

WEEKLY NEW BRUNSWICK INFLUENZA REPORT

Reporting period: March 1 to March 7 2020 (week 10)

Summary

In New Brunswick, influenza activity decreased in week 10

New Brunswick:

- There have been 228 positive influenza cases in week 10. Since the beginning of the new season, 2012 cases has been reported, 69 influenza A (H1N1)pdm09, 30 influenza A (H3), 641 influenza A (unsubtyped), 1260 influenza B and 12 had both influenza A and B simultaneously.
- There have been 28 new influenza associated hospitalizations during week 10. So far this season, 223 influenza associated hospitalizations have been reported and 6 deaths.
- The ILI consultation rate was 7.5 consultations per 1,000 patients visits in week 10. The ILI rate was lower than the expected levels for this time of year.
- One new ILI outbreak in school, 2 new influenza outbreaks in nursing homes and 1 influenza outbreak in another setting have been reported in week 10. So far this season, 10 influenza outbreaks have been reported in a nursing home, 1 outbreak has been reported in a hospital, 5 influenza outbreaks were reported in other settings and 70 ILI outbreaks were reported in schools.

Canada:

- Influenza activity remained high in week 10; however, several indicators of influenza activity continued to decrease compared to the previous week.
- In week 10, two thirds of influenza detections were influenza A, and among those subtyped, A(H1N1) continues to be the dominant subtype circulating in Canada.
- The highest cumulative hospitalization rates are among children under 5 years of age and adults 65 years of age and older. Hospitalizations among adults are predominantly due to influenza A, while those among children are due to a mix of influenza A and B.

International:

Seasonal influenza:

In the temperate zone of the northern hemisphere, respiratory illness indicators and influenza activity appeared to decrease overall. In North America, influenza-like illness (ILI) and influenza activity started to decline, with influenza A(H1N1)pdm09 and B viruses co-circulating. In Europe, influenza activity remained elevated overall, though appeared to have peaked in some countries. In Central Asia, influenza activity decreased with detections of all seasonal influenza subtypes. In Northern Africa, influenza activity continued to increase in Algeria and Tunisia, with detections of influenza A(H1N1)pdm09 and B viruses. In Western Asia, influenza activity decreased in most countries, except in Armenia, Azerbaijan and Qatar. In East Asia, influenza-like illness (ILI) and influenza activity decreased overall. In the Caribbean and Central American countries, influenza activity was reported in some countries. In Mexico, influenza activity decreased, with influenza A(H1N1)pdm09 viruses most frequently detected. In tropical South American countries, influenza activity remained low. In tropical Africa, influenza detections were low across reporting countries. In Southern Asia, increased influenza activity was reported in Bhutan. In South East Asia, influenza activity continued to be reported in some countries. In the temperate zones of the southern hemisphere, influenza activity remained at inter-seasonal levels. Worldwide, seasonal influenza A viruses accounted for the majority of detections.

Effectiveness of 2019-2020 influenza vaccine:

- Based on a recently published [Canadian Vaccine Effectiveness Study](#), mid-season vaccine effectiveness (VE) estimates indicate that this year's vaccine is approximately 58% (95%CI: 47 to 66%) effective against the circulating strains (H1N1pdm09, H3 and B). A VE of 58% means that 6 cases out of 10 would have been prevented if they received the vaccination. This is still a substantial protection against medically-attended influenza illness in the early part of the season, especially for children, despite the fact that a considerable proportion of the circulating strains were genetically mismatched to the vaccine strains.

Emerging Respiratory Viruses:

- **COVID-19:** On December 31, 2019, a cluster of cases of pneumonia was reported in Wuhan, China, and the cause has been confirmed as a new coronavirus that has not previously been identified in humans (COVID-19). As of March 17, 2020, 569 confirmed and 28 probable cases of COVID-19 infection in Canada have been identified (ON=189, BC=186, QC=74, AB=97, SK=8, MA=15, NL=3, NB=8, NS=7, PEI=1, Travellers=9). Two confirmed and 6 probable cases have been identified in New Brunswick. China has officially reported (as of March 17, 2020), 80,894 confirmed cases from 31 provinces with 3,237 deaths. As of March 17, the WHO reported globally 179,111 confirmed cases and 7426 deaths in 159 countries/areas.

