

New Brunswick Influenza Summary Report: 2021-2022 season
(Data from August 29, 2021 to August 6, 2022)

Highlights of the 2021-2022 Influenza season:

A. Influenza Activity Surveillance

- **This season, we observed a late start of influenza activity compared to previous seasons with the influenza A(H3N2) being the predominant strain.** Typical activity for New Brunswick starts in the last 2 weeks of December, however this season, we only observed an increase in activity during the first week of May.
- The influenza A (H3N2) strain typically affects the elderly population (65 and older), however this season, **children and youths aged 19 years and younger accounted for 58% of the positive influenza detections.**
- Influenza activity this season reached a peak at week 23 (first week of June) which is later than the expected level since activity usually peaks around mid-February. Nationally, the peak of activity, mainly driven by the Western Provinces, was observed at week 18 (first week of May).
- Between August 29, 2021 to August 6, 2022, **442** laboratory confirmed influenza cases were reported: 441 were influenza A, and 1 was an influenza B. Of the subtyped influenza A (41% of all influenza A detections), all were influenza A (H3N2).
- **Adults aged 20-64 accounted for 33% of the lab confirmed influenza cases** this season and those **aged 65 and above** accounted for **8%** of lab confirmed influenza cases. **Children less than 10 years of age accounted for 40% of all laboratory-confirmed influenza cases.**
- **The median age for influenza A cases was 14 years** which is lower compared to the 2 previous non-pandemic seasons when the median age for influenza A cases was 38 years of age.
- The **number of total tests** performed for influenza this season was **slightly higher** than the average number of tests performed in the 2 seasons prior to the pandemic, however the **overall positivity rate was below** (2.6%) the average positivity for the 2 seasons prior to the pandemic (21.9%). This could be related to the protection provided by the Public Health measures implemented for COVID-19.
- There have been **91 hospitalizations** reported, including **7 ICU admissions and 5 deaths**. This is lower than the previous non-pandemic seasons¹.
- **Among all hospitalized this season, 56% were individuals 65 years and older** (compared to 43% in 2019/2020) and **12% were children less than 10 years of age** (compared to 16% in 2019/2020).
- Among those hospitalized and not vaccinated (n=30), all individuals (100%) would have been eligible to receive publicly funded seasonal influenza vaccine.
- **93 influenza-like illness (ILI) outbreaks in schools (significantly higher than average)** in addition to **5 nursing home outbreaks** were reported. The number of ILI outbreaks in schools should be interpreted with caution since the distinction between influenza-like-illness and COVID-like-illness is not always evident.
- **It must be noted that many influenza surveillance indicators might have been influenced by the COVID-19 pandemic, due to changes in healthcare-seeking behaviour, and testing capacity.**

¹ Disclaimer: Although the number of Hospitalizations is lower than previous influenza seasons, hospitals are still operating in pandemic mode.

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

- During the 2021-2022 influenza season, 30.9% of individuals in New Brunswick received the current seasonal influenza vaccine, most of them (45%) were 65 years and older. Pharmacies administered 58% of the vaccines, 32% of vaccines were administered by Primary Care Providers and 10% were administered by other providers.
- 24 AEFI (Adverse Events Following Immunization) were reported to Public Health.
- 53% of the reported AEFI reaction types were allergic in nature.
- 5 serious AEFIs were reported.

