

WEEKLY NEW BRUNSWICK INFLUENZA REPORT

Reporting period: March 31 to April 6 2019 (week 14)

Summary

In New Brunswick, influenza activity has slightly increased in the past few weeks

New Brunswick:

- There have been 126 positive influenza cases in week 14. To date this season, 2552 cases have been reported, 230 influenza A (H1N1)pdm09, 2171 influenza A (unsubtyped), 12 influenza A (H3) and 139 influenza B.
- There have been 19 influenza associated hospitalizations during week 14. So far this season, 525 influenza associated hospitalizations have been reported and 25 deaths.
- The ILI consultation rate was 51.9 consultations per 1,000 patients visits in week 14. The ILI rate was above the expected levels for this time of year.
- Two new ILI/influenza outbreaks were reported in week 14, one in a school and one a nursing home. So far this season, 15 influenza outbreaks have been reported in nursing homes, 5 in Hospitals, 3 in other settings (Residential facility and Assisted Living) and 16 ILI outbreaks have been reported in schools.

Canada:

- Influenza activity continues to be reported in almost all regions in Canada. Though A(H1N1) peaked at end of December, over the past five weeks a second smaller wave, dominated by A(H3N2), is being observed in most regions of the country.
- Detections of influenza A(H3N2) have been steadily increasing since mid-January and accounted for 89% of subtyped influenza A detections this week; however, influenza A(H1N1)pdm09 remains the predominant subtype to date this season.
- Detections of influenza A continue to be greater than those of influenza B. There is currently very little influenza B circulation compared to previous seasons.
- Estimates from the Canadian Sentinel Practitioner Surveillance Network suggest the 2018/19 influenza vaccine provides substantial protection against A(H1N1)pdm09 but little or no protection against influenza A(H3N2) viruses this season.

International:

Seasonal influenza:

In the temperate zone of the northern hemisphere influenza activity decreased overall. In North America, influenza activity appeared to decrease with influenza A(H3N2) the dominant virus, followed by influenza A(H1N1)pdm09. In Europe, influenza activity decreased across the continent. Both influenza A viruses co-circulated; influenza A(H3N2) was the most frequently identified subtype. In North Africa, influenza detections were low across reporting countries. In Western Asia, influenza activity appeared to decrease overall, with exception of Saudi Arabia where activity remained elevated. In East Asia, although decreased influenza activity continued to be reported. Influenza B was the most frequently detected virus followed by influenza A(H3N2). In Southern Asia, influenza activity continued to decrease with influenza A(H1N1)pdm09 virus predominating. In the Caribbean, Central American countries, and the tropical countries of South America, influenza and RSV activity were low in general. In the temperate zones of the southern hemisphere, influenza activity remained at inter-seasonal levels, with the exception of some parts of Australia where influenza activity remained above inter-seasonal levels. 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:

