

WEEKLY NEW BRUNSWICK INFLUENZA REPORT

Reporting period: January 20 to January 26 2019 (week 4)

Summary

In New Brunswick, influenza activity started to decrease in week 4

New Brunswick:

- There have been 142 positive influenza cases in week 4. To date this season, 1404 cases have been reported, 134 influenza A (H1N1)pdm09, 1266 influenza A (unsubtyped), 2 influenza A (H3) and 2 influenza B.
- There have been 19 influenza associated hospitalizations during week 4. So far this season, 259 influenza associated hospitalizations have been reported and 11 deaths.
- The ILI consultation rate was 16.7 consultations per 1,000 patients visits in week 4. The ILI rate was below the expected levels for this time of year.
- One new influenza outbreak (Residential facility) and two ILI outbreaks in schools were reported in week 4. So far this season, 9 influenza outbreaks have been reported in nursing homes, 1 in a Hospital, 1 in a Residential facility and 10 ILI outbreaks have been reported in schools.

Canada:

- Influenza continues to circulate across Canada with eastern regions reporting higher levels of influenza activity compared to western regions.
- At the national level, the influenza season appears to be past the peak of activity, with most indicators showing stable or downward trends in week 4.
- Influenza A is the most common influenza virus circulating in Canada, and the majority of these viruses are A(H1N1)pdm09.
- The majority of lab confirmations and hospitalizations have been among individuals under the age of 65.

International:

Seasonal influenza:

- In the temperate zone of the northern hemisphere influenza activity continued to increase slowly.
 - In North America influenza activity remained elevated overall with influenza A(H1N1)pdm09 predominating. In Europe, influenza activity continued to increase, with both A viruses circulating. In North Africa, influenza A(H3N2) detections continued to be reported in Egypt. In Western Asia, influenza activity continued to increase in some countries and appeared to decrease across countries of the Arabian Peninsula. In East Asia, influenza activity continued to increase, with influenza A(H1N1)pdm09 most frequently detected. In Southern Asia, influenza detections remained elevated overall. Influenza activity continued to increase in Iran (Islamic Republic of) with influenza A(H3N2) the predominant circulating virus. In the temperate zones of the southern hemisphere, influenza activity returned to inter-seasonal levels with exception of some parts in Australia. Worldwide, seasonal influenza A viruses accounted for the majority of detections.

Effectiveness of 2018-2019 influenza vaccine for influenza A(H1N1)pdm09:

- Based on a recently published [Canadian influenza vaccine effectiveness study](#), mid-season vaccine effectiveness estimates indicate that this year's flu shot is approximately 72%(95%CI: 60 to 81%) effective against the predominant circulating strain. The study confirmed that significant protection was observed in all age groups, especially young children who have been disproportionately affected by influenza this season.

Emerging Respiratory Viruses:

