



North Dakota 2018-19 Influenza Season Final Report

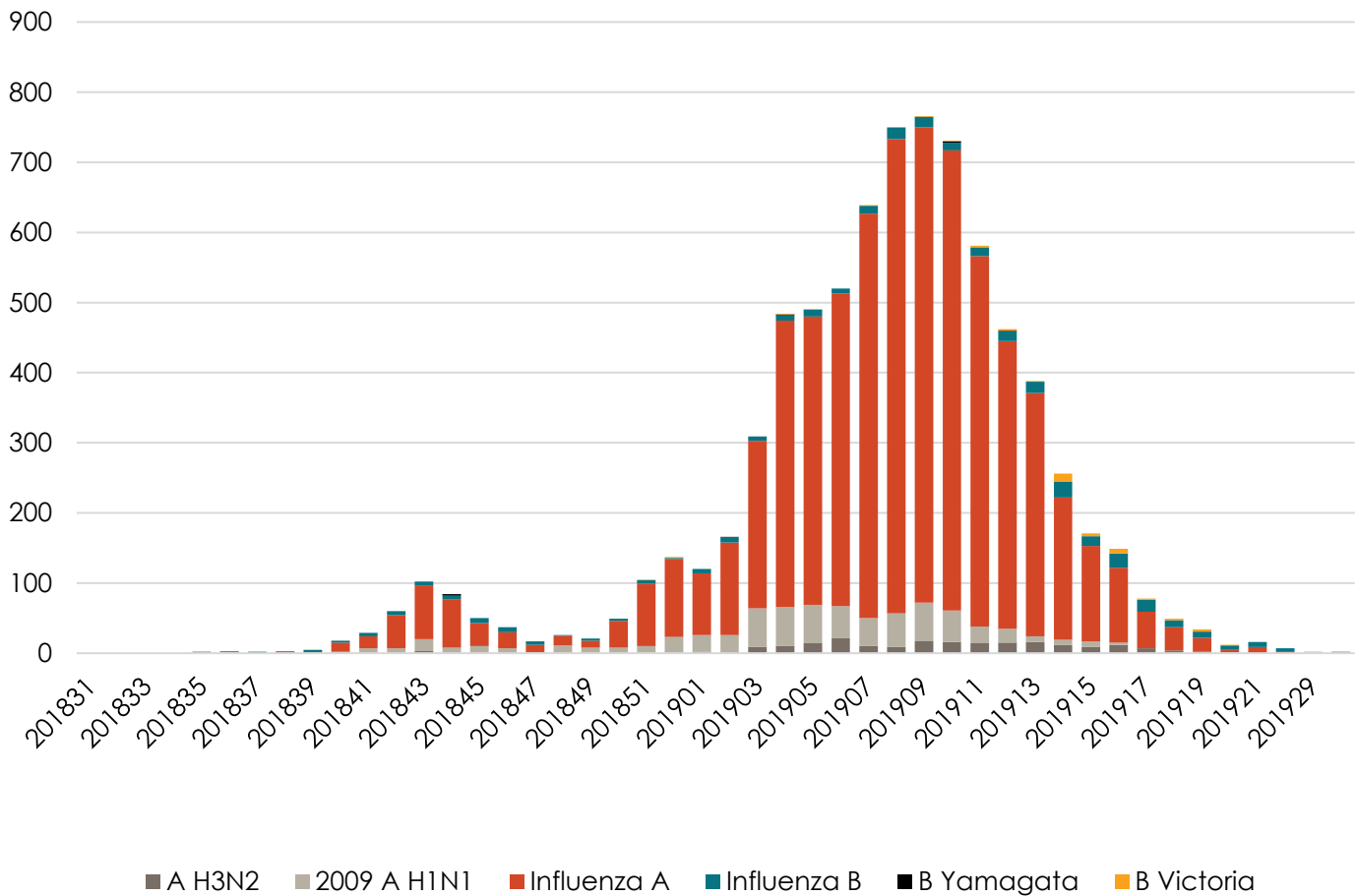
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Summary

The North Dakota Department of Health (NDDoH) received reports of 7,946 cases of laboratory-identified influenza, the second- largest seasonal case count on record. This statistic captures cases that are identified with a laboratory test. Cases diagnosed based on symptomology or contact with another known case are not reported. Additionally, not all people with influenza will seek the care of a medical professional. Therefore, the true seasonal burden of influenza is higher than presented in this report.

