# Adverse Events Following Immunization (AEFI) with COVID-19 Vaccines in Nova Scotia

December 16, 2020 to March 31, 2022

## This Report in Context

- Nova Scotia has administered 2,262,186 doses of COVID-19 vaccine since December 16, 2020 (+20,133 in the last month).
- There have been 752 reports of Adverse Events Following Immunization (AEFI) (+30 in the last month)
- The majority of AEFI reports in Nova were non-serious (83.3%) and 16.8% were serious
- The rate of AEFI reports is low (33.2 per 100k doses administered). The rate of serious AEFI reports is also low (5.6 per 100k doses administered)
- In comparison, the rate of AEFI reports in Canada, to date are:
  - 38 non-serious events per 100k doses administered
  - 10 serious adverse events per 100k doses administered[i]
- Females report more AEFI than males
- Those aged 30-64 report the most AEFI. Those aged 5-17 years old report the fewest AEFI

## Overall Summary of Adverse Events Following Immunization

Between December 16, 2020 and March 31, 2022 Nova Scotia has administered 2,262,186 doses of COVID 19 vaccine and has received a total 752 reports of adverse events following immunization.

### Table 1:Number and rate of AEFI reported following immunization for COVID-19, December 16, 2020 to March 31, 2022

| | Number | Rate per 100k doses |
|---|---|---|
| Total AEFIs | 752 | 33.2 |
| Non-serious AEFIs | 626 | 27.7 |
| Serious AEFIs | 126 | 5.6 |

**Table 2: Number and rate of AEFI reported following immunization for COVID-19, by vaccine product, December 16, 2020 to March 31, 2022**

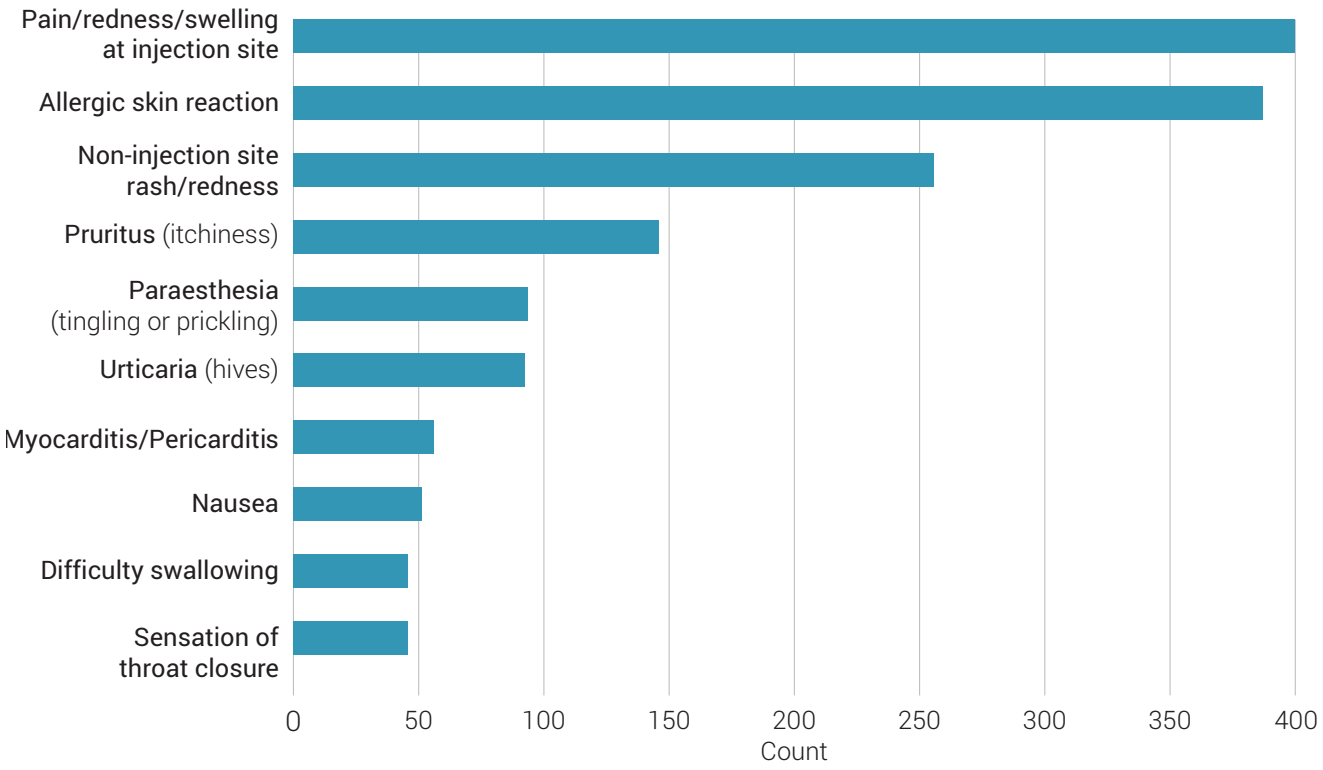
| | Pfizer | Moderna | COVISHIELD/ AZ | Unknown/ Other | Total |
|---|---|---|---|---|---|
| Total number of AEFIs reported | 449 | 239 | 60 | 4 | 752 |
| Number of Non-Serious AEFIs | 386 | 182 | 54 | 4 | 626 |
| Number of Serious AEFIs | 63 | 57 | 6 | 0 | 126 |
| Total number of doses administered | 1513851 | 684446 | 61899 | 1990 | 2262186 |
| Total AEFI reported per 100,000 doses | 29.6 | 34.9 | 96.9 | 201.0 | 33.2 |
| Serious AEFI reported per 100,000 doses | 4.2 | 8.3 | 9.7 | 0.0 | 5.6 |

