Department of Health and Community Services
Government of Newfoundland and Labrador

2016/2017 INFLUENZA REPORT

Overview

⇒ There were 519 laboratory-confirmed cases of influenza during the 2016/2017 season. Of these cases, there were 202 hospitalizations, 29 ICU admissions and 14 influenza-related deaths. This season started and peaked later compared to the 5-year average (Figure 1).

⇒ Influenza A was the predominant virus circulating across all regional health authorities (Figure 2).

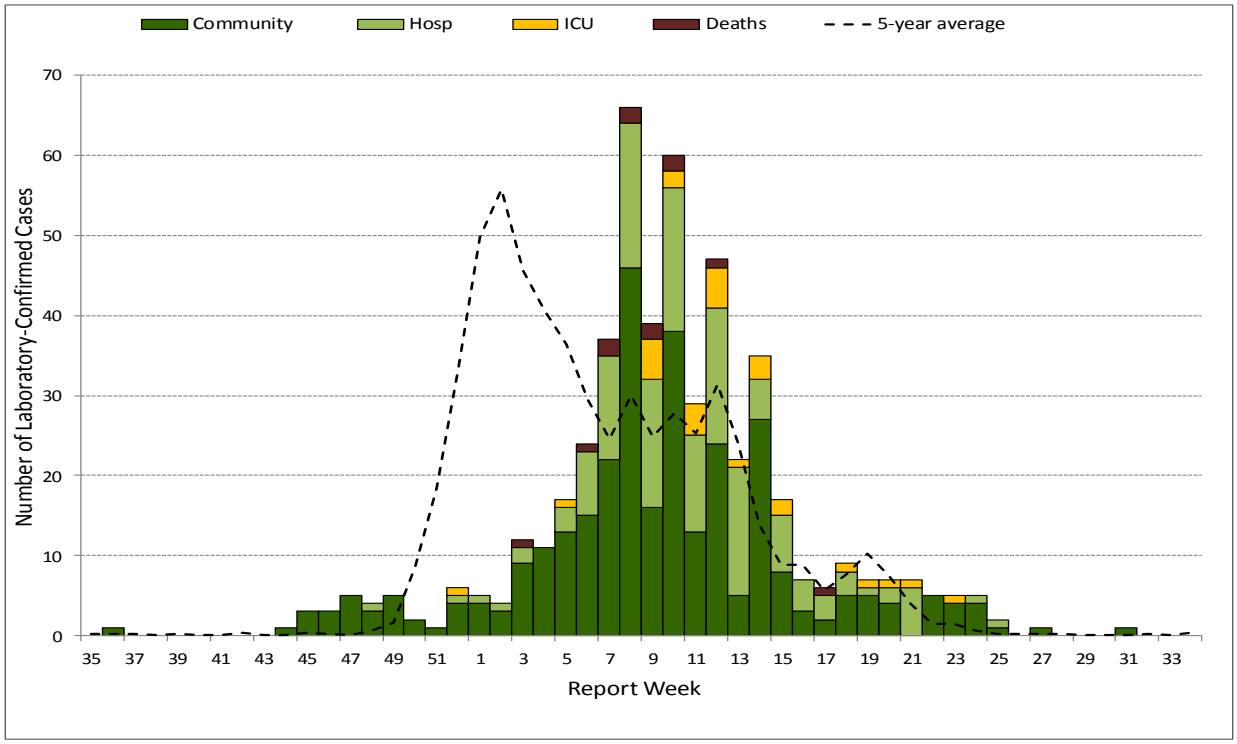

Figure 1: Number of cases, hospitalizations, ICU admissions and deaths, by week virus identified, 2016/2017

⇒ Almost half (49.9%) of laboratory confirmed cases were 65 years of age or older (Figure 3).