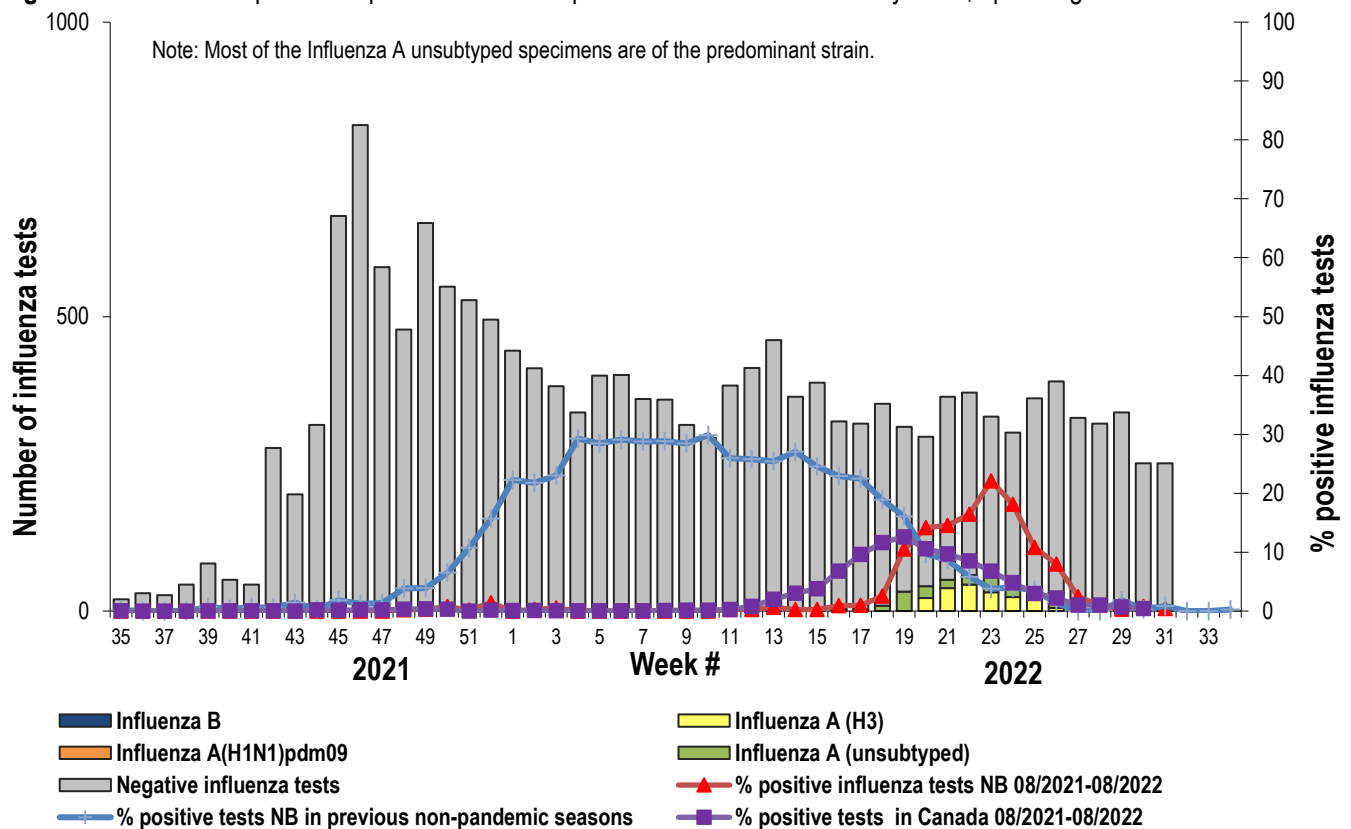
C. National Estimates for Vaccine Effectiveness

- Given the low and late onset of community circulation of influenza this season, VE estimates for Canada will not be available for the 2021-2022 season.