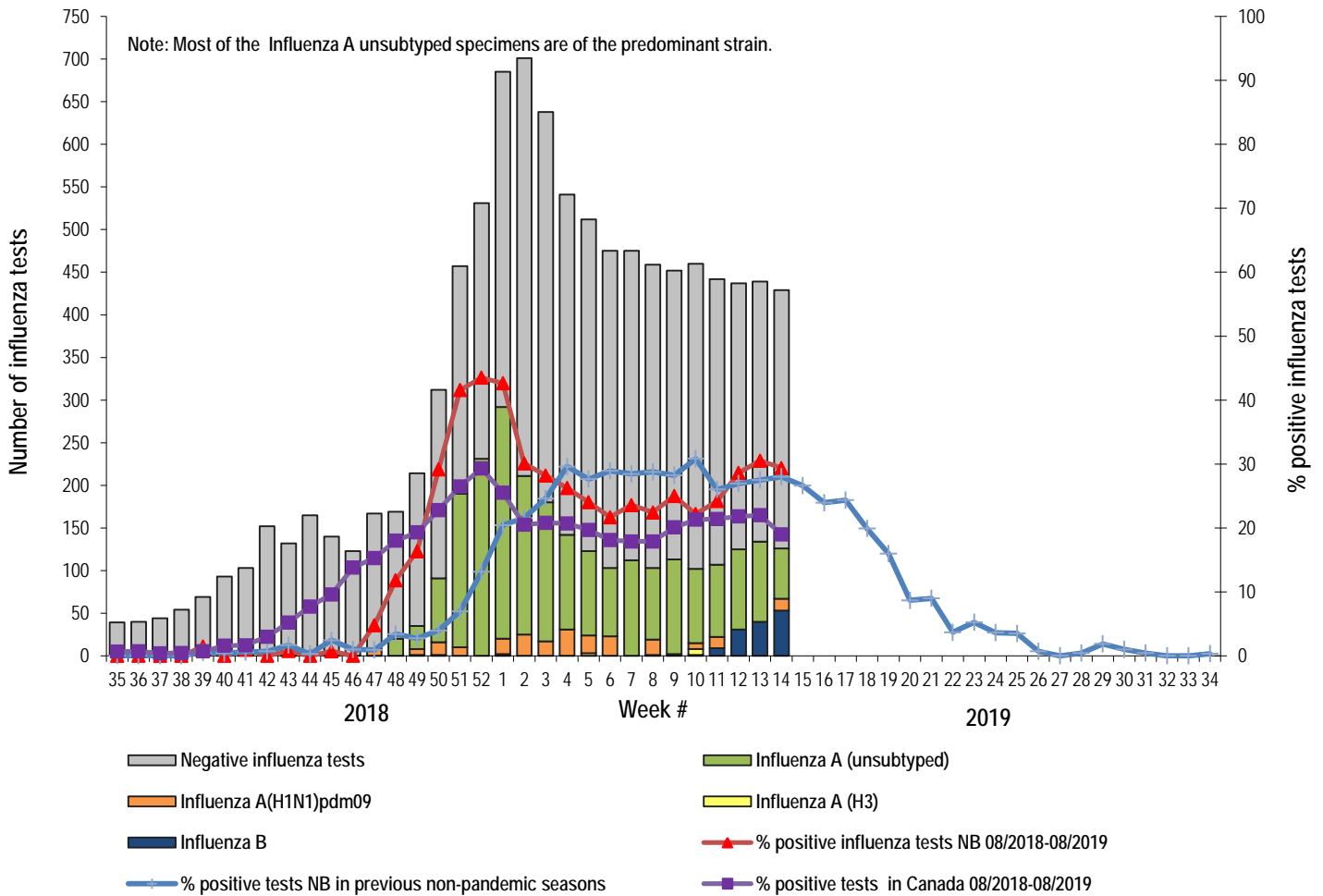
- MERS CoV:
 - WHO: http://www.who.int/csr/disease/coronavirus_infections/en/
 - CDC: <http://www.cdc.gov/coronavirus/mers/>
 - Updated Risk Assessment (August 2018): http://www.who.int/csr/disease/coronavirus_infections/risk-assessment-august-2018.pdf?ua=1
- Avian Influenza:
 - WHO: www.who.int/csr/disease/avian_influenza/en/index.html

1) Influenza Laboratory Data¹

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.