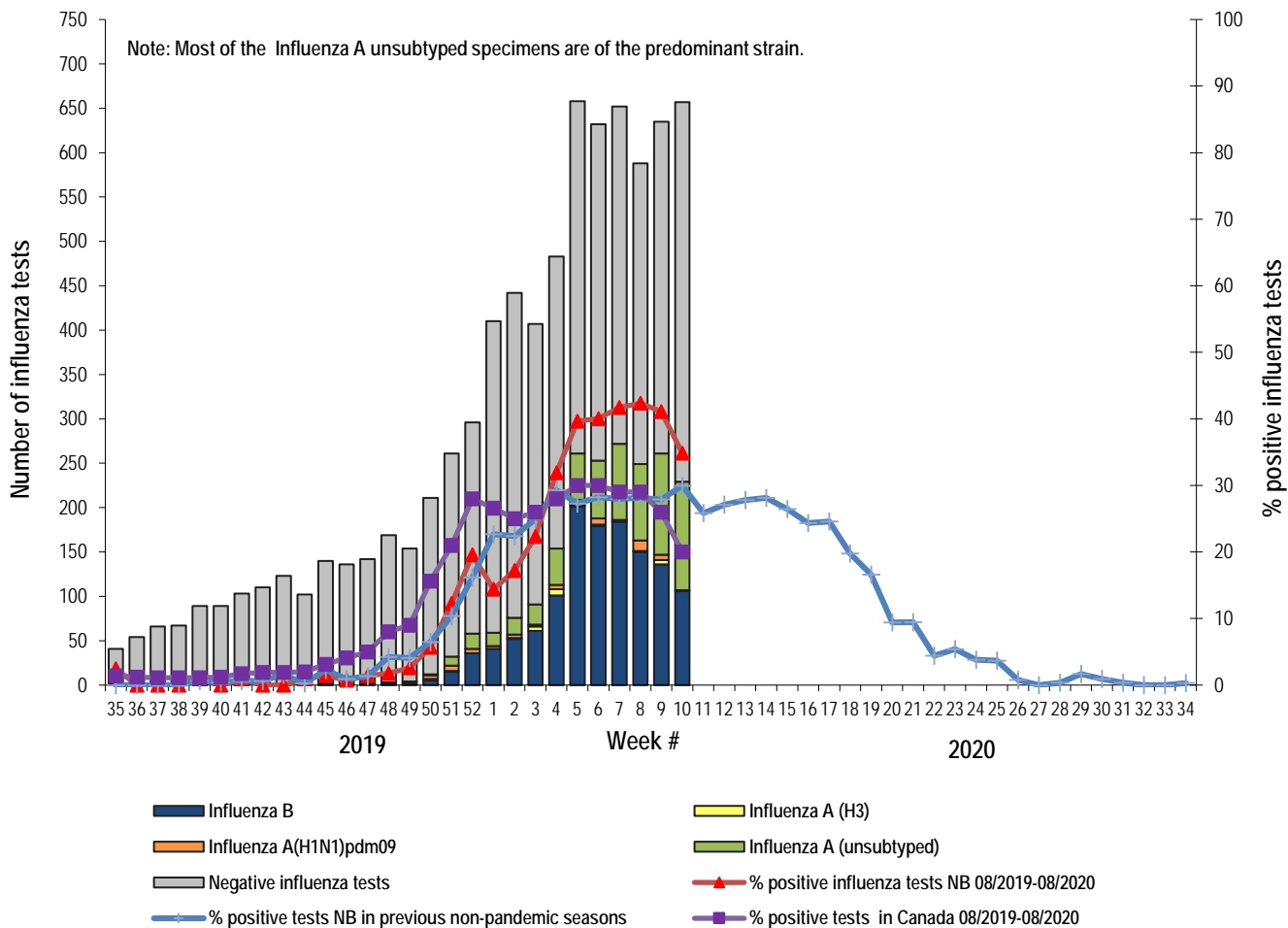
For more timely updates, please visit the following websites:

