

Influenza Surveillance Report

2016-2017 Influenza Season

Department of Health and Wellness Surveillance

Summary of the 2016-2017 Influenza Season

Overall

- The predominant strain circulating in Nova Scotia during the 2016-2017 season was Influenza A, accounting for 92.5% of all laboratory-confirmed cases (Figure 1).
- Overall, there were 442 confirmed influenza cases reported in the season. This is an increase in activity compared to the 2015-2016 season, where a total of 308 positive influenza cases were reported.
- Highest influenza activity this season occurred between mid-January and mid-April, with a gradual decrease in laboratory confirmed cases starting the end of April (Figure 1).
- The peak in influenza activity began earlier in the season in comparison to the 2015-2016 season, but was similar to the 5-year average (2011-2016). Activity in past seasons increased as early as December and gradually decreased by the end of April (Figure 1).
- Eastern zone had the highest rate of influenza during the 2016–2017 season (60.0/100,000 population) (Figure 2).
- The rate of influenza cases was highest among those 65 years of age and older (181.5/100,000 population) and the 0-4 age groups (57.0/100,000 population) (Figure 3).

Severity

- There were 247 hospitalized cases of influenza, 24 cases admitted to ICU and 27 influenza related deaths reported this season (Table 1).

Influenza Like Illness (ILI)

- The average ILI rate for the 2016-2017 season was 0.8% (range 0.1%-1.6%) with highest activity in January and February. There was a gradual decrease of reported ER visits for ILI in April (Figure 4).
- The peak in ILI activity was earlier in the year compared to the 2015-2016 season where activity increased in mid February and gradually decreased in April (Figure 4).

Influenza Outbreak Reporting

During the 2016-2017 season, there were 51 outbreaks reported through CNPHI where influenza was identified as the infectious agent. Of these, 45 were reported to have occurred in long term care facilities, while 6 were reported in a hospital setting.

Introduction

Influenza is an illness of the respiratory tract caused by influenza A and B viruses, characterized by the acute onset of fever, headache, myalgia, prostration, sore throat and cough. Influenza is a notifiable disease in Nova Scotia under the Health Protection Act. Influenza cases are classified based on standardized case definitions and are reported to the Department of Health and Wellness (DHW) through the Application for Notifiable Disease Surveillance (ANDS) or the Application for Notifiable Diseases and Immunization (ANDI). Influenza derives its public health importance from the epidemic potential of the virus and the associated morbidity and seriousness of complications. Immunization is widely recognized as the most effective means to reduce the morbidity and mortality associated with influenza. The Influenza Immunization Report 2016-2017 (<http://novascotia.ca/dhw/populationhealth/>) reviews seasonal influenza vaccine coverage rates for the Nova Scotia population with a focus on select sub-groups of interest.

Emergency departments across the province monitor for influenza-like illness (ILI) trends within the community in order to determine disease activity levels and to detect waning, reemergence, and severity of illness.

Respiratory pathogen activity across the province is summarized in the Respiratory Watch report (<http://novascotia.ca/dhw/populationhealth/>). This report reviews the epidemiology of laboratory-confirmed influenza and trends in ILI activity for the 2016–2017 season.

Methods

The 2016-2017 influenza season was defined according to the influenza surveillance weeks established by the Public Health Agency of Canada (PHAC); it began August 28, 2016 (week 35) and ended August 26, 2016 (week 34). Data on influenza cases and ILI used in this report were obtained from several sources, as described below.

Influenza Cases

Influenza cases are classified based on standardized case definitions and are reported to DHW through ANDS/ANDI and case report forms. Dates presented in this report are based on the episode date assigned to the case. The episode date is the earliest known date, reflecting symptom onset or the closest available date (specimen collection date, clinical diagnosis date, or test result date). Rates were calculated using Statistics Canada population counts based on the 2016 Census (accessed July 2017).

Influenza Like Illness (ILI)

Infection control practitioners across the province collect and report the total number of patients seen in the ER and the total number meeting the ILI case definition to DHW on a weekly basis. The ILI rate is calculated as follows:

$$\text{ILI rate (\%)} = \frac{\text{\# meeting the ILI case definition (numerator)}}{\text{\# of patients seen in the ER (denominator)}} \times 100$$

Further information on the case definitions, reporting procedures, and case report forms can be found in the Nova Scotia Surveillance Guidelines for Notifiable Diseases and Conditions:

<http://novascotia.ca/dhw/populationhealth/surveillanceguidelines/>. Information on public health case management and control measures in Nova Scotia can be found in the Nova Scotia Communicable Disease Control Manual: <http://novascotia.ca/dhw/cdpc/info-for-professionals.asp>.