Influenza Surveillance

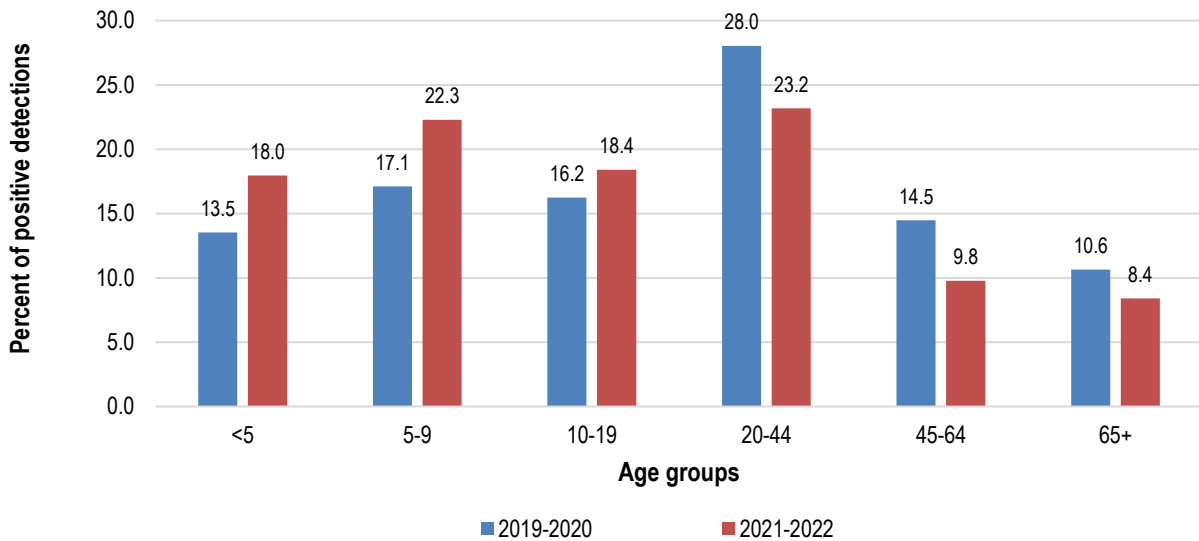
1) Influenza Laboratory Data² (Data source: Lab results from the Georges L. Dumont University Hospital Center)

Figure 1. Number and percent of positive influenza specimens in New Brunswick by week, up to August 6 2022



² 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

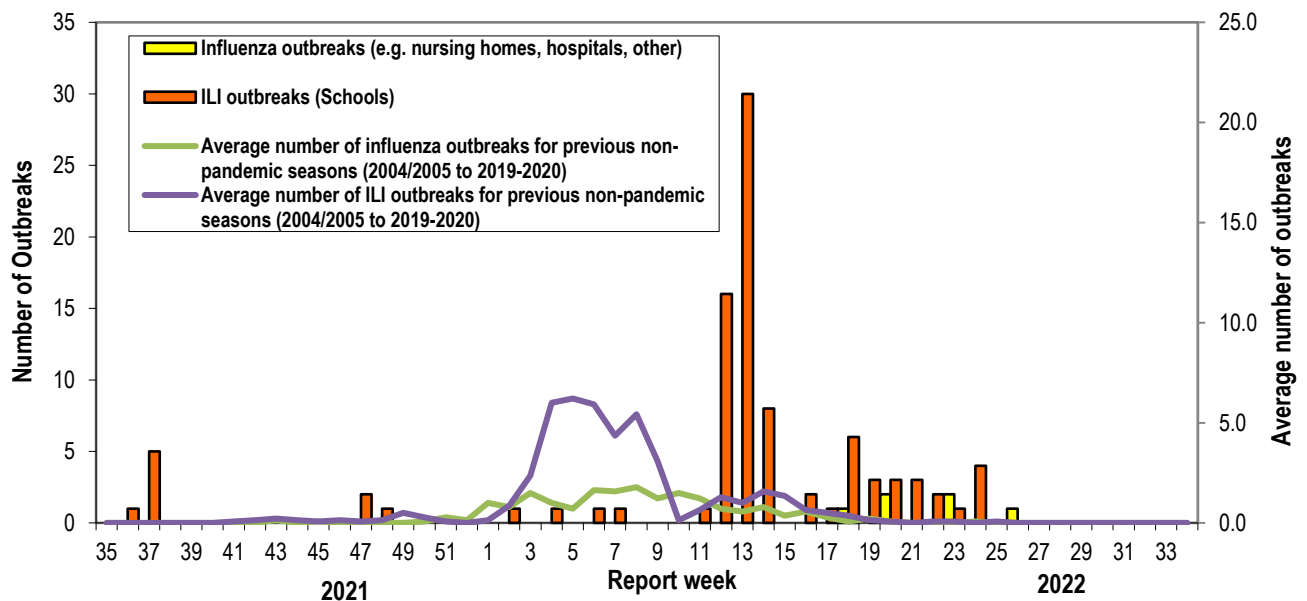
Figure 2. Distribution (%) of lab-confirmed positive detections, by age group, in New Brunswick, season 2021-2022 (data source: G. Dumont lab results)



2) **School Influenza-like illness (ILI) outbreak data³** (Data source: Canadian Network for Public Health Intelligence (CNPHI), submitted by Regional Public Health)

- This season 93 influenza-like illness (ILI) outbreaks have been reported in schools compared to 72 school outbreaks during last season. The number of ILI outbreaks in schools should be interpreted with caution since the distinction between influenza-like-illness and COVID-like-illness is not always evident.