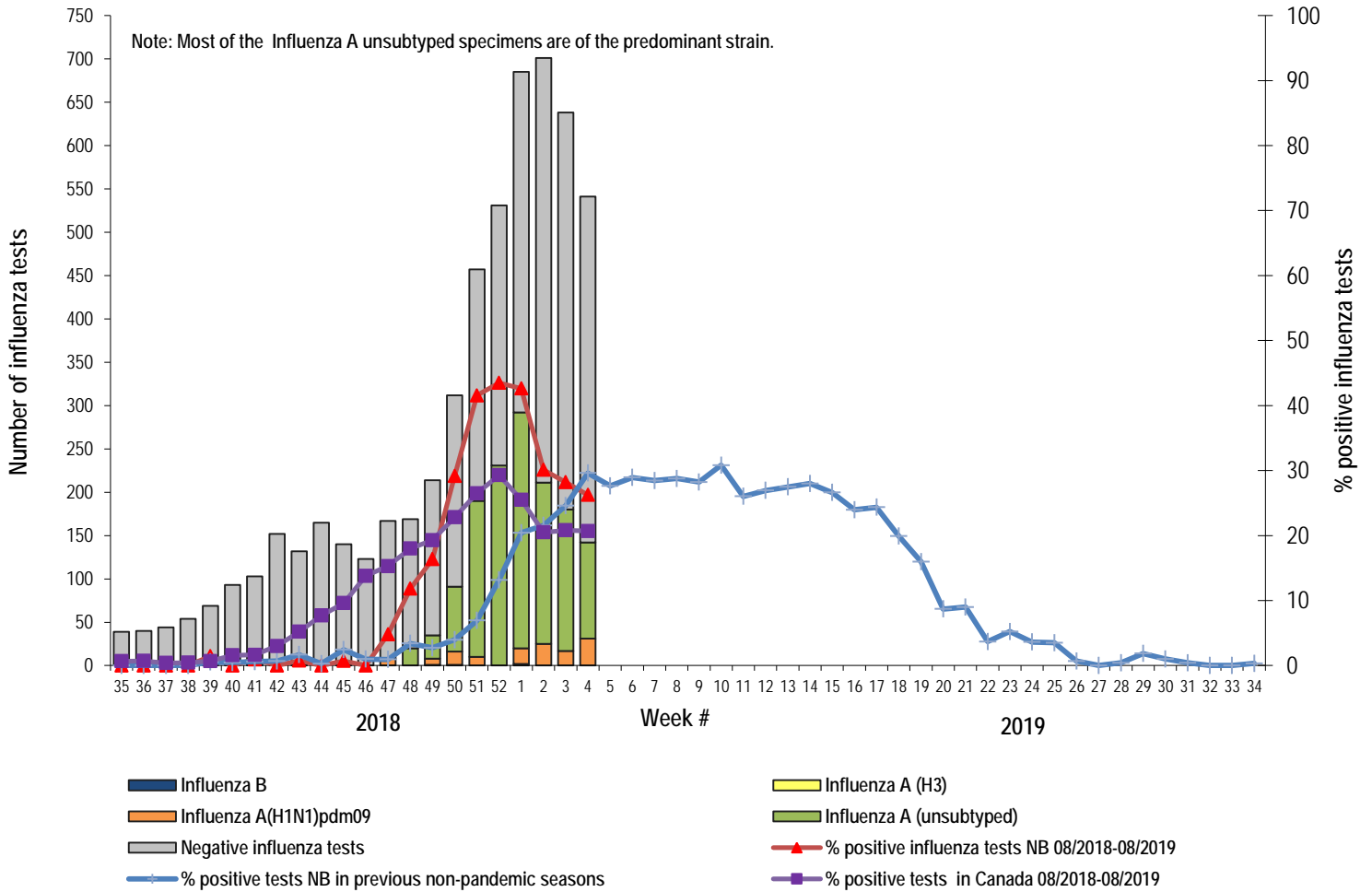
- MERS CoV:
 - WHO: http://www.who.int/csr/disease/coronavirus_infections/en/
 - CDC: <http://www.cdc.gov/coronavirus/mers/>
 - Updated Risk Assessment (August 2018): http://www.who.int/csr/disease/coronavirus_infections/risk-assessment-august-2018.pdf?ua=1
- Avian Influenza:
 - WHO: www.who.int/csr/disease/avian_influenza/en/index.html

1) Influenza Laboratory Data¹

- Influenza activity started to decrease in week 4.
- One-hundred-forty-two influenza cases were reported during week 4, 31 were A (H1N1)pdm09 and 111 were A (unsubtyped).
- Since the beginning of the season, 1404 influenza cases have been reported, 134 influenza A(H1N1)pdm09, 1266 influenza A(unsubtyped), 2 influenza A (H3) and 2 influenza B.