Outbreak Reporting

Outbreaks of influenza must also be reported to Public Health in accordance with the Health Protection Act. Outbreak data is reported to DHW and is obtained through a secure web-based application, the Canadian Network for Public Health Intelligence (CNPHI Outbreak Summaries).

Influenza Testing

For information on influenza testing for the 2016-2017 season, see the outbreak response plan: <http://novascotia.ca/dhw/CDPC/documents/Respiratory-Response-Plan-for-Public-Health.pdf>

2016-2017 Influenza Season

The number of laboratory-confirmed cases of each type is shown in Figure 1, with a trend-line comparison to 5-year average of all influenza cases, and the 2015-2016 season in Nova Scotia. Hospitalizations, ICU admissions and deaths for influenza positive patients are shown in Table 1.

Figure 1: Number of reported lab-confirmed influenza cases by type and report week, 2016-2017 season, with trend-line comparison to 5-year average, and the 2015-2016 season in Nova Scotia.

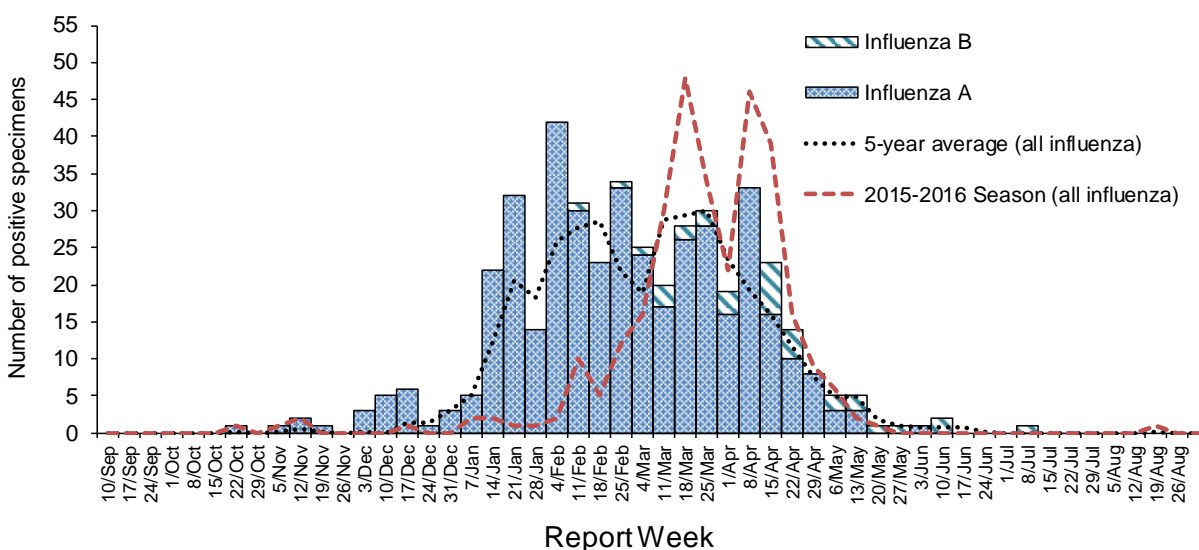


Table 1: Number of reported hospitalizations, ICU admissions and deaths for influenza positive patients, as well as non-hospitalized reported cases, 2016-2017 season, Nova Scotia