⇒ The average age of confirmed cases was highest for those admitted to hospital/ICU:

- ⇒ Cases, mean: 55.4 years
- ⇒ Hospitalizations, mean: 64.3 years
- ⇒ ICU admissions, mean: 64.6 years

⇒ Over half (57.0%) of laboratory-confirmed cases were female, and they accounted for 55.0% of hospitalizations, 41.4% of ICU admissions and 42.9% of deaths. (Table 1).

⇒ Fourteen influenza-related deaths were reported during this influenza season (Table 1).

Influenza by type, RHA

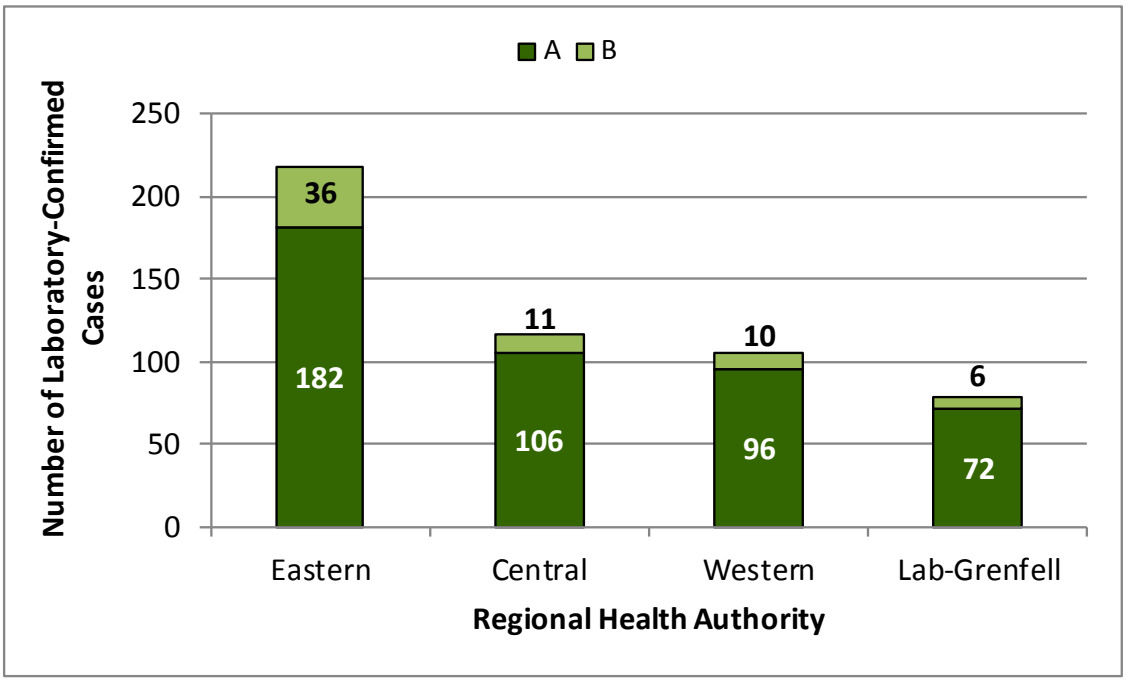

Figure 2: Total number of laboratory-confirmed influenza A and B, by Regional Health Authority, 2016/2017

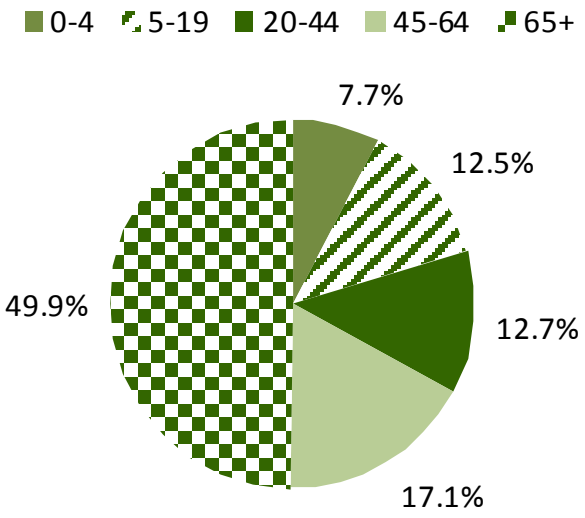

Figure 3: Number of laboratory-confirmed influenza cases in NL, by age group, 2016/2017

