

New Brunswick Influenza Summary Report: 2019-2020 season  
(Data from August 25, 2019 to July 4, 2020)

---

Highlights of the 2019-2020 Influenza season:

A. Influenza Activity Surveillance

- This season, there was a co-circulation of both influenza B and influenza A (H1N1)pdm09 (70% of all subtyped influenza A) viruses, with a higher proportion of influenza B viruses.
- The influenza A(H1N1) pdm09 as well as the influenza B strains typically affects children, young and middle-aged adults, however the influenza A (H3N2) strain typically affects the elderly population (65 and older).
- Influenza activity this season reached a peak at week 8 (third week of February) which is within the expected levels since activity usually peaks around mid-February. Nationally, the peak of activity, mainly driven by the Western Provinces, was observed at week 5 (last week of January).
- Between August 25, 2019 to July 4, 2020, **2351** laboratory confirmed influenza cases were reported: 959 were influenza A (41% of all positive), 1379 were influenza B (59% of all positive) and 13 were a co-infection of A & B (0.6% of all positive).
- **Adults aged 20-64 accounted for 42% of the lab confirmed influenza cases** this season and those aged 65 and above accounted for 11% of lab confirmed influenza cases. **Children less than 10 years of age accounted for 31% of all lab confirmed influenza cases.**
- **The median age for influenza A and influenza B cases was 38 years and 14 years old respectively.** 38% of the influenza B cases were less than 10 years of age.
- The number of total tests performed for influenza this season was consistent with the average number of tests performed in the past 2 seasons. The overall percent positivity was similar to the average positivity for the past 2 seasons.
- The number of total tests performed for influenza this season was consistent with the average number of tests performed in the past 2 seasons. The overall percent positivity was similar to the average positivity for the past 2 seasons.
  - **Up to week 11** (mid-March, excluding the first week of March), there was a **gradual increase in testing** this season likely due to an increase observed in school ILI outbreaks. Children 19 years and under counted for 47% of all positive detections this season.
  - **In week 12, despite the school closures, there was an increase in testing for influenza likely due to the increase of COVID testing.**
  - **Influenza testing decreased from week 13 onward**, most likely due to the memo sent in mid-March from the CMOH to the medical practitioners asking to limit the collection of samples for respiratory infections including influenza in order to preserve the stock of collection kits for COVID testing. The influenza percent positivity was observed at its lowest level during that time (after week 12) than it has been recorded for the past 9 seasons, which is an indication of an already slowed down influenza activity.
- There have been **268** hospitalizations reported, including **43** ICU admissions and **14** deaths.
- **Among all hospitalized this season, 43% were individuals 65 years and older** (compared to 51% in 2018/2019) and **16% were children less than 10 years of age** (compared to 14% in 2018/2019).
- **72 influenza-like illness (ILI) outbreaks in schools (significantly higher than average)** in addition to 9 nursing home outbreaks were reported.
- **Many influenza surveillance indicators might have been influenced by the COVID-19 pandemic, due to changes in healthcare-seeking behaviour, school/university closures and testing capacity.**

**B. Influenza Vaccine distribution and Adverse Events Following Immunizations (AEFI)**

- During the 2019-2020 influenza season, 320,380 vaccine doses were distributed in New Brunswick and 19 AEFI (Adverse Events Following Immunization) were reported to Public Health.
- Half of the reported AEFI reaction types were allergic in nature.
- No serious AEFIs have been reported.