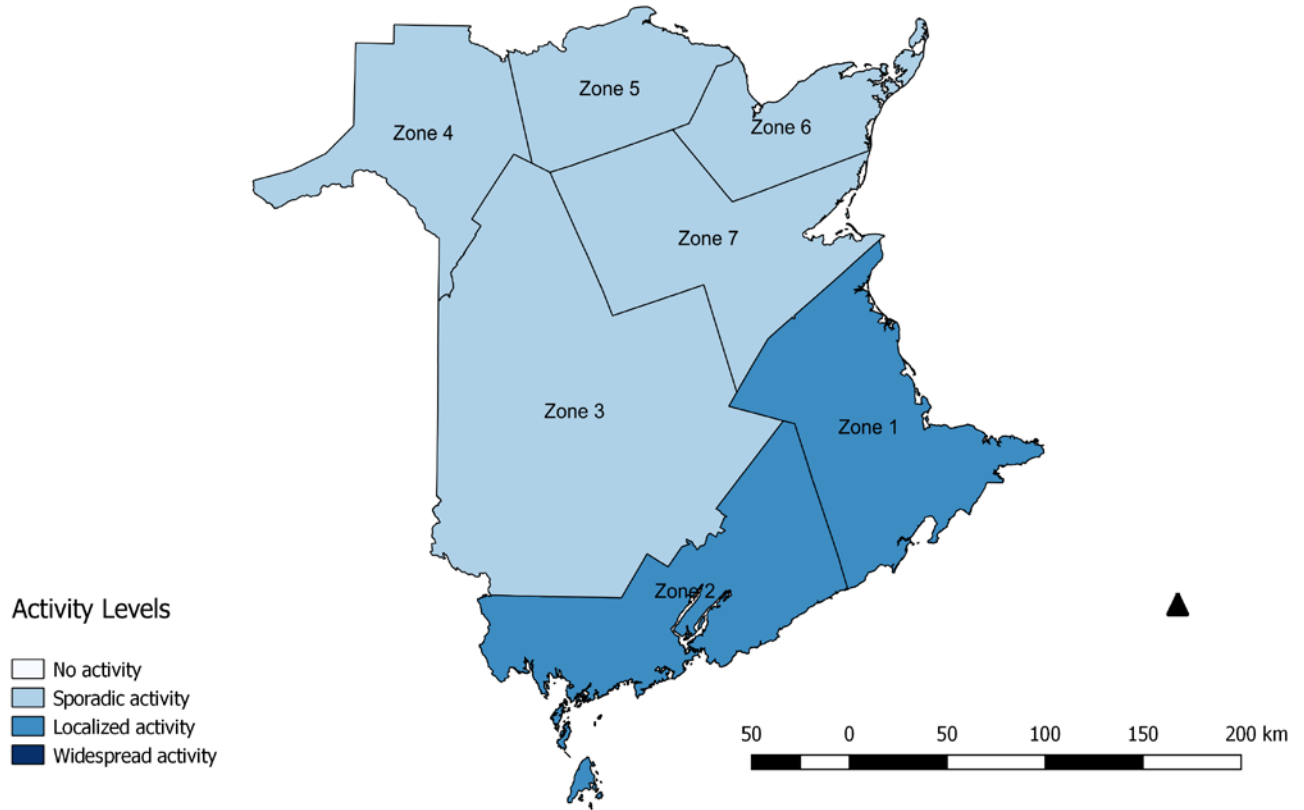
- Influenza activity increased slightly in the past few weeks.
- One-hundred-twenty-six influenza cases were reported during week 14, 59 were A (unsubtyped), 14 were influenza A (H1N1)pdm09 and 53 were influenza B.
- Since the beginning of the season, 2552 influenza cases have been reported, 230 influenza A(H1N1)pdm09, 2171 influenza A(unsubtyped), 12 influenza A (H3) and 139 influenza B.

Graph 1: Number and percent of positive influenza specimens² in New Brunswick by week, up to April 6, 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 14, 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.