The predominant strain this season was 2009 Influenza A H1N1, which differed from the previous season of AH3N2. As usual, the influenza AH3N2 strain circulated as well, in much lower numbers, as did both influenza B lineages, with B Yamagata making up a large majority of the influenza B cases. According to the Centers for Disease Control and Prevention, the 2018-2019 season was one of the most severe seasons on records, and the second most severe since the 2009 pandemic.

Number of Reported Laboratory-Identified Influenza Cases in North Dakota by Week Number

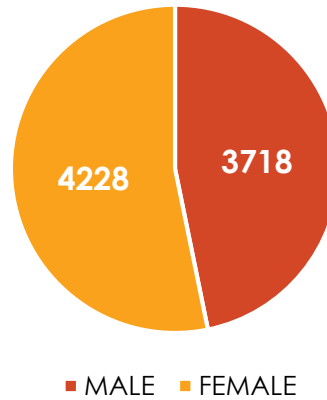


County	Total Cases
Adams	22
Barnes	56
Benson	167
Billings	3
Bottineau	51
Bowman	81
Burke	14
Burleigh	971
Cass	1019
Cavalier	17
Dickey	66
Divide	10
Dunn	67
Eddy	26
Emmons	30
Foster	54
Golden valley	6
Grand forks	743
Grant	12
Griggs	38
Hettinger	27
Kidder	20
Lamoure	17
Logan	19
Mchenry	60
Mcintosh	33
Mckenzie	235
Mclean	89
Mercer	127
Morton	349
Mountrail	93
Nelson	37
Oliver	15
Pembina	147
Pierce	40
Ramsey	192
Ransom	52
Renville	9
Richland	163
Rolette	260
Sargent	66
Sheridan	22
Sioux	93
Slope	5
Stark	534
Steele	13
Stutsman	161
Towner	17
Traill	68
Walsh	178
Ward	945
Wells	28
Williams	379

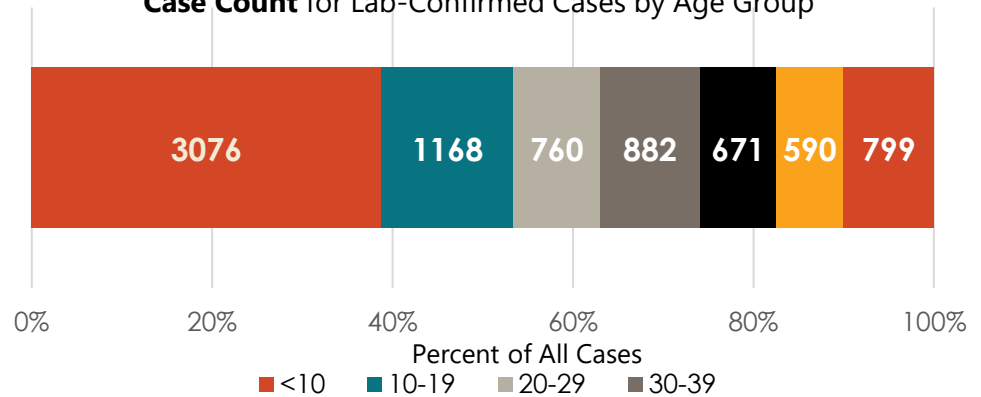
Demographics

Influenza cases were reported for all counties in North Dakota. An increase in the number of hospitals and clinics sending influenza reports electronically likely contributed to the high case count for this season.