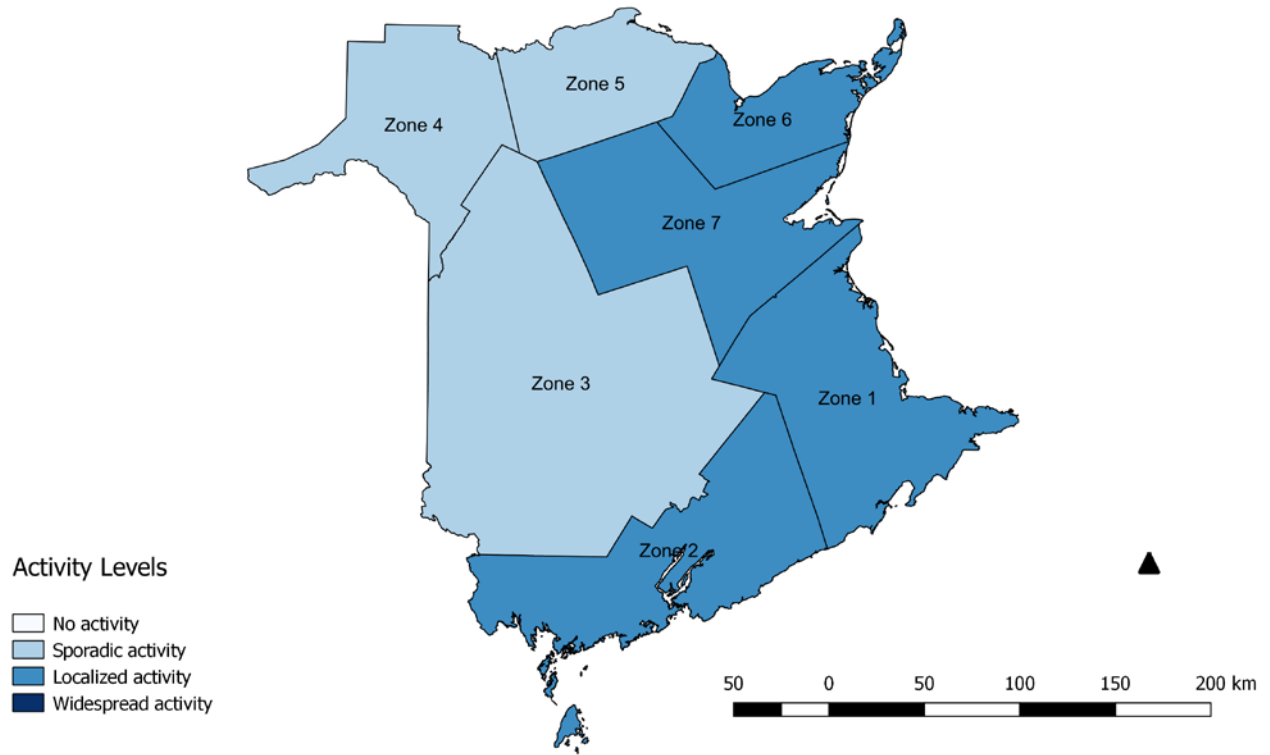
¹ Surveillance specimens are submitted by recruited New Brunswick Sentinel Practitioner Influenza Network (NB SPIN) practitioners, which are comprised of sites in Emergency Rooms, in Family Practice, in First Nations communities, in Nursing Home, in Universities and in Community Health Centers. Diagnostic specimens are submitted by physicians in the community/hospital setting. Influenza laboratory data is comprised of results from surveillance and diagnostic specimens. All laboratory specimens are tested using a real-time PCR assay, which is a rapid detection method designed for detection of all known variants of influenza A and B. All laboratory-confirmed cases are reported for the week when laboratory confirmation was received.

Graph 1: Number and percent of positive influenza specimens² in New Brunswick by week, up to January 26, 2019 (data source: G. Dumont Lab results)



² Total number of positive influenza tests is higher than number of cases since some individuals had co-infection of A & B simultaneously.

Figure 2: Influenza/ILI activity levels³ by Health Zones, in New Brunswick, for week 4, season 2018/2019.