- WHO: <https://www.who.int/emergencies/diseases/novel-coronavirus-2019>
- PHAC: <https://www.canada.ca/en/public-health/services/diseases/2019-novel-coronavirus-infection.html>
- NB : https://www2.gnb.ca/content/gnb/en/departments/ocmoh/cdc/content/respiratory_diseases/coronavirus.html
- **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 decreased in week 10.
- 228 influenza cases were reported during week 10, 1 influenza A (H1N1)pdm09, 0 influenza A (H3), 121 influenza A (unsubtyped), 105 influenza B and 1 influenza A and B co-infection.
- Since the beginning of the season, 2012 influenza cases have been reported, 69 influenza A (H1N1)pdm09, 30 influenza A (H3), 641 influenza A (unsubtyped), 1260 influenza B and 12 influenza A and B co-infection.

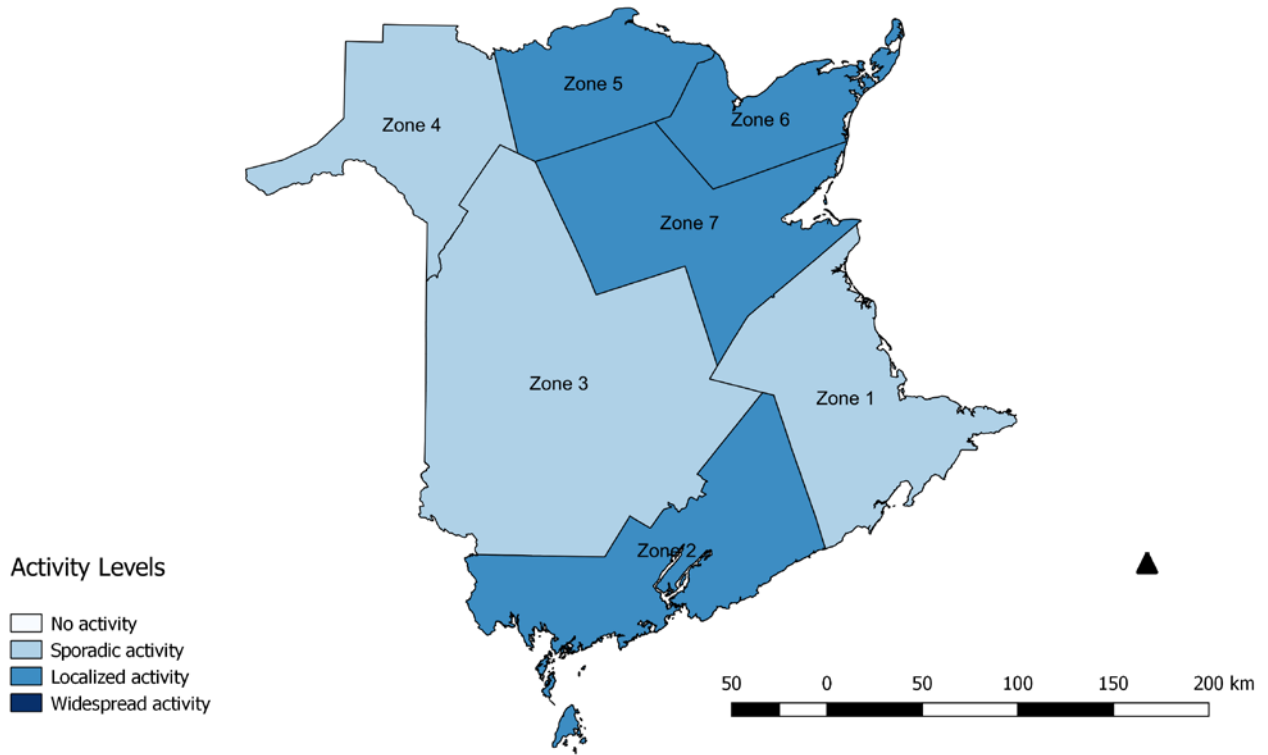
Graph 1: Number and percent of positive influenza specimens² in New Brunswick by week, up to March 7, 2020
(data source: G. Dumont Lab results)