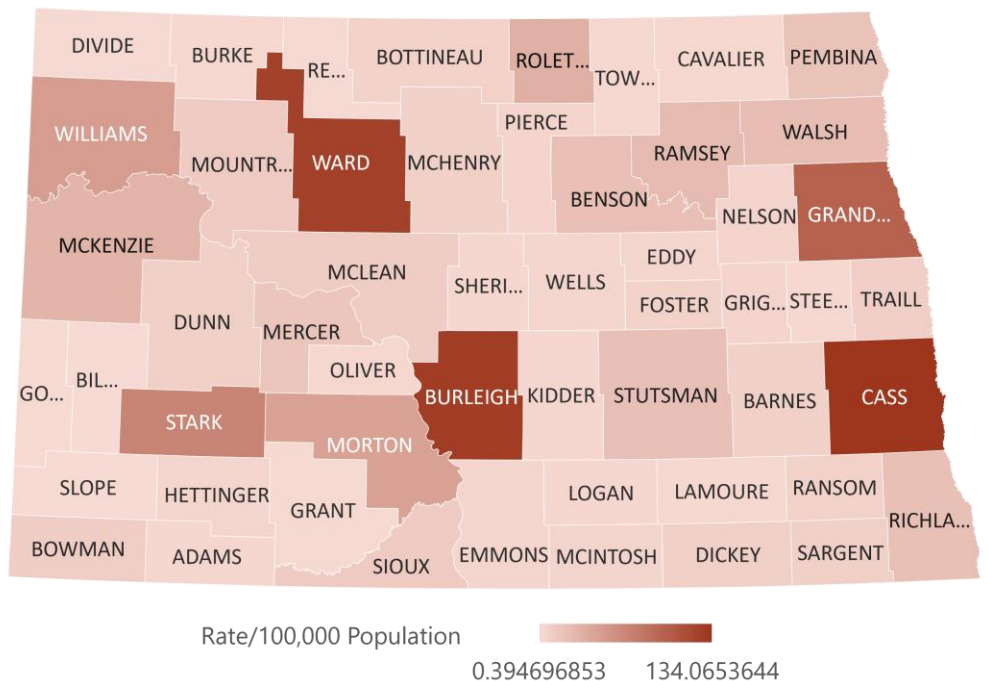
Case Count for Lab-Confirmed Cases by Gender



Case Count for Lab-Confirmed Cases by Age Group



Rate per 100,000 population by **County**

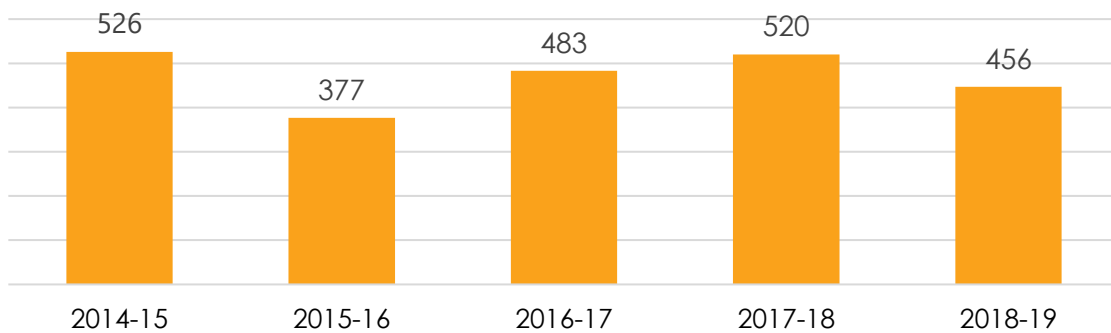


Deaths

For the 2018-19 influenza season, 22 deaths were reported in North Dakota. This data is gathered using Vital Records data, as well as individual reports from physicians. Influenza deaths in North Dakota are often under-reported; influenza deaths are not reportable, and flu-related deaths may be attributed to other common conditions such as pneumonia.

In addition, 456 pneumonia deaths were identified in the death record. The NDDoH tracks pneumonia deaths because influenza generally contributes significantly to the number of deaths due to pneumonia during the influenza season. Because influenza is not always diagnosed with a laboratory test, tracking pneumonia deaths is another way to illustrate the magnitude of the influenza season. Although this season had the second largest number of cases reported this year, 2014-15 had more deaths than this season. This is not a trend that was repeated nationally. At the national level, there were more deaths in 2017-18 than in 2018-19, according to national vital records data.