³ No activity is defined as no laboratory-confirmed influenza detections in the reporting week, however, sporadically occurring ILI may be reported. Sporadic activity is defined as sporadically occurring ILI and lab confirmed influenza detection(s) with no outbreaks detected within the influenza surveillance region. Localized activity is defined as evidence of increased ILI with lab confirmed influenza detection(s) and outbreaks in schools, hospitals, residential institutions and/or other types of facilities occurring in less than 50% of the influenza surveillance region. Widespread activity is defined as evidence of increased ILI with lab confirmed influenza detection(s) and outbreaks in schools, hospitals, residential institutions and/or other types of facilities occurring in greater than or equal to 50% of the influenza surveillance region.

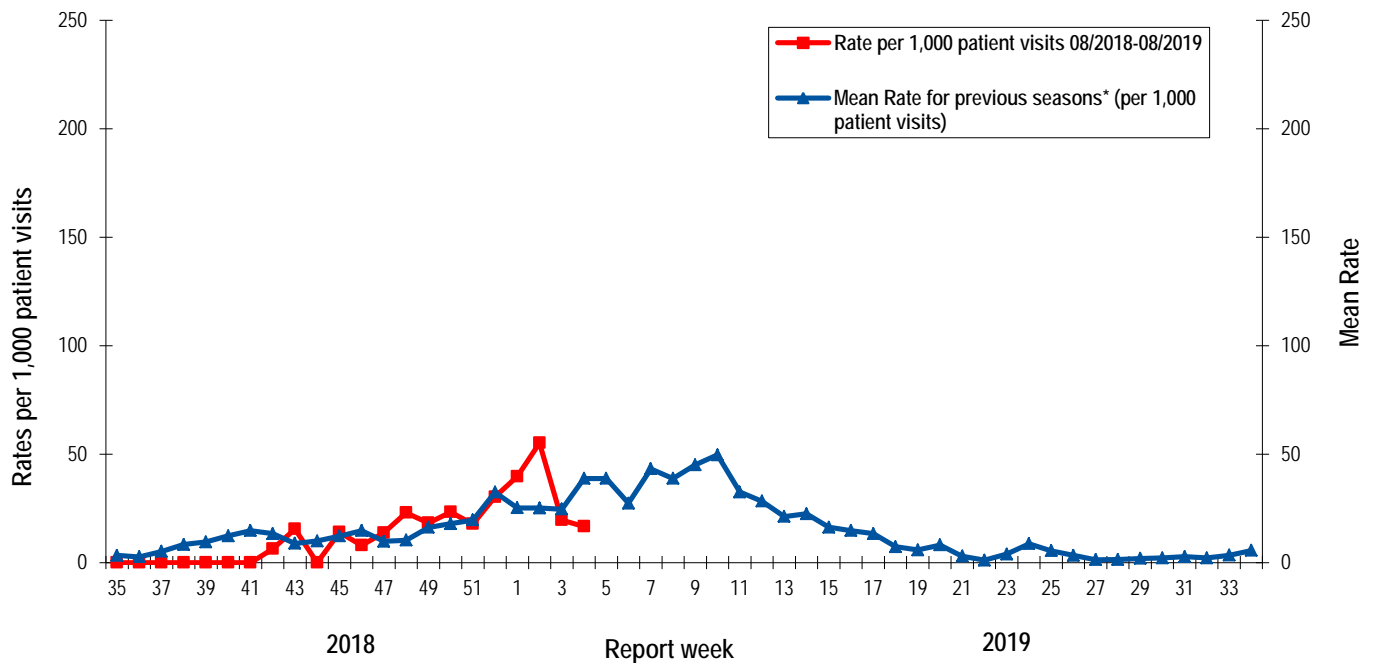
Table 1: Positive influenza cases by Health Region, in New Brunswick for reporting week, cumulative current and previous seasons.
 (data source: G. Dumont lab results up to January 26 2019)