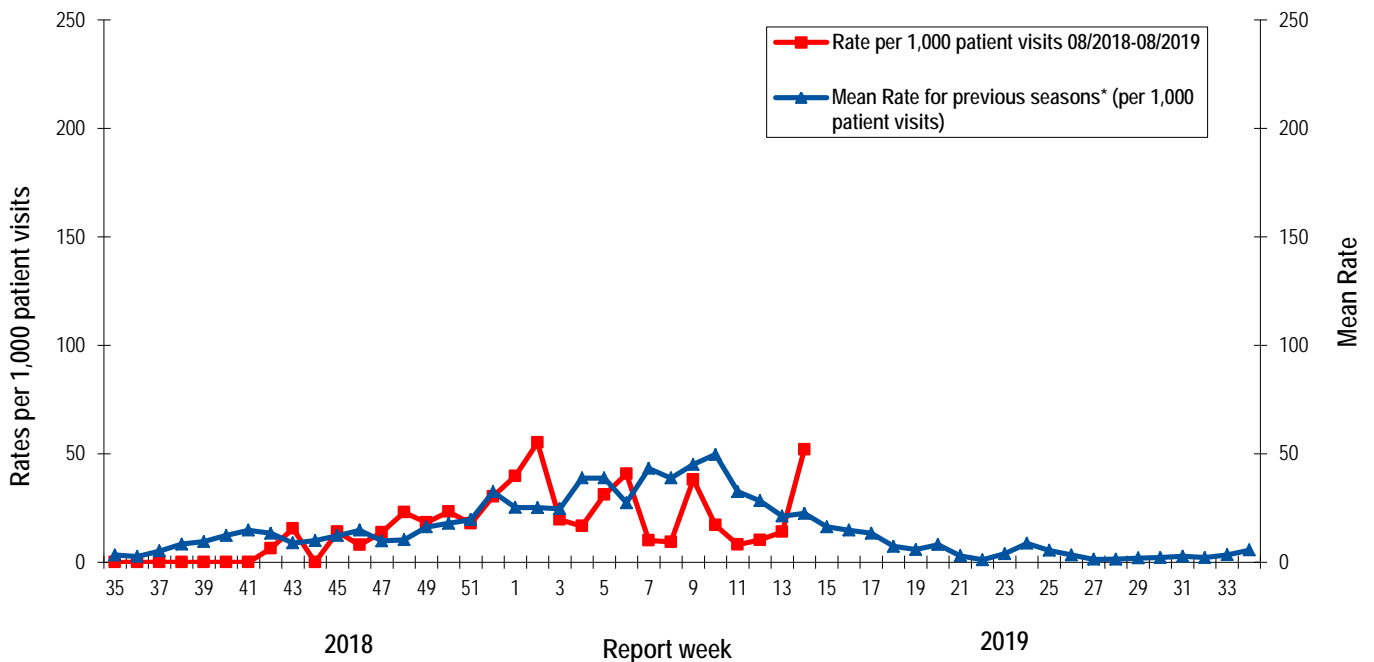
Table 1: Positive influenza cases by Health Region, in New Brunswick for reporting week, cumulative current and previous seasons.
 (data source: G. Dumont lab results up to April 6, 2019)

Zone	Reporting period: March/31/2019–April/06/2019						Cumulative: (2018/2019 season) Aug./26/2018 –Apr./06/2019						Cumulative: (2017/2018 season) Aug./27/2017 –Aug./25/2018					
	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	4	32	36	15	0	4	81	1085	1170	30	0	102	12	575	689	756	11
Zone 2	0	4	8	12	2	0	0	38	268	306	8	0	32	3	126	161	158	1
Zone 3	0	0	8	8	0	0	2	28	242	272	0	0	63	3	194	260	163	3
Zone 4	0	0	3	3	1	0	1	21	137	159	1	0	19	2	53	74	84	0
Zone 5	0	1	0	1	34	0	2	17	80	99	98	0	9	0	8	17	6	0
Zone 6	0	3	6	9	1	0	2	24	195	221	1	0	38	3	75	116	68	0
Zone 7	0	2	2	4	0	0	1	21	164	186	1	0	17	2	72	91	63	0
Total NB	0	14	59	73	53	0	12	230	2171	2413	139	0	280	25	1103	1408	1298	15

2) ILI Consultation Rates⁴

- For week 14, the ILI consultation rate was 51.9 consultations per 1,000 patients visits. The ILI rate was above the expected levels for this time of year.
- During week 14, the sentinel response rate was 25%, 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.