**Table 3: Number and rate of AEFI reported following immunization for COVID-19, by age group and sex, December 16, 2020 to March 31, 2022**

| Age Group | Female | | Male | | Total | |
|---|---|---|---|---|---|---|
| | N | Rate per 100,000 doses | N | Rate per 100,000 doses | N | Rate per 100,000 doses |
| 5-17* | 16 | 17.8 | 10 | 10.8 | 26 | 14.2 |
| 18-29 | 62 | 38.5 | 38 | 24.9 | 100 | 31.9 |
| 30-49 | 191 | 63.4 | 51 | 18.9 | 242 | 42.4 |
| 50-64 | 165 | 55.3 | 54 | 19.9 | 219 | 38.4 |
| 65-79 | 80 | 32.0 | 49 | 21.5 | 129 | 27.0 |
| 80+ | 25 | 28.9 | 11 | 18.4 | 36 | 24.6 |
| Total | 539 | 45.4 | 213 | 19.8 | 752 | 33.2 |

*2 AEFI report in children 5-11 years of age

**Figure 1: Number of the ten most frequently reported adverse events following immunization for COVID-19, December 16, 2020 to March 31, 2022**




*An AEFI report may contain multiple adverse events. The total adverse event-specific counts may not equal the total number of AEFI reports. This does not include AEFIs classified in the composite "Other" category.

# Serious Adverse Events Following Immunization Summary

An event is serious if it occurs within a specified time period after vaccination and it results in hospitalization, is life threatening, or results in death.[ii] These reports do not imply a causal relationship between the vaccine and the adverse event. As more Nova Scotians are vaccinated, a greater number of adverse events that are incidental to vaccination will be reported.

Between December 16, 2020 and March 31, 2022, there have been a total 126 Serious Adverse Events Following Immunization reported in Nova Scotia.

116 of these adverse event reports required hospitalization

2 of these adverse event reports resulted in permanent disability

There were 10 reports of death within 30 days of vaccination. Reports of death are events temporally associated with vaccine that have not been clearly attributed to other causes. A preliminary review of these events indicated that none were clearly attributable to the vaccine.

# Adverse Events of Special Interest Following Immunization

There are three adverse events of special interest (AESI) following immunization which are being actively monitored in Canada as safety signals. Nova Scotia has reported 62 cases of adverse events of interest.

## Myocarditis/Pericarditis

- 55 cases
- Cases ranged from 18 to 71 years of age
- 67% (n=37) cases among adolescents/young adults under 30 years of age
- 89% (n=49) occurred after dose 2; one case occurred after dose 3
- 73% (n=40) required hospitalization
- 91% (n=50) occurred within 7 days of vaccination
- 69% (n=38) occurred after vaccination with Moderna; 31% (n=17) occurred after vaccination with Pfizer

## Guillain-Barre Syndrome

- 5 cases have occurred in total;
  - 2 cases occurred after Moderna vaccination (both after dose 1)
  - 2 cases occurred after Pfizer vaccination (1 after dose 1; 1 after dose 2)
  - 1 case occurred after COVISHIELD/AstraZeneca vaccine (after dose 1)

## Vaccine-Induced Immune Thrombotic Thrombocytopenia (VITT)

- 2 cases have occurred in total
  - 2 cases occurred after vaccination with COVISHIELD/AstraZeneca

# DATA NOTES

## Data Sources:

Nova Scotia data: Panorama and CanImmunize

## Definitions

**Adverse Events Following Immunization (AEFI):** A serious or non-serious reaction experienced by a patient following immunization.

The numbers included in the report reflect the number of AEFIs with a status of "Review complete", "Review complete, follow-up required" or "Follow-up complete" AND a Public Health Agency of Canada report date entered into Panorama

**Serious AEFI:** An adverse event following immunization that has resulted in at least one of the following:

- hospitalization or prolongation of existing hospitalization
- permanent disability
- death

**Non-Serious AEFI:** An adverse event following immunization that has resulted in at least one of the following:

- a reaction that did not require hospitalization or prolongation of existing hospitalization
- a reaction that did not result in permanent disability
- a reaction that did not result in death

**Adverse Events of Special Interest (AESI):** Adverse Events of Special Interest are reactions that are of special interest because they are monitored at a national and international level.

**Safety Signal:** When an Adverse Event Following Immunization occurs at greater than expected frequency for a specific vaccine type or within a specific population group

[i] https://health-infobase.canada.ca/covid-19/vaccine-safety/

[ii] https://health-infobase.canada.ca/covid-19/vaccine-safety/