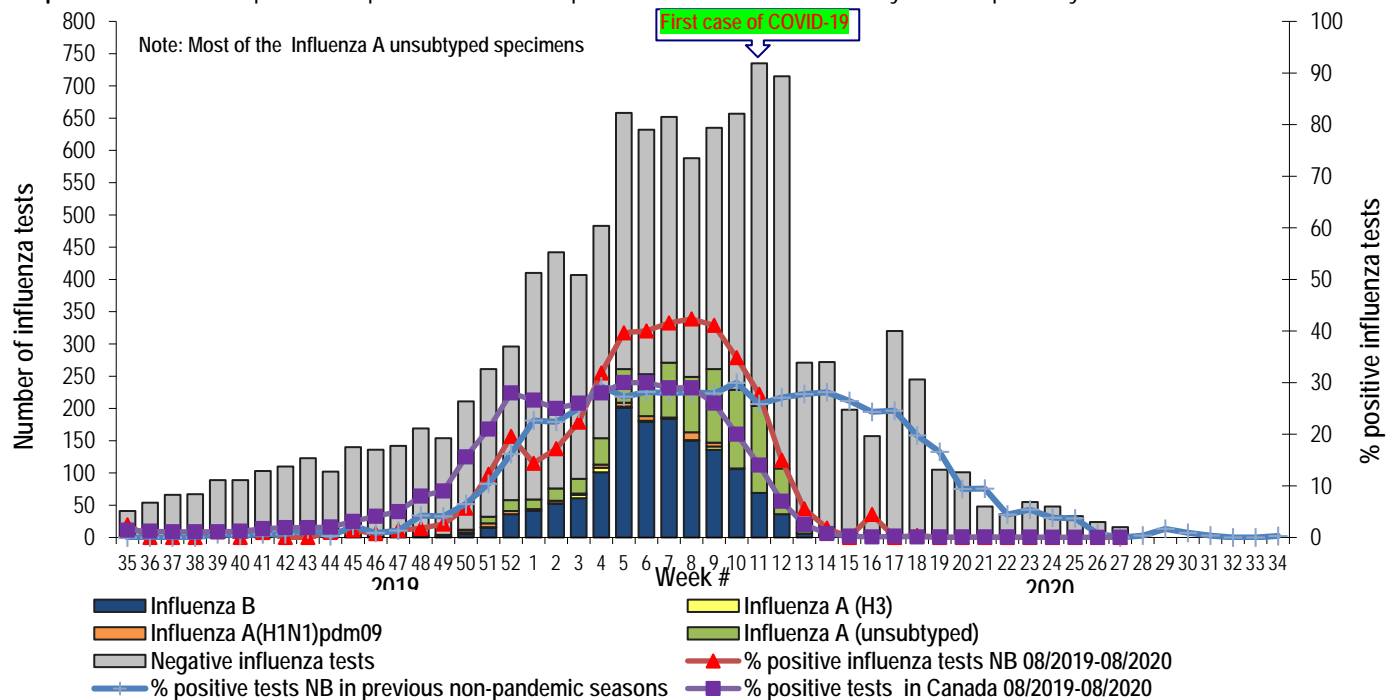
**C. National Estimates for Vaccine Effectiveness**

- Early season estimates of the 2019/2020 vaccine effectiveness showed a vaccine effectiveness (VE) of 58% (95% confidence interval (CI): 47 to 66) 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.

## Influenza Surveillance

**1) Influenza Laboratory Data<sup>1</sup> (Data source: Lab results from the Georges L. Dumont University Hospital Center)**

**Graph 1. Number and percent of positive influenza specimens in New Brunswick by week, up to July 4 2020**



<sup>1</sup> For more details on influenza cases, please refer to the Weekly New Brunswick Influenza Reports posted at the following link: [http://www2.gnb.ca/content/gnb/en/departments/ocmoh/cdc/content/influenza/influenza\\_surveillance\\_activities.html](http://www2.gnb.ca/content/gnb/en/departments/ocmoh/cdc/content/influenza/influenza_surveillance_activities.html)