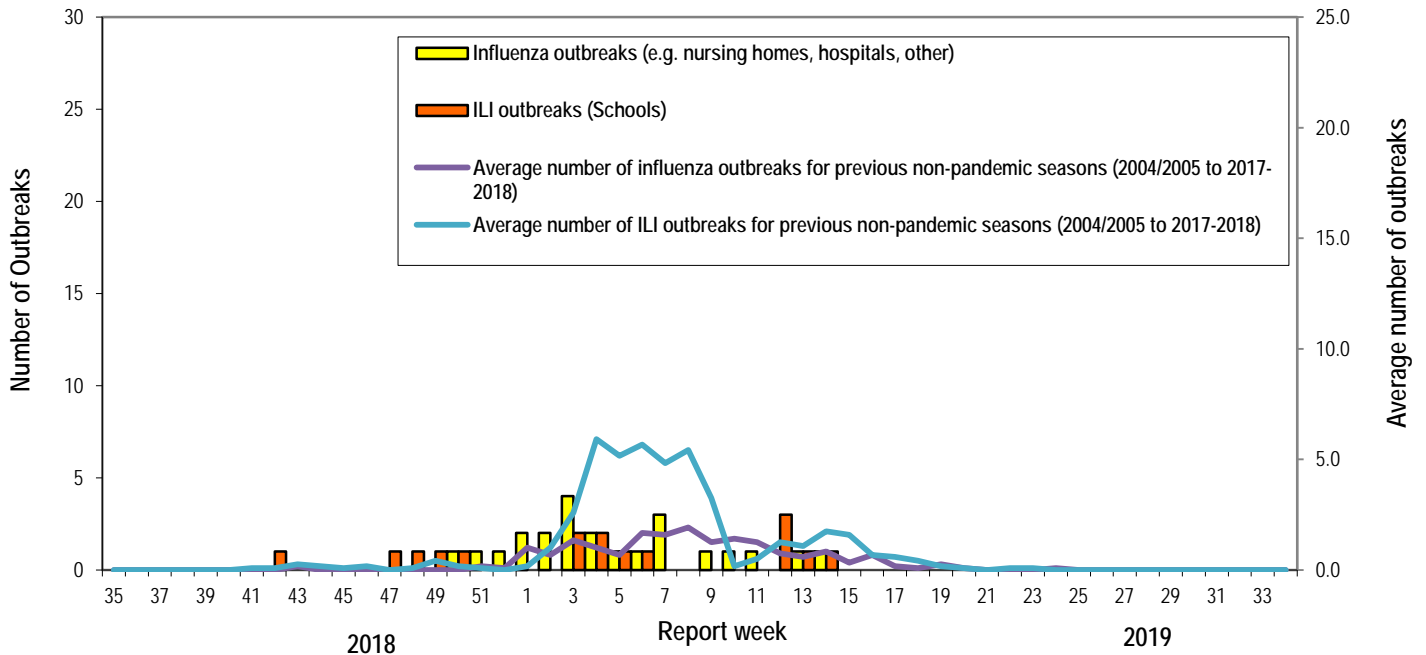
	Reporting period: March/31/2019–April/06/2019			Cumulative # of outbreaks season 2018-2019	Cumulative # of outbreaks season 2017-2018
	Lab-confirmed outbreaks in Nursing homes ⁵	ILI school outbreaks ⁶	Lab-confirmed outbreaks in Other settings ⁴		
Zone 1	1 out of 13	0 out of 74	0	11	9
Zone 2	0 out of 16	1 out of 81	0	11	11
Zone 3	0 out of 14	0 out of 95	0	6	21
Zone 4	0 out of 6	0 out of 22	0	1	1
Zone 5	0 out of 2	0 out of 18	0	0	0
Zone 6	0 out of 9	0 out of 35	0	3	3
Zone 7	0 out of 4	0 out of 27	0	7	3
Total NB	1 out of 64	1 out of 352	0	39	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.

