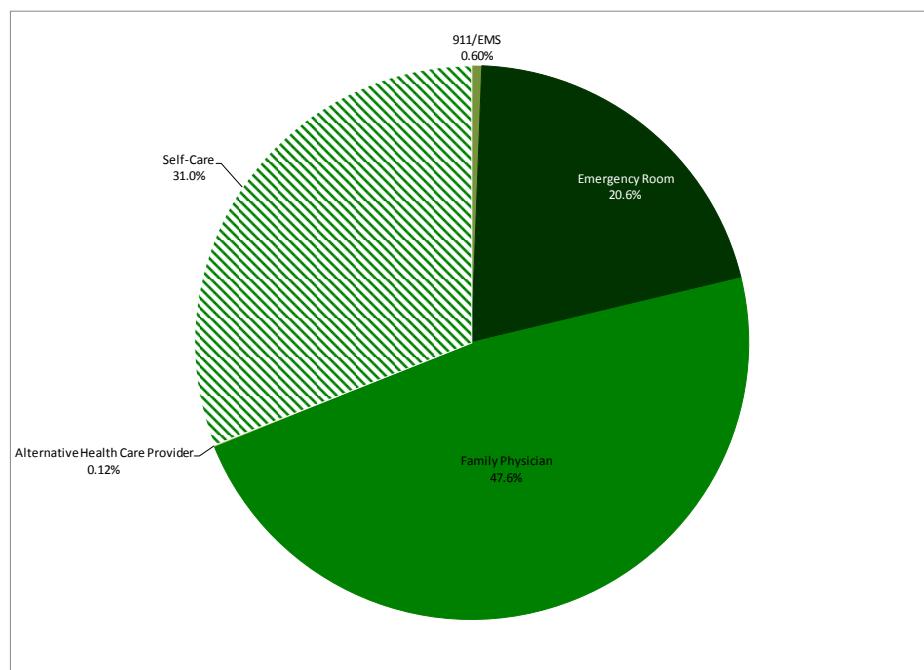


Figure 6: Influenza-related HealthLine calls by disposition, NL, 2017/2018 season

Emergency Department Influenza-like-illness

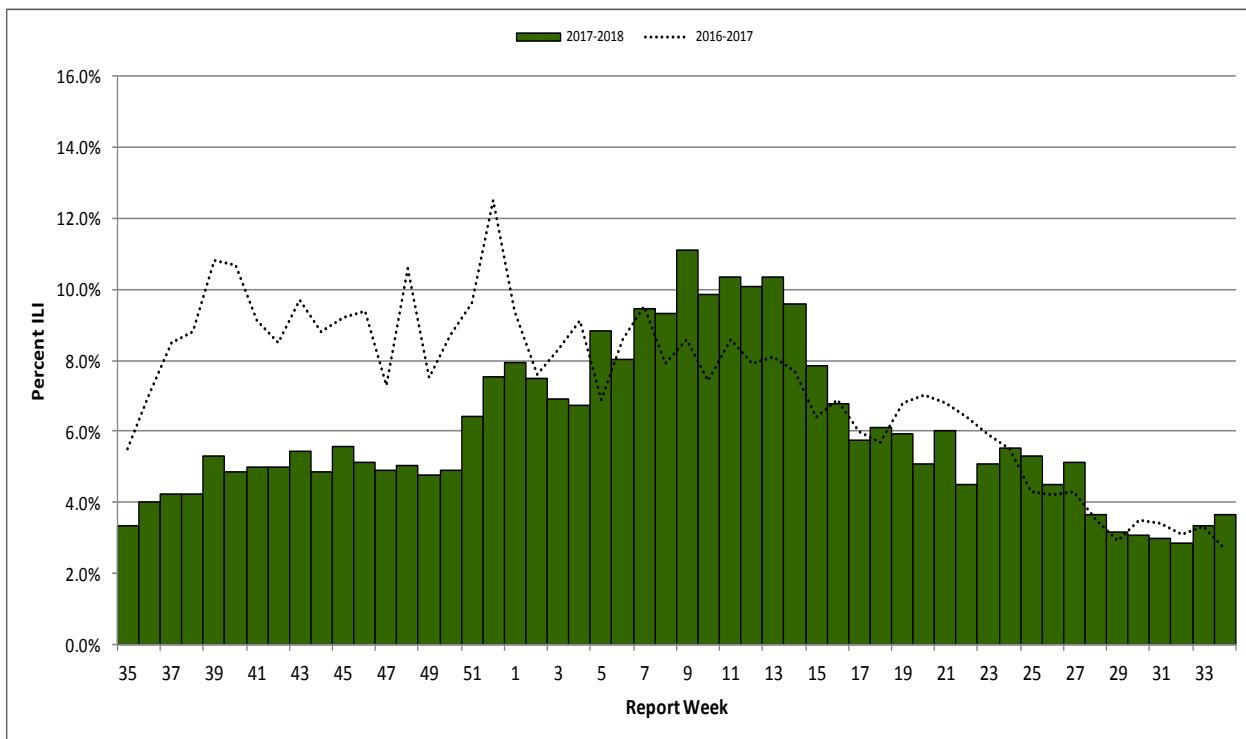


Figure 7: Percent of emergency department visits with ILI by report week, NL, 2017-2018

⇒ The percentage of emergency room visits with Influenza-like-illness is consistent with the peak of the 2017/2018 influenza season (Figure 7).

Data Sources and Disclaimer

Influenza case data is from the Communicable Disease Control influenza reporting tool: case counts are available from Influenza Weekly Reports, located at:

<http://www.health.gov.nl.ca/health/publichealth/cdc/informationandsurveillance.html>

FluWatch and influenza outbreak data are from the Canadian Network for Public Health Intelligence (CNPHI).

HealthLine data are from the NL HealthLine: <http://yourhealthline.ca>

Note: The data presented here are from August 27, 2017 - August 25, 2018; report weeks from various sources may not align exactly. Fluctuations in data occur with each report and can be attributed to continuous updating. Death surveillance is passive and may underestimate the true number of influenza-related deaths in NL.

All laboratory-confirmed influenza and severe respiratory illness (SRI) are reported to the Regional Medical Officer of Health (RMOH) or designate responsible for appropriate investigation, treatment, case follow up and provincial reporting.

For more information on influenza in Canada see the Public Health Agency of Canada website: <http://healthycanadians.gc.ca/diseases-conditions-maladies-affections/disease-maladie/flu-grippe/surveillance/index-eng.php>