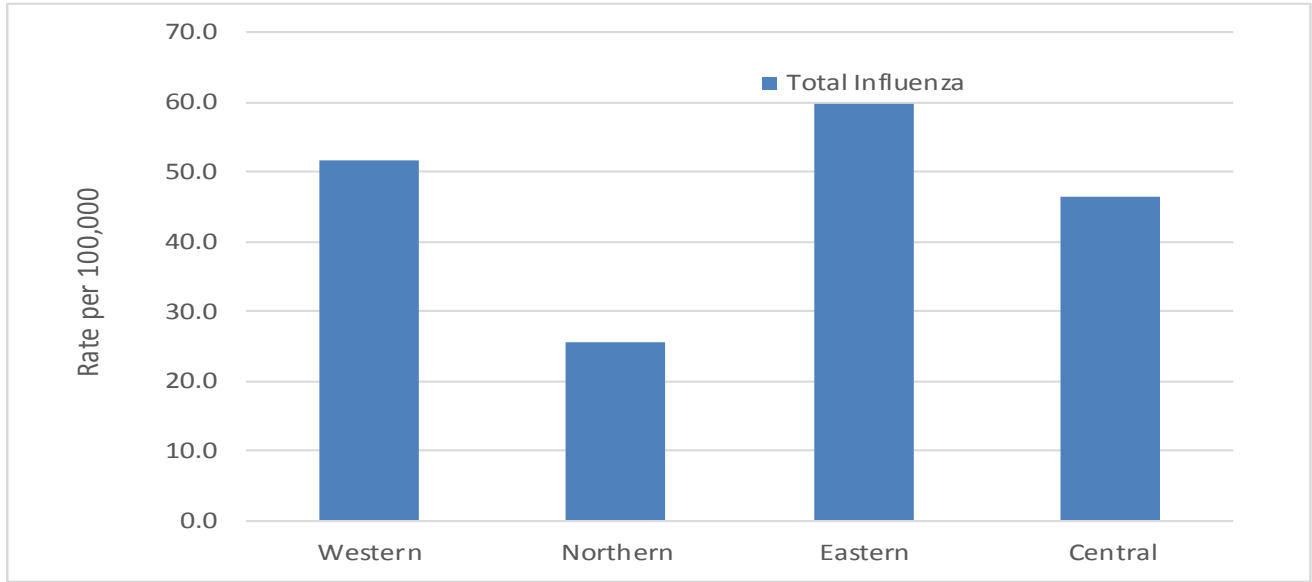
OUTCOME	CUMULATIVE 2016-2017
Not Hospitalized	144
Hospitalized	247
Hospitalized - ICU	24
Deceased*	27
Nova Scotia Total	442

Note: Hospitalizations do not include ICU admissions and deaths;

**Deaths include individuals with a positive influenza test result, influenza may not have been the major contributing cause of death or hospitalization.*

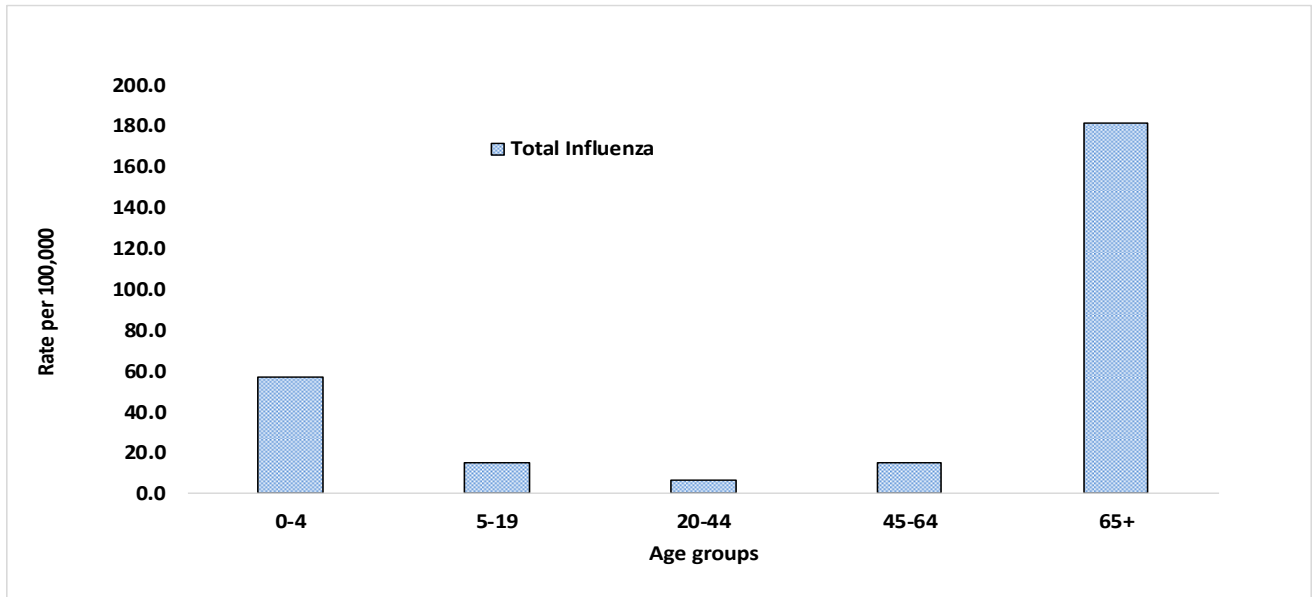
Eastern Zone had the highest rate per 100,000 population of influenza cases during the 2016–2017 season followed by Western Zone (Figure 2). Figure 3 shows that the rate per 100,000 population of influenza cases was highest among those 65+ age group followed by the 0-4 year age group.