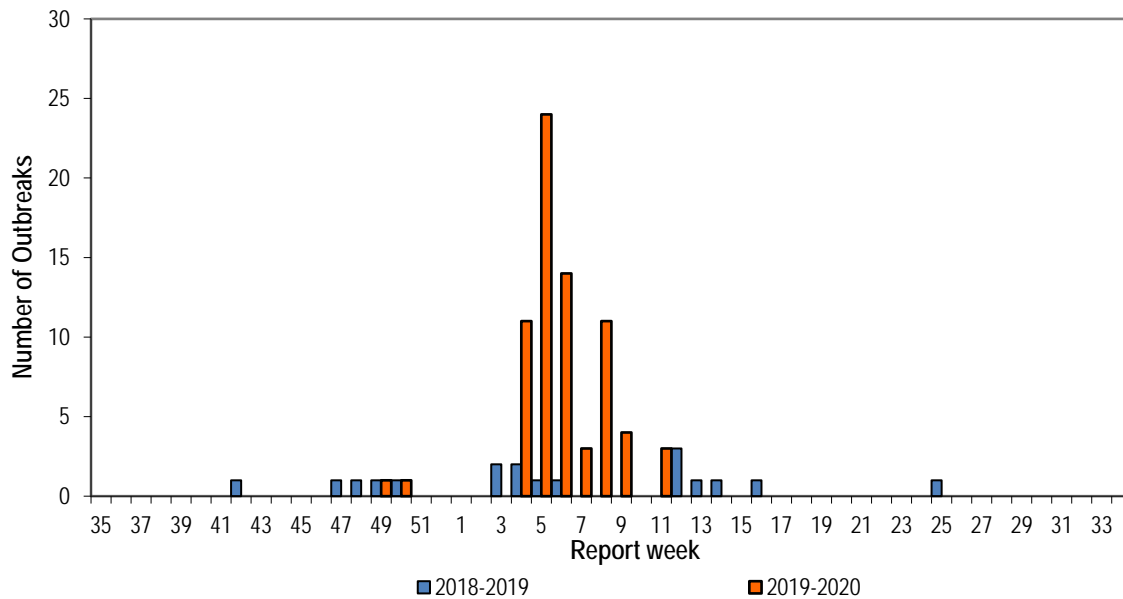
Table 1. Demographics of positive influenza tests in New Brunswick, cumulative, up to July 4 2020 (data source: G. Dumont lab results)

Number of Laboratory Confirmed Influenza Cases Stratified by Type, Gender, and Age Groups						
Cumulative (August 25, 2019-July 4, 2020)						
	A(H3)	A(H1N1) pdm09	A (unsubtyped/ Other)	A Total	B Total	A & B co-infection
<b>Gender</b>						
Male	17	34	400	451	660	6
Female	13	35	460	508	719	7
<b>Age Groups</b>						
<5	5	6	122	133	184	1
5-9	3	2	58	63	337	2
10-19	5	8	89	102	278	2
20-44	4	18	224	246	409	4
45-64	8	23	211	242	97	1
65+	5	12	156	173	74	3

2) School Influenza-like illness (ILI) outbreak data<sup>2</sup> (Data source: Canadian Network for Public Health Intelligence (CNPHI), submitted by Regional Public Health)

- This season 72 influenza-like illness (ILI) outbreaks have been reported in schools compared to 18 school outbreaks during last season.

Graph 2. Number of influenza-like illness outbreaks in schools, in New Brunswick, for current and previous season, by report week, up to July 4 2020



<sup>2</sup> An ILI outbreak in a school is defined as greater than 10% absenteeism which is likely due to ILI.

3) Nursing Homes Influenza Outbreak<sup>3</sup> Data (Data source: Influenza Outbreak Investigation Final Report submitted by Regional Public Health, hard copy)

- In NB, there are 68 licensed nursing homes, out of which 8 reported influenza outbreaks during this season, one nursing home reported 2 outbreaks for a total of 9 outbreaks reported.
- This is lower than the average number of outbreaks reported in the previous 5 seasons (average of 20 outbreaks).
- Regional distribution of the nursing home outbreaks is presented in table 2.

Table 2. Influenza outbreak reports, by Region, for season 2019-2020.

Region	Total# of nursing homes	Total # of reported outbreaks
Region 1	15	2
Region 2	16	1
Region 3	16	2
Region 4	5	1
Region 5	2	1
Region 6	9	1
Region 7	5	1

- Most were influenza A outbreaks. The first influenza outbreak was reported on November 4, 2019 and the last outbreak was reported on March 10, 2020.
- The median percentage immunized for residents was 93% (range 61%-97%) and the median percentage immunized for staff was 47.5% (range 16%-72%).
- The median ILI attack rate for residents was 1.39% (range 0.6% - 16%) and the median ILI attack rate for staff was 2.4% (range 0% - 20%).
- The median duration of the outbreaks<sup>4</sup> was 19 days (range 7-29 days).
- The median duration between first ILI case and laboratory confirmation was 4 days (range 1-13 days).
- 44% (4/9) of the nursing home outbreaks occurred throughout the entire facility versus 56% (5/9) that was considered a localized outbreak.
- Antivirals prophylaxis was recommended in 89% (8/9) and administered in 67% (6/9) of the nursing homes outbreaks.
- 44% (4/9) of the nursing home reported hospitalizations related to the outbreaks.
- 3 related deaths<sup>5</sup> were reported from 2 nursing homes (out of the 8) experiencing influenza outbreaks.