Figure 3. Number of influenza-like illness outbreaks in schools, in New Brunswick, for current and average for previous non-pandemic seasons, by report week, up to August 6 2022



³ An ILI outbreak in a school is defined as greater than 10% absenteeism which is likely due to ILI.

3) **Nursing Homes Influenza Outbreak⁴ Data** (Data source: Influenza Outbreak Investigation Final Report submitted by Regional Public Health, hard copy)

- In NB, there are 72 licensed nursing homes, out of which 5 reported influenza outbreaks during this season.
- This is lower than the average number of outbreaks reported in the previous 2 non-pandemic seasons (average of 20 outbreaks).
- Regional distribution of the nursing home outbreaks is presented in table 2.

Table 1. Influenza outbreak reports, by Region, for season 2021-2022.

Region	Total# of nursing homes	Total # of reported outbreaks
Region 1	17	0
Region 2	16	1
Region 3	17	0
Region 4	5	2
Region 5	2	1
Region 6	9	0
Region 7	6	1

- All were influenza A outbreaks. The first influenza outbreak was reported on May 19, 2022 and the last outbreak was reported on August 16, 2022.
- The median percentage immunized for residents was 83% (range 67%-96%) and the median percentage immunized for staff was 27% (range 11%-52%).
- The median ILI attack rate for residents was 5% (range 1.3% - 41.5%) and the median ILI attack rate for staff was 1.3% (range 0% - 19%).
- The median duration of the outbreaks⁵ was 8 days (range 3-16 days).
- The median duration between first ILI case and laboratory confirmation was 5.5 days (range 5-6 days).
- 60% (3/5) of the nursing home outbreaks occurred throughout the entire facility versus 40% (2/5) that was considered a localized outbreak.
- Antiviral prophylaxis was recommended and administered in 40% (2/5) of the nursing homes outbreaks.
- 80% (4/5) of the nursing home reported hospitalizations related to the outbreaks.
- 4 related deaths⁶ were reported from 3 nursing homes that experienced influenza outbreaks.

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 August 6 2022)⁷**

Figures 4, 5 & 6 and Table 2

- There have been **91 hospitalizations** reported, of which **7 were admitted to the ICU**.
- 56% of all hospitalizations occurred among individuals 65 years old or above in this current season compared to 43% in the 2019/2020 season.

⁴ 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.

⁵ 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.

⁶ These deaths occurred among ILI cases whether they had lab-confirmed influenza or not.

⁷ 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.

- **5 influenza related deaths have been reported:** 4 were males and 1 was female. The median age was 72 years (range 56-91 years). Deaths occurred in the period between May 17 2022 and July 27 2022. 80% (4/5) had at least one risk factor⁸, 1 was vaccinated, 1 was not vaccinated and the vaccination status was unknown for 3.
- Hospitalizations occurred between the period of November 15, 2021 and August 3, 2022.
- The median length of stay was 4 days (range 1-37 days).
- The median age for hospitalization was 68 years (range 3 months-100 years).
- Most of the hospitalized cases were from Region 3 (26 %), followed by Regions 1 and 2 (17 % for both regions), and followed by Region 4 (14%).
- 47% (43/91) of the hospitalized cases were treated with antivirals.

B. Hospitalizations and ICU admissions by influenza type

- 99% (90/91) of the hospitalized cases were due to influenza A, and 1% (1/91) was due to influenza B.
- The median age for influenza A hospitalized cases was 68.5 years (3 months -100 years) and 55 years for the influenza B hospitalized case.
- 8% of all (7/90) of the influenza A hospitalized cases were admitted to ICU (median age of 68 years). The influenza B hospitalized case was not admitted to ICU.
- There were 11 children under 10 years of age who were hospitalized, none were admitted to ICU.