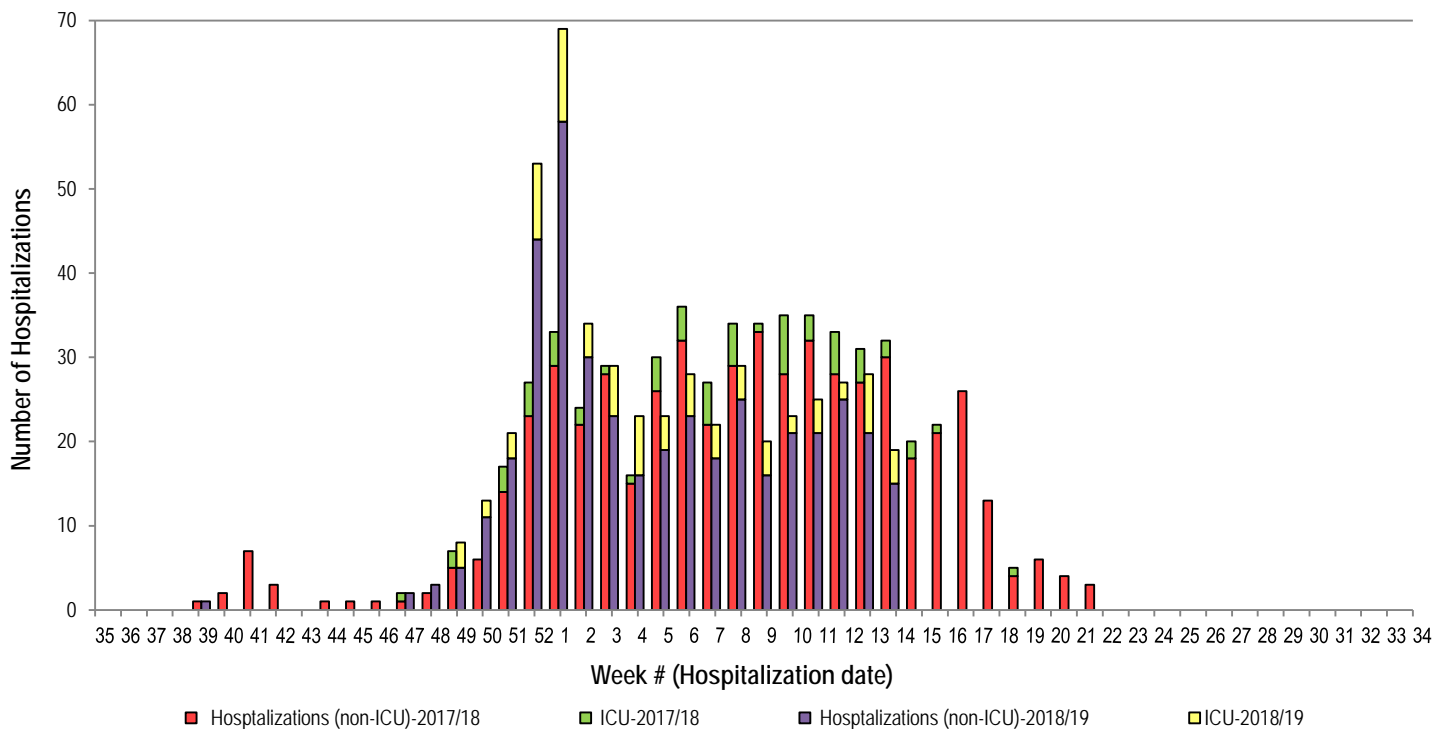
⁶ Schools reporting greater than 10% absenteeism which is likely due to ILI.

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

**Twenty-five 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/

Prepared by the Communicable Disease Control Unit
Office of the Chief Medical Officer of Health, Tel: (506) 444-3044