<sup>3</sup> An influenza outbreak in a nursing home is defined as two or more cases of ILI within a seven-day period, including at least one laboratory confirmed case.

<sup>4</sup> Duration of outbreak is indicated as the time period in days from the date of first positive laboratory confirmation to the date when outbreak was declared over.

<sup>5</sup> These deaths occurred among ILI cases whether they had lab-confirmed influenza or not.

4) Influenza associated Hospitalization Data (Data source: New Brunswick Influenza Hospitalization and Death Surveillance Database, submitted by Regional Public Health, electronic copy)

A. Hospitalizations, ICU admissions and outcome (cumulative up to July 4 2020)<sup>6</sup>

Graph 3 and 4, Table 3 & 4.

- There have been **268 hospitalizations** reported, of which **43 were admitted to the ICU**.
  - This season, the overall number of hospitalizations was lower than the previous season (predominant H1N1) when 619 hospitalizations were reported for the same time period. Also, the proportion of ICU admissions was slightly lower this season (16% of all hospitalized compared to 17% in 2018/2019).
- 43% of all hospitalizations occurred among individuals 65 years old or above in this current season compared to 51% in the 2018/2019 season.
- **14 influenza related deaths have been reported:** 11 were males and 3 were females. The median age was 73 years (range 55-91 years). Deaths occurred in the period between December 20 2019 and April 17 2020. 93% (13/14) had at least one risk factor<sup>7</sup>, 5 were vaccinated, 3 were not vaccinated and the vaccination status was unknown for 6.
- Hospitalizations occurred between the period of September 11, 2019 and April 27, 2020.
- 3% (7/268) of the hospitalizations were related to nosocomial outbreaks in 2 hospitals.
- The median length of stay was 5 days (range 1-112 days).
- The median age for hospitalization was 61 years (range 3 days-104 years).
- Most of the hospitalized cases were from Region 1 (35 %), followed by Region 3 (24 %), Region 7 (13 %) and Region 2 (12%).
- 69% (184/268) of the hospitalized cases were treated with antivirals.

B. Hospitalizations and ICU admissions by influenza type

- 59% (159/268) of the hospitalized cases were due to influenza A, 40% (106/268) were due to influenza B and 1% (3/268) were due to a co-infection of influenza A & B.
- The median age for influenza A hospitalized cases was 64 years (3 days -101 years) and 47.5 years (1 month- 104 years) for the influenza B hospitalized cases.
- 18% of all (28/159) of the influenza A hospitalized cases were admitted to ICU (median age of 64 years) and 14% (15/106) of the influenza B hospitalized cases were admitted to ICU as well (median age of 46 years).
- 5% (2/42) of hospitalized children less than 10 years of age were admitted to ICU, which was similar to last season with 5% (4/87).

C. Hospitalizations and vaccination status

- Influenza vaccine is not recommended in infants less than 6 months.
  - Eight hospitalized children were under 6 months of age and not able to receive the vaccine, therefore were excluded from the analysis of the vaccination status.
  - Out of 260 hospitalized cases who could receive the vaccine, 96 were not vaccinated (37%) while 30% (77/260) received the vaccine; vaccination status was unknown for 33% of hospitalized individuals (87/260).
    - Of those with known vaccination status (Yes+No=173), 45% (77/173) were vaccinated.
- NOTE:** This proportion cannot be generalized to the whole hospitalized population, as 33% of cases report unknown vaccination status. These individuals may include vaccinated or unvaccinated individuals.

<sup>6</sup> Disclaimer: Hospitalizations (including ICU admissions) are influenza associated; they may or may not be due to influenza. Deaths are influenza associated; influenza may not be the direct cause of death.