Figure 2: Rate per 100,000 of reported lab-confirmed influenza cases* by Zone, 2016-2017 season, Nova Scotia.



**This includes both influenza A (n=409) and B (n=33).*

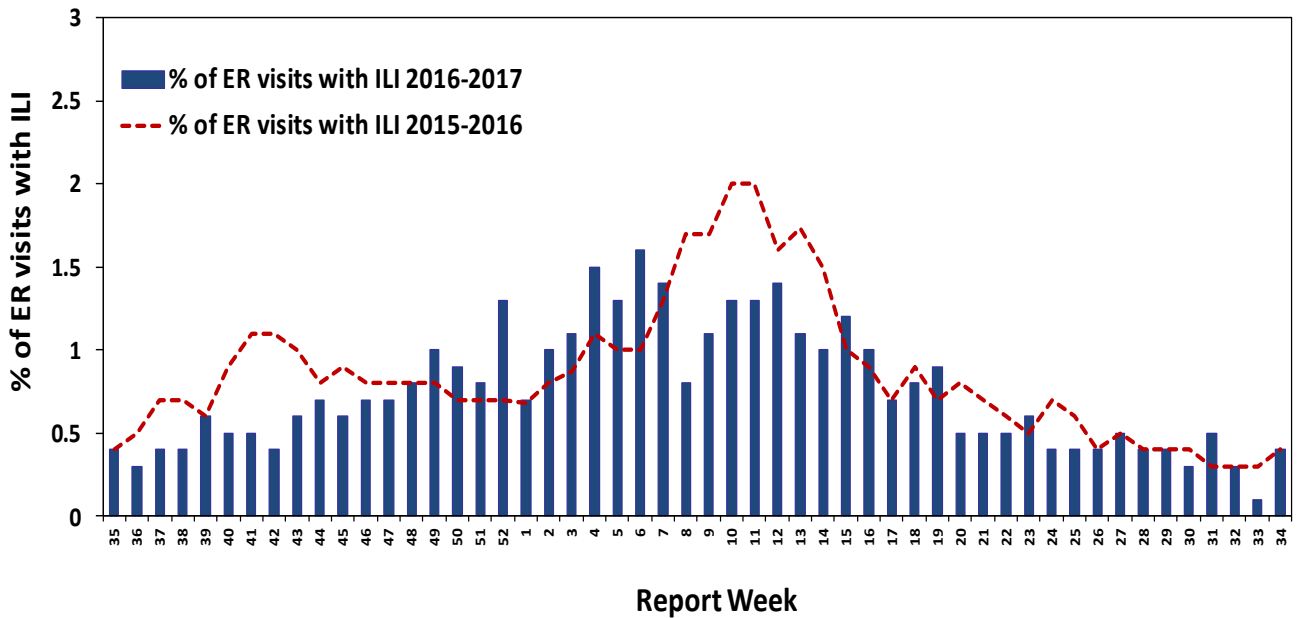
Figure 3: Rate per 100,000 of reported lab-confirmed influenza cases*, by age group, 2016-2017 season.



**This includes both influenza A (n=409) and B (n=33).*

Figure 4 shows the weekly percentage of ER visits with ILI (total number meeting the ILI case definition/ total number of patients seen in the ER) for the 2016–2017 season, with a trend-line comparison to the 2015-2016 season.

Figure 4: Percentage of ER visits with ILI, 2016–2017 season, with a trend-line comparison to the 2015-2016 season in Nova Scotia.



Limitations

The data presented in this report may under-represent the true number of Influenza cases in the Nova Scotia population. Routine respiratory pathogen testing for the 2016-2017 season was made available for acute care setting and long term care/residential facilities, however, routine care testing from the community was not routinely conducted. Lastly, only those cases that are reported to Public Health Services within the Nova Scotia Health Authority (NSHA) were cited in this report.