Table 1: Number and percent of influenza cases, hospitalizations, ICU admissions and deaths, by sex, 2016/2017

	Cases	Hospitalizations	ICU Admissions	Deaths
Female	296 (57.0)	111 (55.0)	12 (41.4)	6 (42.9)
Male	223 (43.0)	91 (45.0)	17 (58.6)	8 (57.1)
Total	519	202	29	14

Influenza Strain

⇒ Influenza A was the predominant strain during the 2016/2017 season in NL and accounted for 87.9% of cases. Influenza B (12.1% of cases) appeared later in the season. The majority of viruses subtyped were A(H3N2).

⇒ Across Canada, influenza A(H3N2) accounted for the majority of laboratory-confirmed cases.

⇒ Over the 2016/2017 season, the National Microbiology Laboratory tested influenza A and B isolates for antiviral resistance. All viruses were sensitive to zanamivir; 3 influenza viruses were resistant to oseltamivir. All A isolates was resistant to amantadine (Table 3).

Table 2: Number and percent of influenza cases, hospitalizations, ICU admissions and deaths, by type, 2016/2017

Flu Type	Cases	Hospitalizations	ICU Admissions	Deaths
A	456 (87.9)	179 (88.6)	24 (82.8)	14 (100)
B	63 (12.1)	23 (11.4)	5 (17.2)	0 (0)

Table 3: Cumulative antiviral resistance by influenza virus type and sub-type, Canada, 2016/2017

	Oseltamivir			Zanamivir			Amantadine		
	Tested	Resistant		Tested	Resistant		Tested	Resistant	
	#	#	%	#	#	%	#	#	%
A (H3N2)	760	2	0.3	759	0	0	232	232	100
A (H1N1)	52	1	1.9	51	0	0	55	55	100
B	442	0	0	444	0	0	--	--	--
Total	1254	3	0.2	1254	0	0	287	287	100

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 2340 influenza viruses (1652 H3N2, 61 H1N1 and 627 B viruses) during the 2016/2017 influenza season.

⇒ The flu strains were consistent with those covered by the quadrivalent flu vaccine.

⇒ Analysis completed by the NML indicates that all A(H1N1) viruses characterized were antigenically similar to the A(H1N1) component of the vaccine.

⇒ Of the A(H3N2) viruses tested by the NML, all were antigenically or genetically similar to the vaccine strain.

⇒ All B viruses characterized were antigenically similar to one of the two vaccine components in the quadrivalent flu vaccine. The quadrivalent flu vaccine was available in this province.

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 65 respiratory outbreaks during the 2016/2017 season. Of these, 33 were confirmed influenza outbreaks (Figure 4).

⇒ Outbreaks occurred in all regions; the majority of which were during March.