Zone	Reporting period: January/20/2019– January/26/2019						Cumulative: (2018/2019 season) Aug./26/2018 –Jan./26/2019						Cumulative: (2017/2018 season) Aug./27/2017 –Aug./25/2018					
	A				B	A & B co- infection	A				B	A & B co- infection	A				B	A & B co- infection
	A(H3)	(H1N1) pdm09	Unsubty ped/ Other	A Total	Total	Total	A(H3)	(H1N1) pdm09	Unsubty ped/ Other	A Total	Total	Total	Total	(H3)	(H1N1) pdm09	Unsubty ped/ Other	A Total	Total
Zone 1	0	13	54	67	0	0	0	51	727	778	2	0	102	12	575	689	756	11
Zone 2	0	4	8	12	0	0	0	13	79	92	0	0	32	3	126	161	158	1
Zone 3	0	2	10	12	0	0	1	16	113	130	0	0	63	3	194	260	163	3
Zone 4	0	3	8	11	0	0	1	16	83	100	0	0	19	2	53	74	84	0
Zone 5	0	2	12	14	0	0	0	13	62	75	0	0	9	0	8	17	6	0
Zone 6	0	4	16	20	0	0	0	12	89	101	0	0	38	3	75	116	68	0
Zone 7	0	3	3	6	0	0	0	13	113	126	0	0	17	2	72	91	63	0
Total NB	0	31	111	142	0	0	2	134	1266	1402	2	0	280	25	1103	1408	1298	15

2) ILI Consultation Rates⁴

- For week 4, the ILI consultation rate was 16.7 consultations per 1,000 patients visits. The ILI rate was below the expected levels for this time of year.
- During week 4, the sentinel response rate was 21%, for both the FluWatch sentinel physicians and the NB SPIN practitioners.

Graph 2: ILI Consultation Rates in New Brunswick, by report week, season 2018/19 compared to previous seasons*



* The mean rate was based on data from the 1996/97 to 2017/2018 seasons and excludes the Pandemic season (2009/10).

3) ILI and Laboratory-Confirmed Outbreak Data

Table 2: ILI activity/outbreaks in New Brunswick nursing homes and schools for the reporting week, current and previous seasons.