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.

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 10, season 2019/2020.



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.

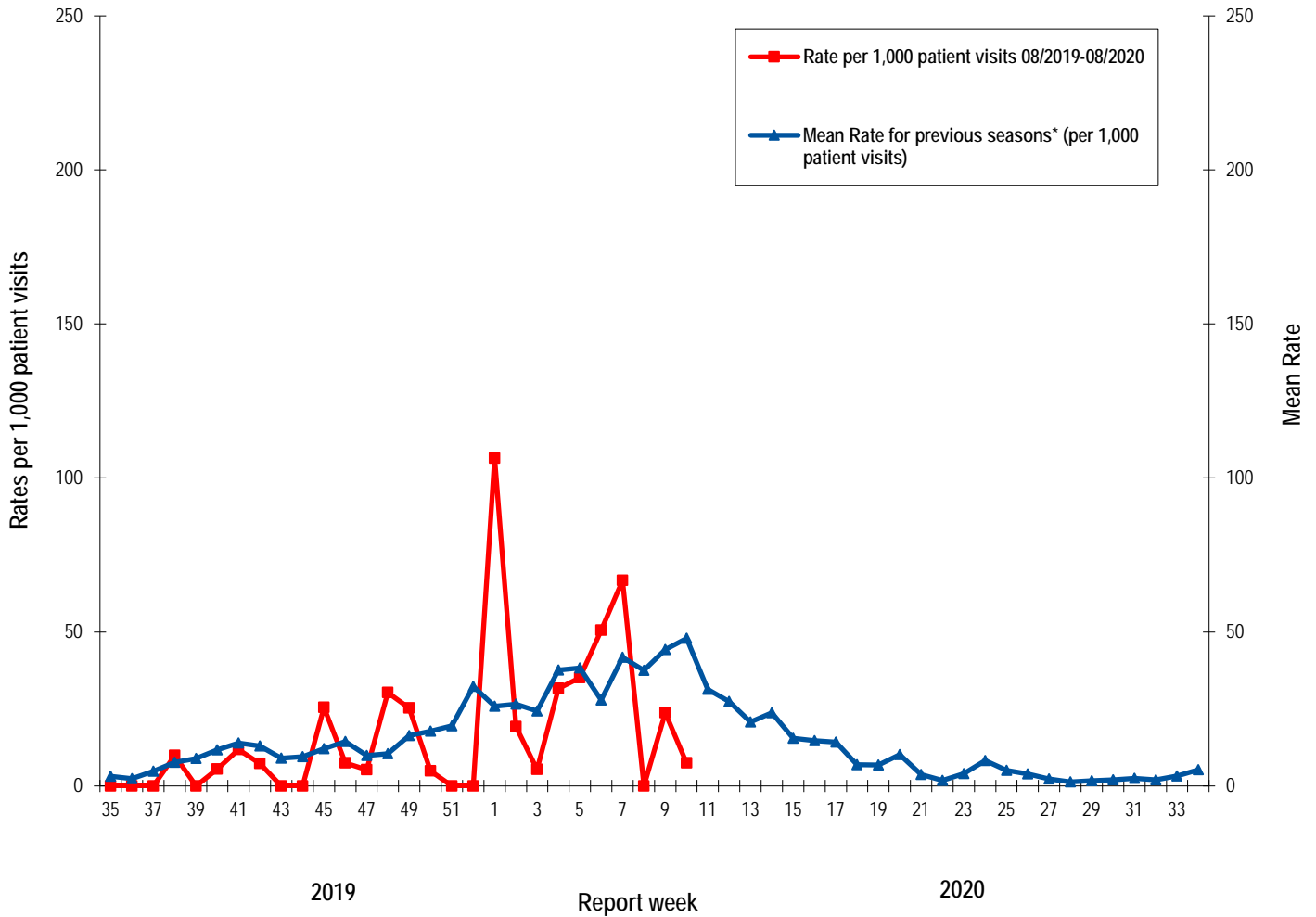
Table 1: Positive influenza cases by Health Region, in New Brunswick for reporting week, cumulative current and previous seasons.
 (data source: G. Dumont lab results up to March 7, 2020)