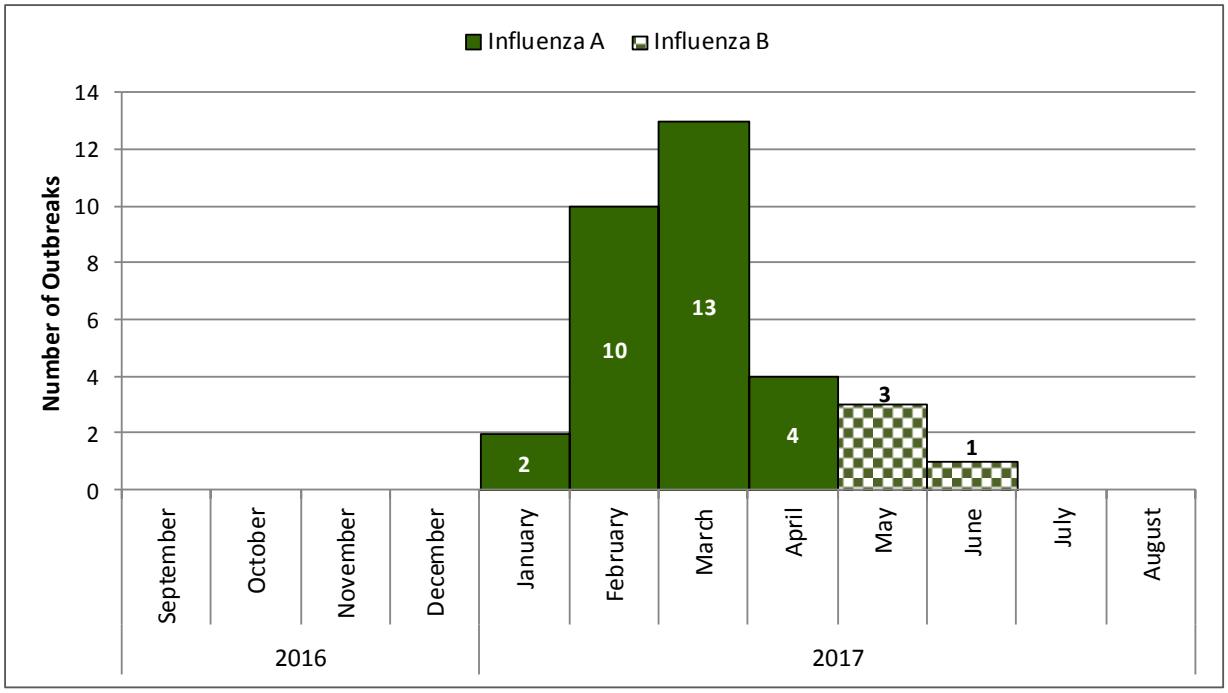

Figure 4: Number of confirmed influenza outbreaks reported in Canadian Network for Public Health Intelligence (CNPHI) Outbreak Summaries by month of onset of outbreak, 2016/2017 season

Other Respiratory Viruses

⇒ In addition to influenza, there were a number of other respiratory viruses circulating during the 2016/2017 season (Table 4). The most predominant virus other than influenza was entero/rhinovirus.

Table 4: Number of positive respiratory virus specimens, by type, 2016/2017 season, NL.[1]

	Total
R.S.V.	292
Parainfluenza virus 1	2
Parainfluenza virus 2	37
Parainfluenza virus 3	104
Adenovirus	82
Entero/Rhinovirus	269
hMPV	99

[1]Source: Respiratory Virus Detections/Isolations for the period August 28, 2016 - August 12, 2017, Public Health Agency of Canada

Syndromic Surveillance

⇒ Influenza-related HealthLine calls are consistent with the peak of the 2016/2017 influenza season (Figure 5).

⇒ Most callers to HealthLine were advised to see their family physician (50.8%) or to care for themselves at home (29.1%) (Figure 6).