C. Hospitalizations and vaccination status

- Influenza vaccine is not recommended in infants less than 6 months.
- One hospitalized child was under 6 months of age and not able to receive the vaccine, therefore was excluded from the analysis of the vaccination status.
- Out of 90 hospitalized cases who could receive the vaccine, 30 were not vaccinated (33%) while 16% (14/90) received the vaccine; vaccination status was unknown for 51% of hospitalized individuals (46/90).
 - Of those with known vaccination status (Yes+No=44), 32% (14/44) were vaccinated.
- **NOTE:** This proportion cannot be generalized to the whole hospitalized population, as 51% of cases report unknown vaccination status. These individuals may include vaccinated or unvaccinated individuals.
- 29% (2/7) of cases admitted to the ICU didn't receive the current seasonal vaccination. 0% (0/7) received the vaccine, and the vaccination status is unknown for 71% (5/7).
- Among those hospitalized who could receive the vaccine, 98% (88/90) were considered meeting the high-risk eligibility criteria for publicly funded vaccine⁹.
- Among those hospitalized and not vaccinated (n=30), all individuals (100%) would have been eligible to receive publicly funded seasonal influenza vaccine.
- Among those with ICU admissions and able to receive the vaccine, 86% (6/7) 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, 10% (1/10) received the vaccine, 60% (6/10) did not receive the vaccine and vaccination status was unknown for 30% (3/10).

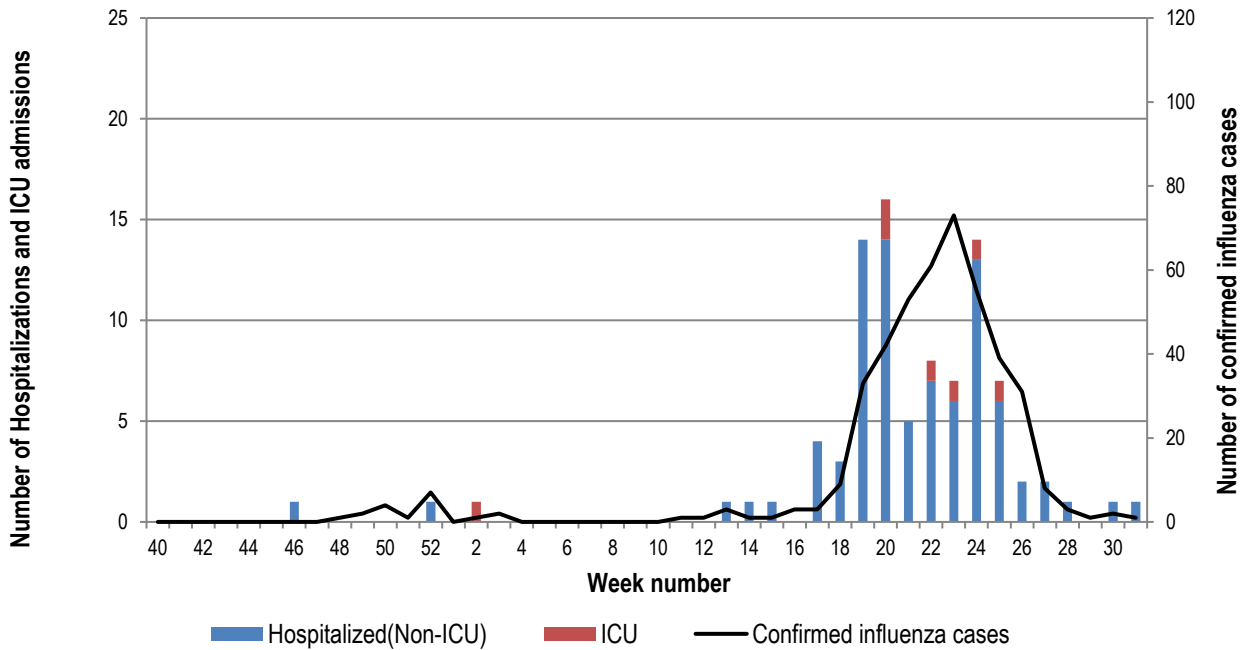
⁸ Risk factors include: chronic pulmonary disease, asthma, chronic heart disease, diabetes, kidney disease, immunosuppressed, cancer, chronic liver disease, anemia/hemoglobinopathy, chronic neurological disease, pregnant, First nations, obesity, current smoker, resident of a nursing home and children who have been treated with ASA for long period of time, and other chronic diseases.