Zone	Reporting period: March/01/2020–March/07/2020						Cumulative: (2019/2020 season) Aug./25/2019 –March/07/2020						Cumulative: (2018/2019 season) Aug./26/2018 –Aug./24/2019									
	A					B	A & B co- infection					A					B	A & B co- infectio n				
	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	Total			
Zone 1	0	1	35	36	54	0	9	28	245	282	618	2	29	97	1163	1289	130	3				
Zone 2	0	0	16	16	11	0	3	11	96	110	73	2	6	47	293	346	58	0				
Zone 3	0	0	20	20	20	1	1	8	63	72	162	5	9	39	260	308	3	0				
Zone 4	0	0	5	5	2	0	1	7	32	40	209	1	2	28	135	165	6	0				
Zone 5	0	0	8	8	3	0	10	5	74	89	15	1	2	20	84	106	127	1				
Zone 6	0	0	22	22	6	0	6	7	94	107	88	1	5	36	200	241	14	0				
Zone 7	0	0	15	15	9	0	0	3	37	40	95	0	9	23	160	192	19	0				
Total NB	0	1	121	122	105	1	30	69	641	740	1260	12	62	290	2295	2647	357	4				

2) ILI Consultation Rates⁴

- For week 10, the ILI consultation rate was 7.5 consultations per 1,000 patients visits. The ILI rate was lower than the expected levels for this time of year.
- During week 10, the sentinel response rate was 32% for both the FluWatch sentinel physicians and the NB SPIN practitioners.

Graph 2: ILI Consultation Rates in New Brunswick, by report week, season 2019/20 compared to previous seasons*



* The mean rate was based on data from the 1996/97 to 2018/2019 seasons and excludes the Pandemic season (2009/10).