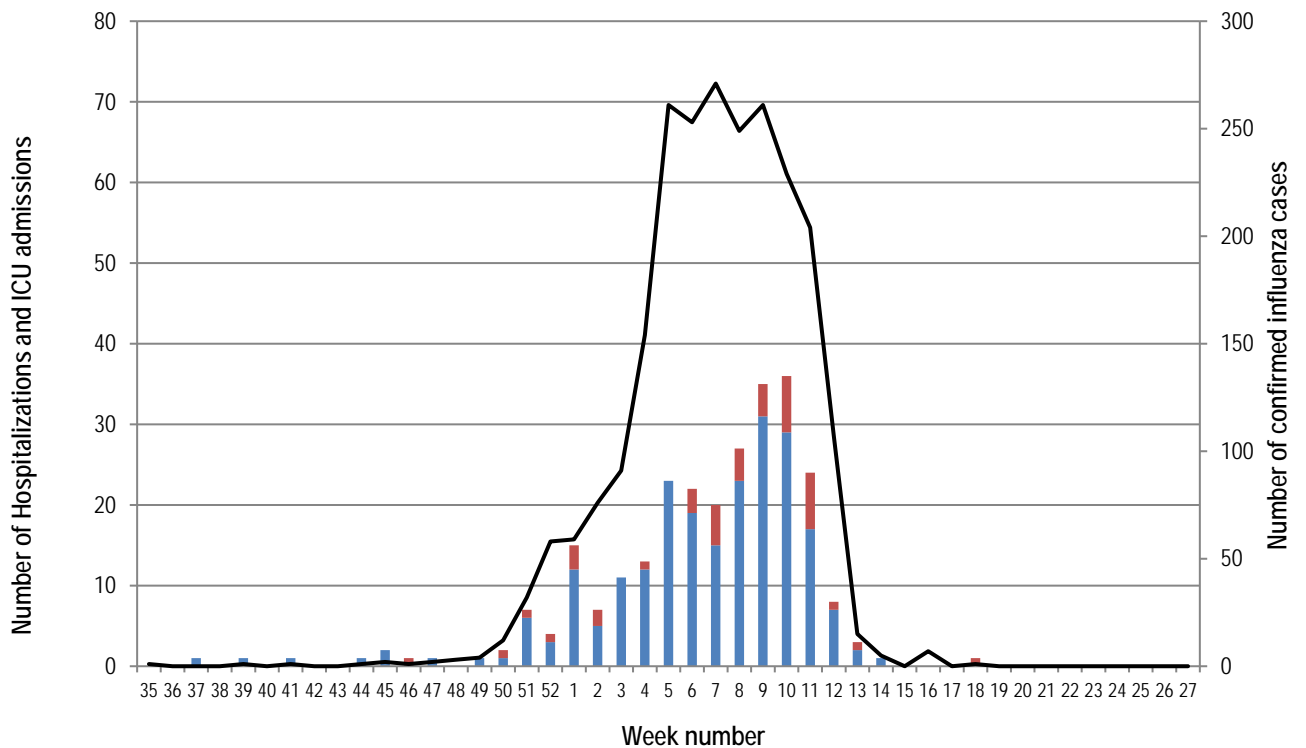
<sup>7</sup> Risk factors include: chronic pulmonary disease, asthma, chronic heart disease, diabetes, kidney disease, immunosuppressed, cancer, chronic liver disease, anemia/hemoglobinopathy, chronic neurological disease, pregnant, First nations, obesity, current smoker, resident of a nursing home and children who have been treated with ASA for long period of time, and other chronic diseases.

- 49% (21/43) of cases admitted to the ICU didn't receive the current seasonal vaccination. 23% (10/43) received the vaccine, and the vaccination status is unknown for 28% (12/43).
- This season's vaccine was still targeting high-risk populations but starting next season the influenza vaccination program will be universal.
- Among those hospitalized who could receive the vaccine, 95% (248/260) were considered meeting the high-risk eligibility criteria for publicly funded vaccine<sup>8</sup>.
- Among those hospitalized and not vaccinated (n=96), 89 individuals (93%) would have been eligible to receive publicly funded seasonal influenza vaccine.
- Among those with ICU admissions and able to receive the vaccine, 84% (36/43) were considered meeting the high-risk eligibility criteria for publicly funded vaccine.
- Of the hospitalized children under 10 years of age who could take the vaccine, 24% (8/34) received the vaccine, 41% (14/34) did not receive the vaccine and vaccination status was unknown for 35% (12/34). (See graph 6)

D. Risk factors for hospitalization:

- 58% of the hospitalized cases had at least 2 risk factors and 79% had at least 1 risk factor.
- In addition to age (being 65 years of age and older), the main prevalent risk factors in the hospitalized cases were chronic pulmonary disease, diabetes, chronic heart disease, being a smoker, cancer and asthma.