⁹ 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](#)

D. Risk factors for hospitalization:

- 58% of the hospitalized cases had at least 2 risk factors and 77% 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, cancer and asthma.

Figure 4. Number of Laboratory Confirmed Influenza Cases and Level of Care* by Report Week, New Brunswick (August 29, 2021 to August 6, 2022)



* Date of hospital admission was used as a proxy for ICU patients because Date of ICU admission is not available for all patients

Figure 5. NB influenza-related Hospitalization, ICU admissions and Deaths by Age group, Influenza season 2021-2022 (Data up to August 6, 2022)

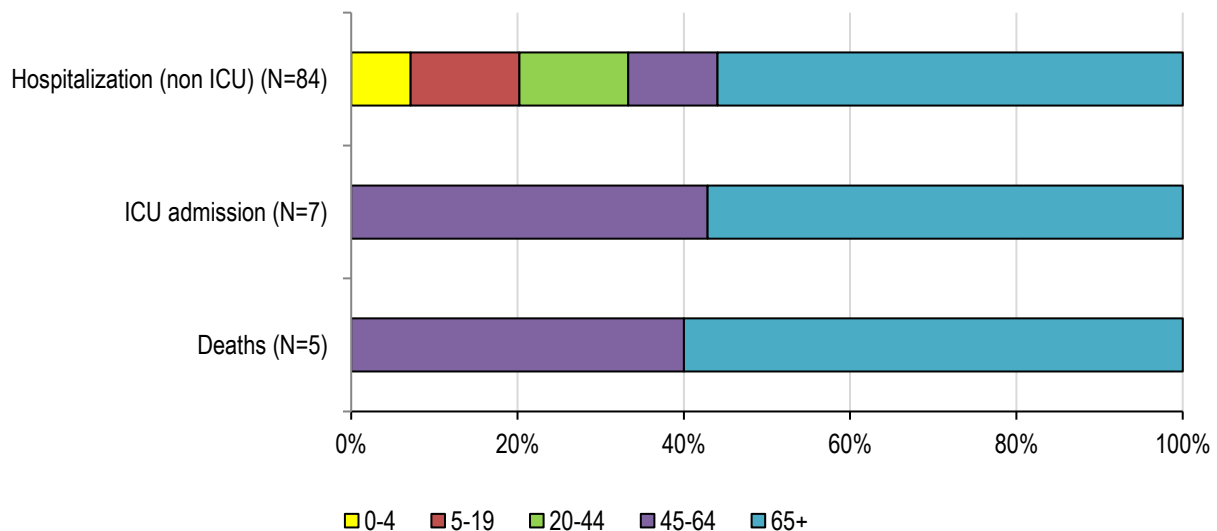


Figure 6. Rates of Influenza-associated Hospitalizations per 100,000 population, by age groups, in New Brunswick, season 2021-2022.