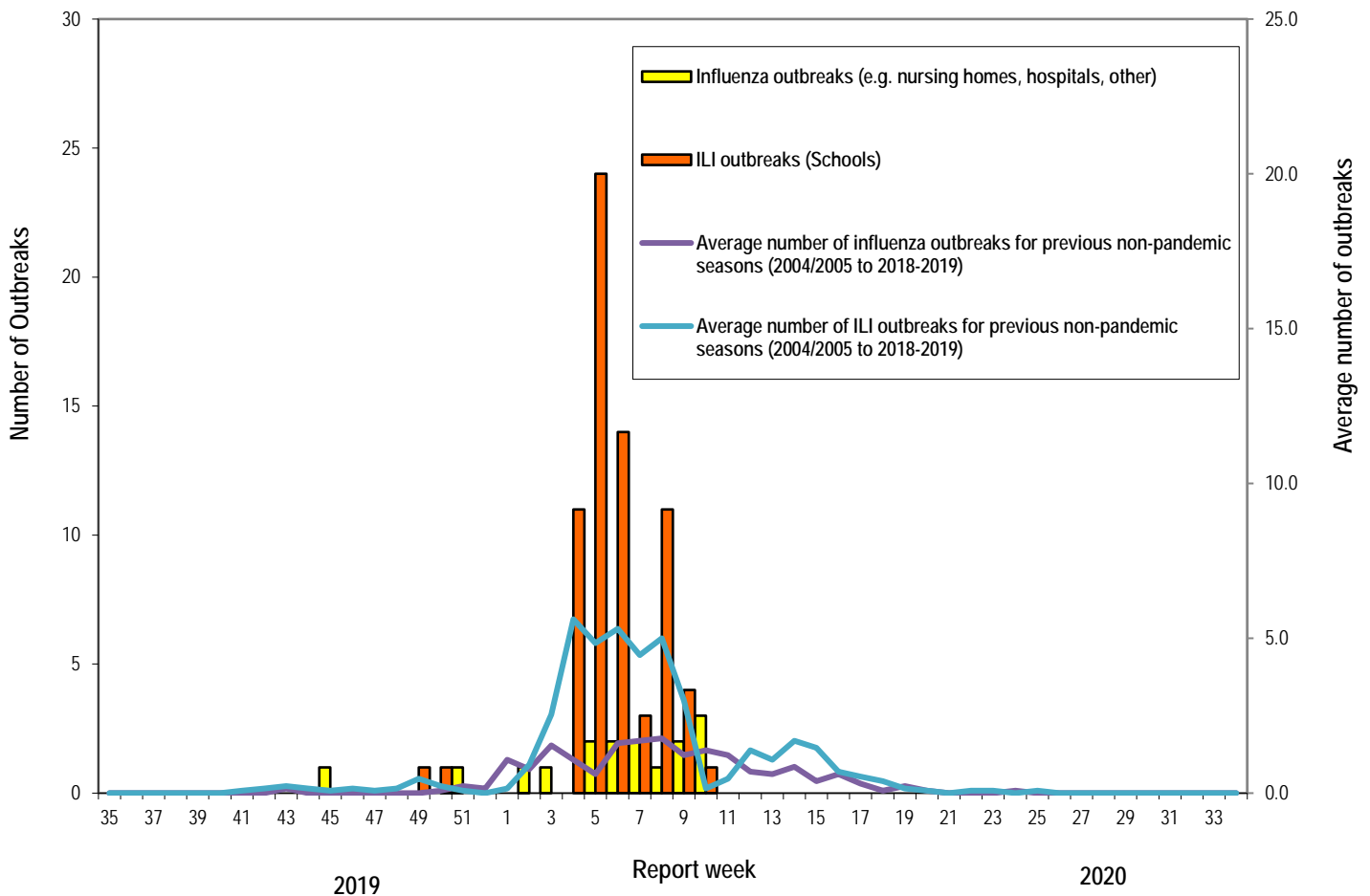
⁴ A total of 28 practitioner sites (16 FluWatch sentinel physicians and 12 NB SPIN sites) are recruited this season to report the number of ILI patients and total patient consultations one day during a reporting week.

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/01/2019-March/07/2020			Cumulative # of outbreaks season 2019-2020	Cumulative # of outbreaks season 2018-2019
	Lab-confirmed outbreaks in Nursing homes ⁵	ILI school outbreaks ⁶	Lab-confirmed outbreaks in Other settings ⁴		
Zone 1	0 out of 13	0 out of 74	0	11	12
Zone 2	0 out of 16	1 out of 81	1	13	13
Zone 3	0 out of 14	0 out of 95	0	28	6
Zone 4	0 out of 6	0 out of 22	0	10	0
Zone 5	0 out of 2	0 out of 18	0	4	0
Zone 6	1 out of 9	0 out of 35	0	8	4
Zone 7	1 out of 4	0 out of 27	0	12	8
Total NB	2 out of 64	1 out of 352	1	86	43

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 2019/20.