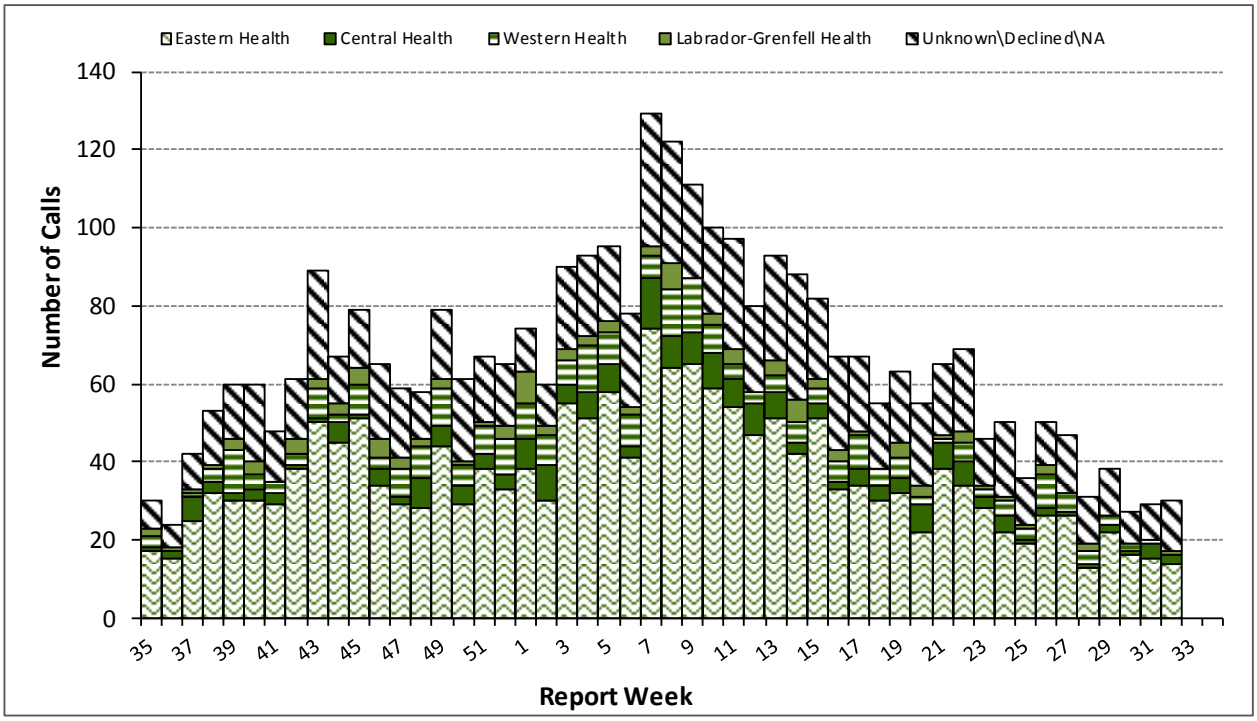

Figure 5: Number of influenza-related HealthLine calls by report week and disposition, 2016/2017 season

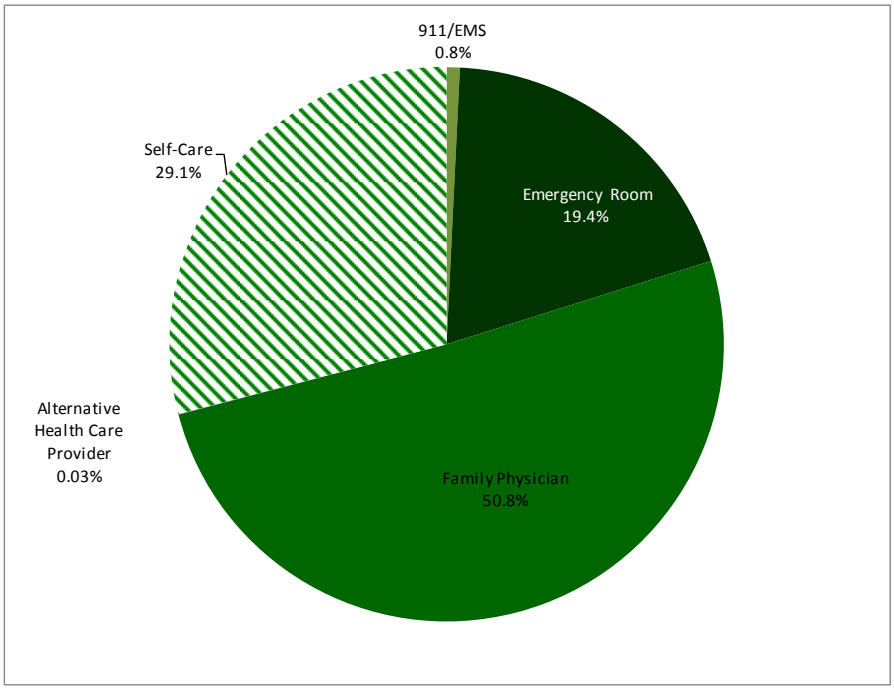

Figure 6: Influenza-related HealthLine calls by disposition, 2016/2017 season

Emergency Department Influenza-like-illness

Note: Data prior to Week 47 includes Eastern Health only.