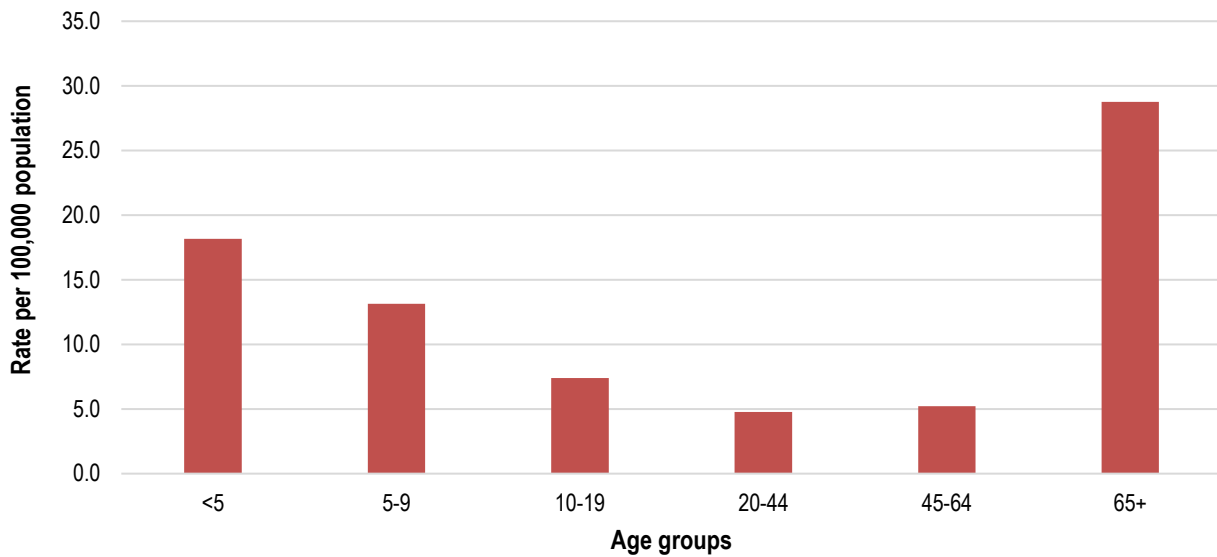


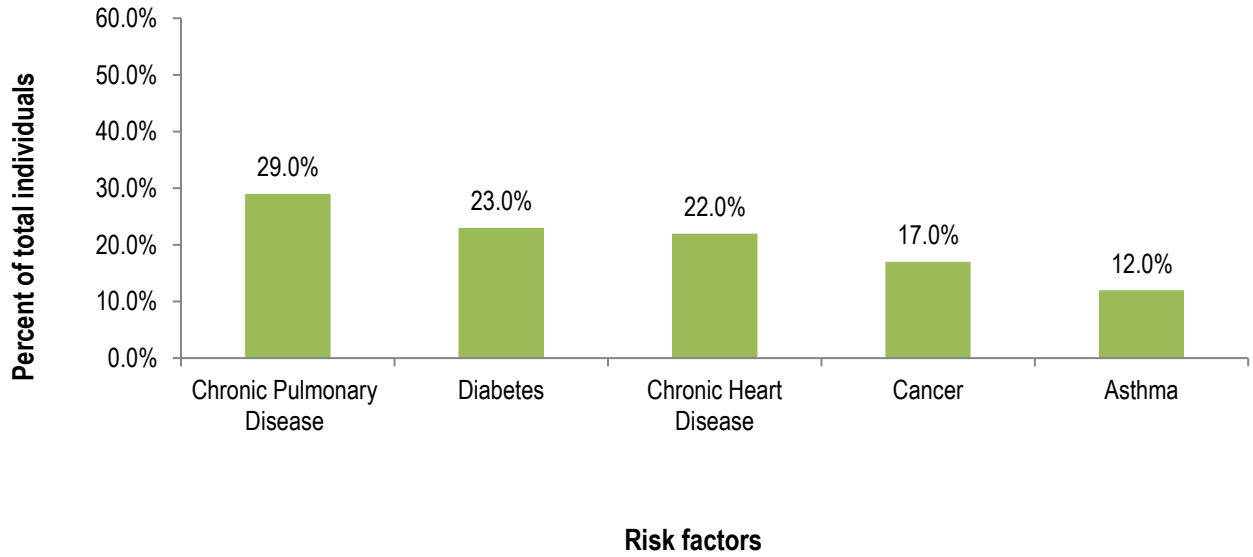
Table 2. NB influenza-related Hospitalization, ICU admissions and Deaths by Region, influenza season 2021-2022 (Data up to August 6 2022)

		R1	R2	R3	R4	R5	R6	R7
Level of care	Hospitalization (not ICU)	16	15	23	11	5	6	8
	ICU admission*	1	2	1	2	0	0	1
	Total Hospitalization**	17	17	24	13	5	6	9

Notes for Table 2:

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

Figure 7. Predominant risk factors and co-morbid conditions in hospitalized cases, percentage of total hospitalized cases (Data up to August 6, 2022)



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