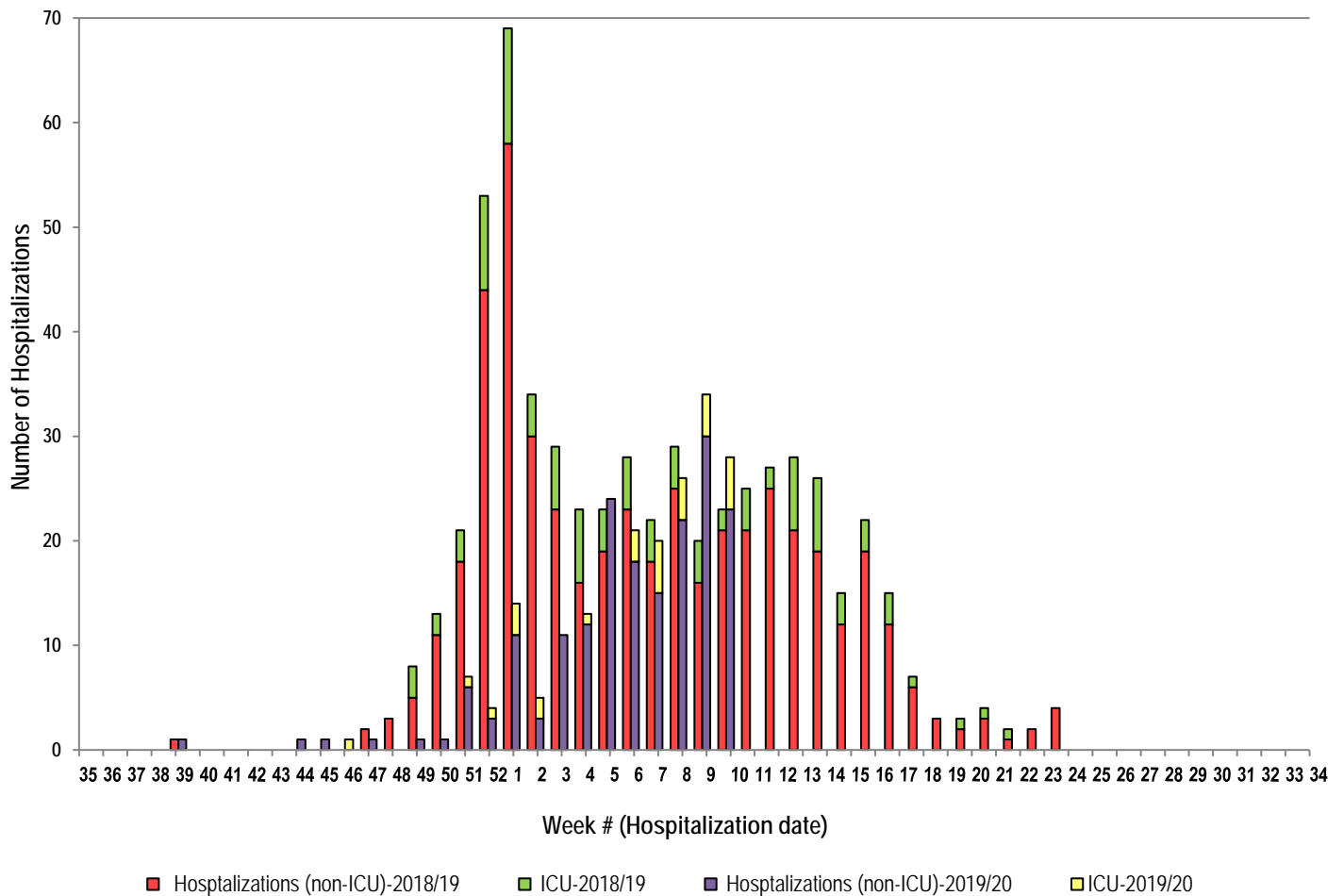


⁵ Two or more ILI cases within a seven day period, including at least one laboratory-confirmed case of influenza. Outbreaks are reported in the week when laboratory confirmation is received.

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

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

**Six deaths have been reported so far in season 2019-2020.

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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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.