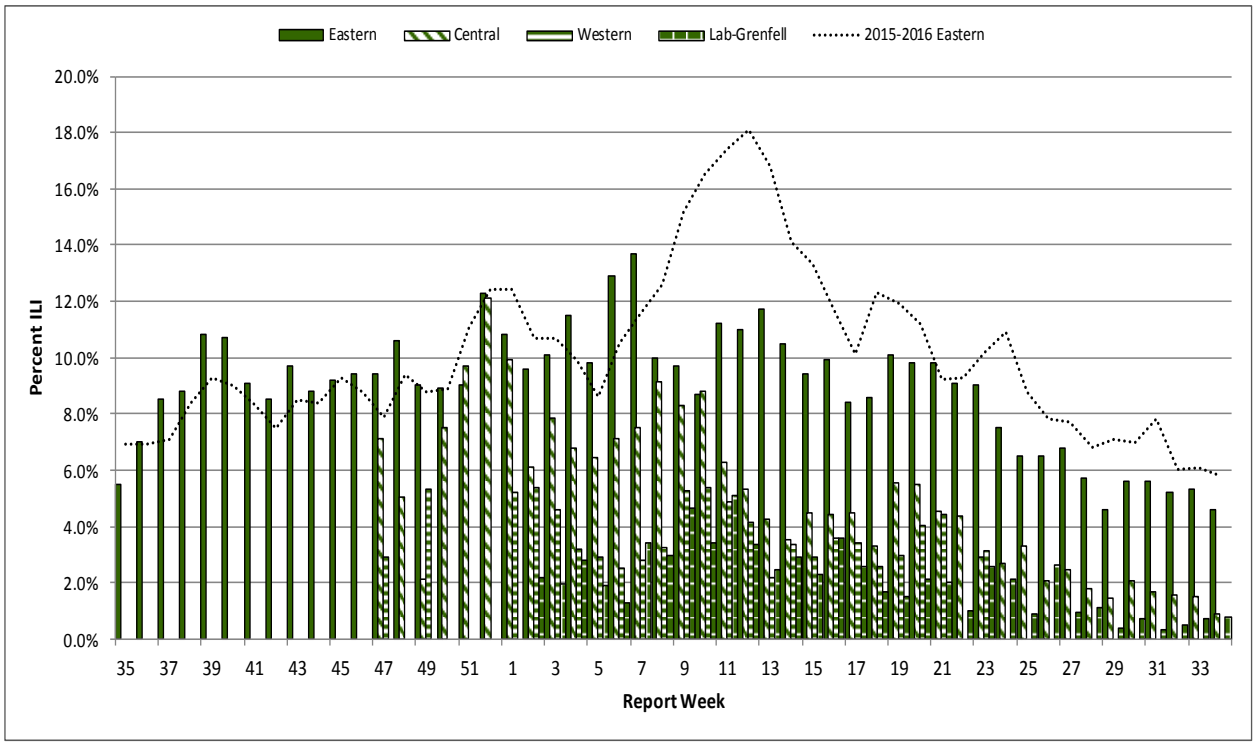

Figure 7: Percent of emergency department visits with ILI by report week, Eastern, Central, Western and Lab-Grenfell Health, 2016-2017

⇒ Figure 7 appears to suggest multiple peaks of influenza-like illness over this time period, possibly due to multiple circulating agents.

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 28, 2016 - August 12, 2017; 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