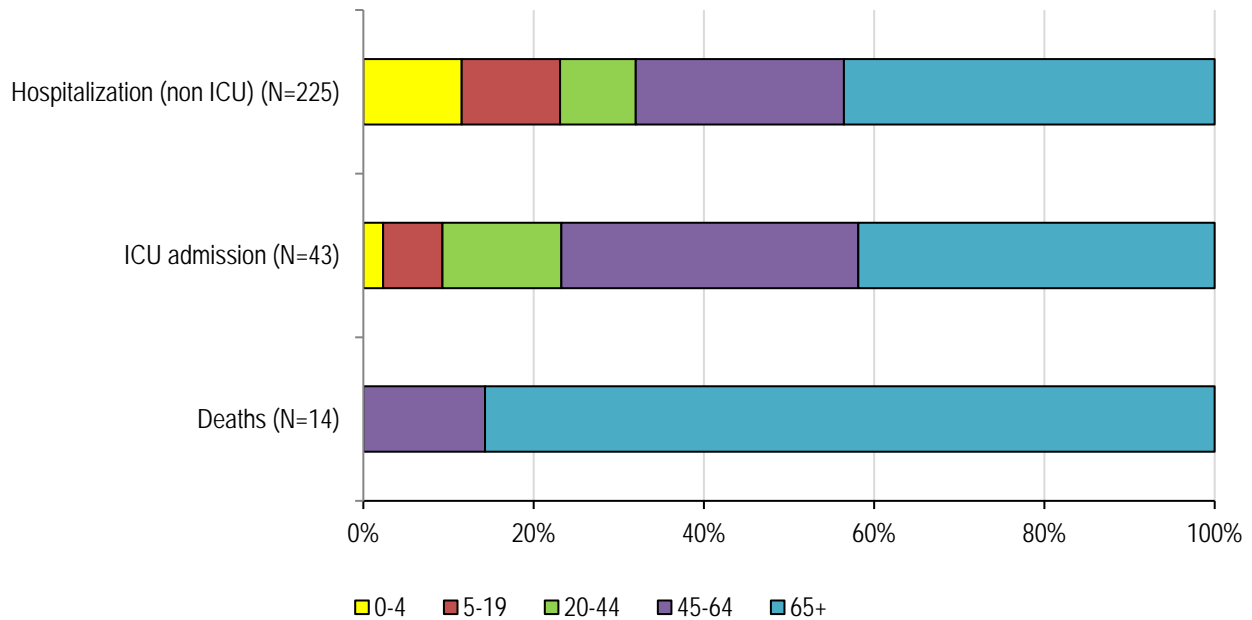
**Graph 3.** Number of Laboratory Confirmed Influenza Cases and Level of Care\* by Report Week, New Brunswick (August 25, 2019 to July 4, 2020)



\* Date of hospital admission was used as a proxy for ICU patients because Date of ICU admission is not available for all patients  
 Note: Those who had been hospitalized 15 days or more prior to laboratory confirmation date were excluded from the graph.

<sup>8</sup> Meeting the high risk eligibility criteria for publicly funded vaccine includes: children between 6 months and 18 years old, people 65 years and older, persons having any co-morbid condition, being pregnant, being a First Nation or residing in a nursing home. It does not include people capable of transmitting influenza to those at high risk. Link to eligibility criteria can be found in [SEASONAL INFLUENZA VACCINE \("Flu shot"\) FACTSHEET](#)

**Graph 4.** NB influenza-related Hospitalization, ICU admissions and Deaths by Age group, Influenza season 2019-2020 (Data up to July 4, 2020)



**Table 3.** Number of Hospitalizations stratified by influenza type, gender and age groups for current and previous season up to July 4.