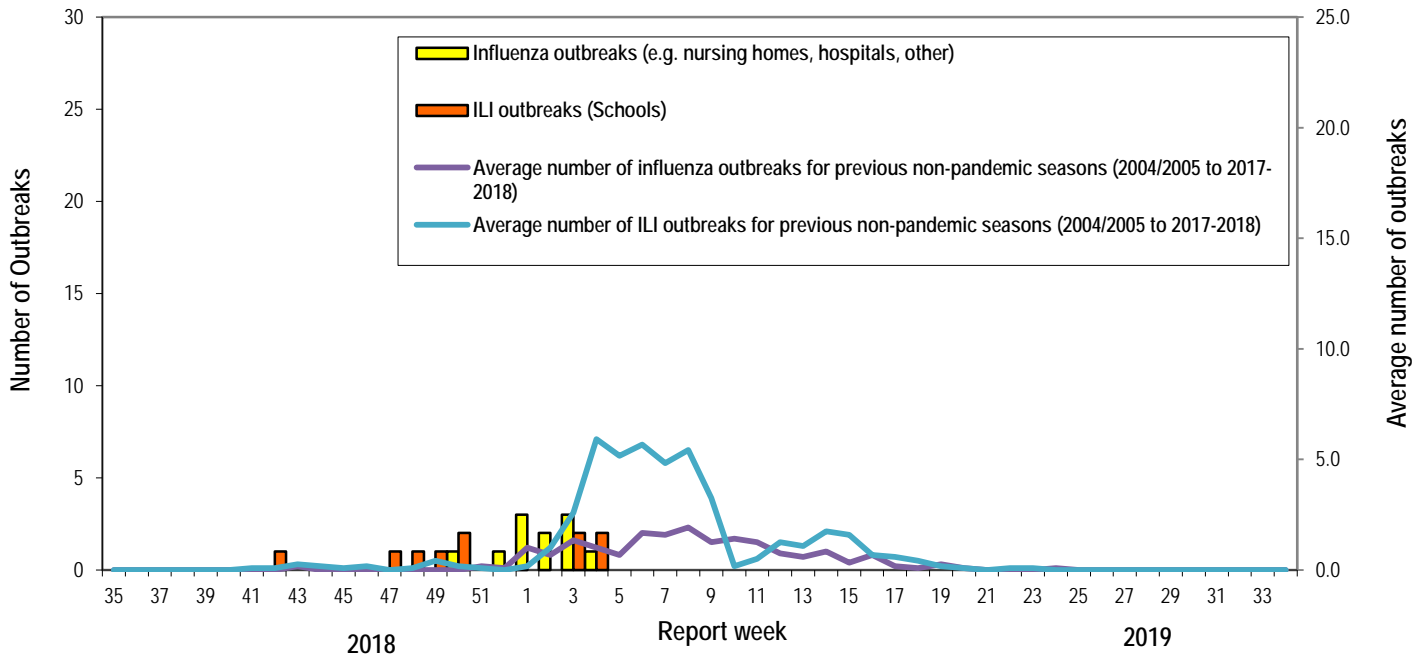
	Reporting period: January/20/2019–January/26/2019			Cumulative # of outbreaks season 2018-2019	Cumulative # of outbreaks season 2017-2018
	Lab-confirmed outbreaks in Nursing homes ⁵	ILI school outbreaks ⁶	Lab-confirmed outbreaks in Other settings ⁴		
Zone 1	0 out of 13	1 out of 74	0	6	9
Zone 2	0 out of 16	0 out of 81	0	4	11
Zone 3	0 out of 14	0 out of 95	0	5	21
Zone 4	0 out of 6	0 out of 22	0	0	1
Zone 5	0 out of 2	0 out of 18	0	0	0
Zone 6	0 out of 9	0 out of 35	1	2	3
Zone 7	0 out of 4	1 out of 27	0	4	3
Total NB	0 out of 64	2 out of 352	1	21	48

⁴ A total of 28 practitioner sites (16 FluWatch sentinel physicians and 12 NB SPIN sites) are recruited this season to report the number of ILI patients and total patient consultations one day during a reporting week.

⁵ Two or more ILI cases within a seven day period, including at least one laboratory-confirmed case of influenza. Outbreaks are reported in the week when laboratory confirmation is received.