Number of Hospitalizations Stratified by Type, Gender, and Age Groups												
Cumulative current season up to July 4, 2020							Cumulative season 2018/2019 up to July 4, 2019					
	A(H3)	A(H1N1) pdm09	A (unsubtyped/ Other)	A Total	B Total	A & B Co-infection	A(H3)	A(H1N1) pdm09	A (unsubtyped/ Other)	A Total	B Total	A & B Co-infection
<b>Gender</b>												
Male	3	11	69	83	52	1	10	42	251	303	11	0
Female	2	7	67	76	54	2	12	28	251	291	14	0
<b>Age Groups</b>												
<5	0	2	12	14	13	0	3	9	45	57	7	0
5-9	0	1	1	2	13	0	1	4	16	21	2	0
10-19	1	1	2	4	10	0	2	0	7	9	4	0
20-44	0	0	11	11	15	0	0	6	46	52	1	0
45-64	2	6	41	49	20	1	3	16	130	149	2	0
65+	2	8	69	79	35	2	13	35	258	306	9	0



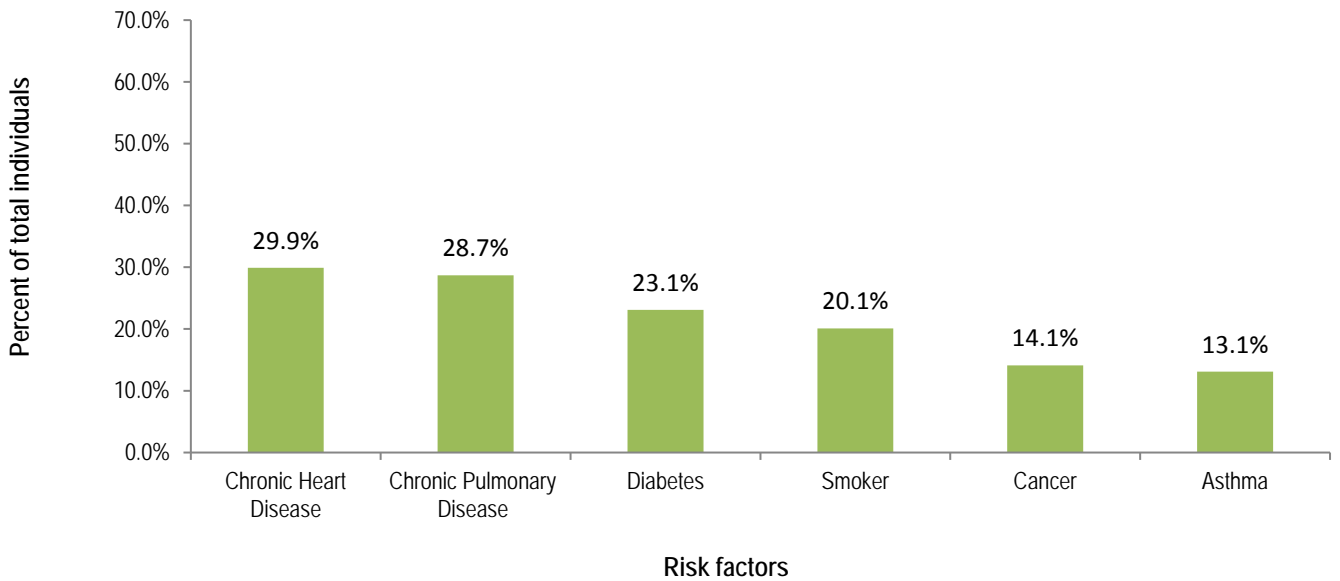
**Table 4.** NB influenza-related Hospitalization, ICU admissions and Deaths by Region, influenza season 2019-2020 (Data up to July 4 2020)

		R1	R2	R3	R4	R5	R6	R7
Level of care	Hospitalization (not ICU)	81	26	56	6	16	12	28
	ICU admission*	12	5	8	8	2	1	7
	<b>Total Hospitalization**</b>	<b>93</b>	<b>31</b>	<b>64</b>	<b>14</b>	<b>18</b>	<b>13</b>	<b>35</b>

Notes for Table 4:

- \* = the number of individuals admitted to ICU
- \*\* = total hospitalizations (includes those admitted to ICU)

**Graph 5.** Predominant risk factors and co-morbid conditions in hospitalized cases, percentage of total hospitalized cases (Data up to July 4, 2020)



Note: Risk factors are not mutually exclusive; some individuals may have more than 1 risk factor or condition.



**Graph 6.** Number of Hospitalized children under 10 years of age, by age and vaccination status, in New Brunswick (N=42). (Data up to July 4, 2020)