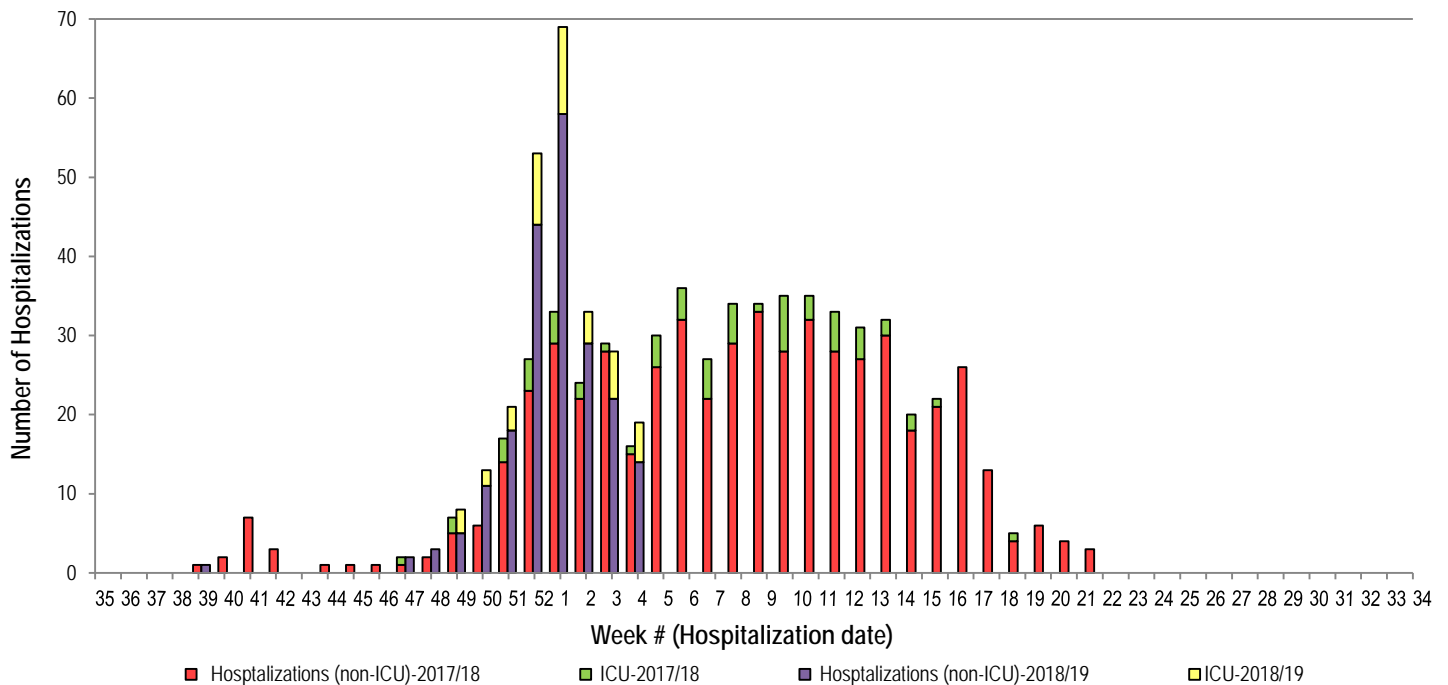
⁶ Schools reporting greater than 10% absenteeism which is likely due to ILI.

Graph 3: Number of Influenza Outbreaks (nursing homes, hospitals, other) and ILI Outbreaks (schools) reported to Public Health in New Brunswick, by report week, season 2018/19.



4) Influenza associated Hospitalization⁷ and Death⁸ Surveillance⁹

Graph 4: Influenza associated Hospitalizations and ICU admissions in New Brunswick, by week of hospitalization for current and past season.*



*Those who had been hospitalized 15 days or more prior to laboratory confirmation date were excluded from the graph

**Eleven deaths have been reported so far in season 2018-2019.

⁷ Hospitalizations (including ICU admissions) are influenza associated; they may or may not be due to influenza.

⁸ Deaths are influenza associated; influenza may not be the direct cause of death.

⁹ In early January 2014, the Office of the Chief Medical Officer of Health implemented a new provincial surveillance system in collaboration with the Regional Health Authorities to monitor influenza-associated hospitalizations, intensive care unit admissions and deaths. A standardized Enhanced Surveillance Form is used to collect data on hospitalizations.

National Flu Watch Program - Additional information on influenza activity in Canada and around the world is available on the Public Health Agency of Canada's website at: <http://www.phac-aspc.gc.ca/fluwatch/>

Other Links:

World: http://www.who.int/influenza/surveillance_monitoring/updates/latest_update_GIP_surveillance/en/index.html

Europe: http://www.ecdc.europa.eu/en/healthtopics/seasonal_influenza/epidemiological_data/Pages/Weekly_Influenza_Surveillance_Overview.aspx

PAHO: http://new.paho.org/hq/index.php?option=com_content&task=blogcategory&id=805&Itemid=569

Australia: <http://www.health.gov.au/internet/main/publishing.nsf/Content/cda-surveil-ozflu-flucurr.htm>

New Zealand: http://www.surv.esr.cri.nz/virology/influenza_weekly_update.php

Argentina: <http://www.msal.gov.ar/>

South Africa: <http://www.nicd.ac.za/>

US: www.cdc.gov/flu/weekly/

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