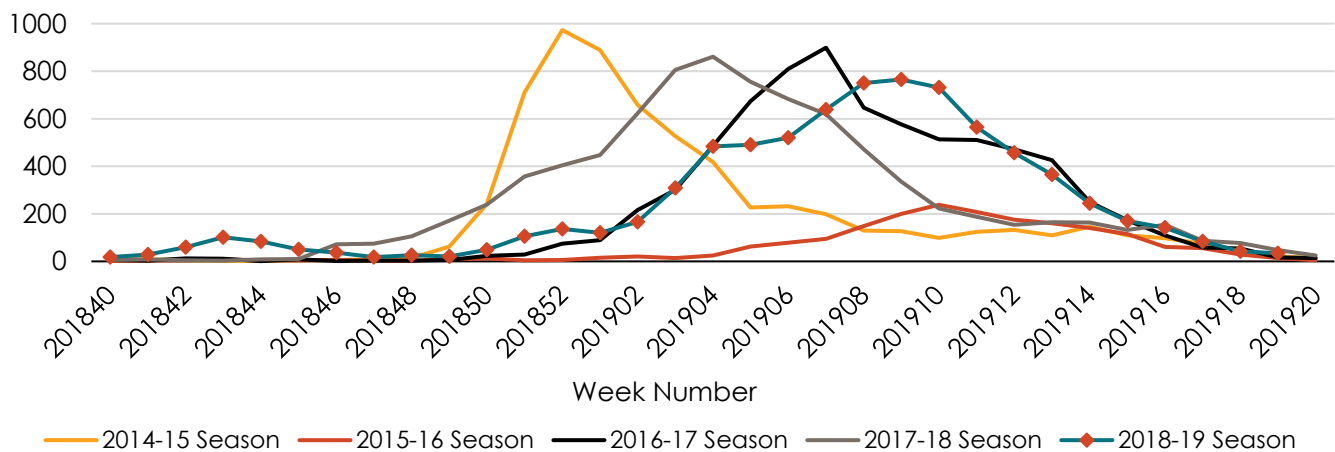
Pneumonia Deaths During the Past Five Seasons



Seasonal Timing and Multi-Season Comparison

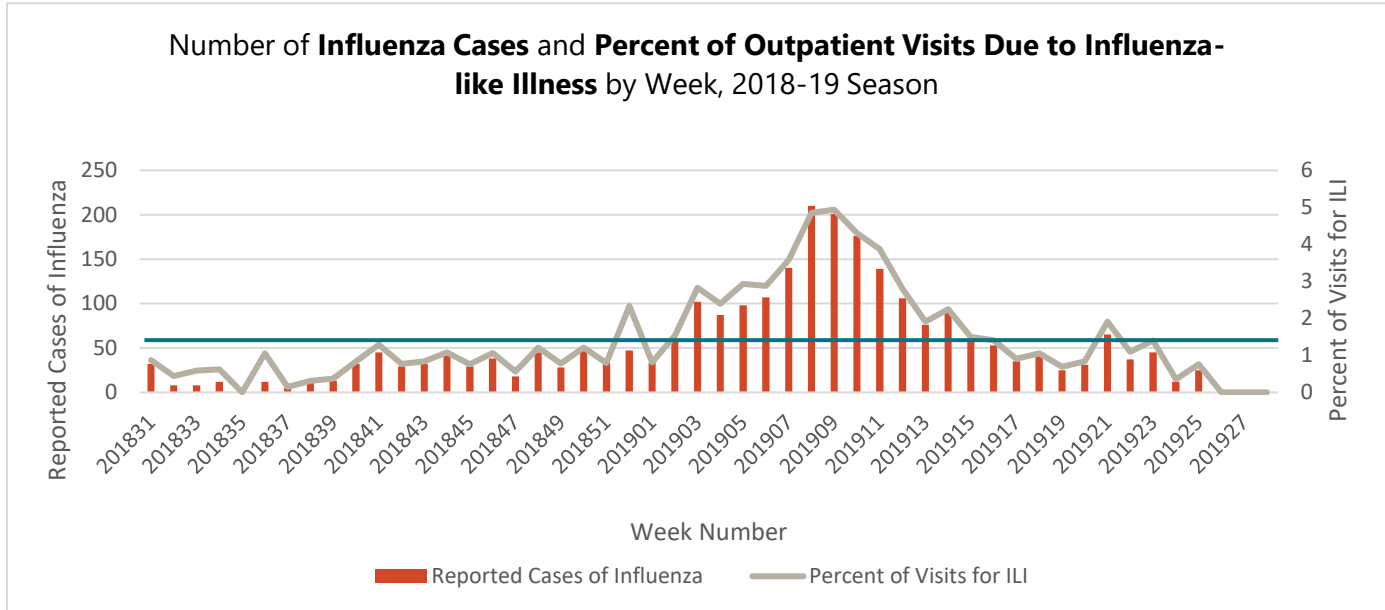
The 2018-19 influenza season peaked the week ending March 2nd (week 9), five weeks later than the previous season. Overall, influenza season in North Dakota typically peaks between January and March, so timing for 2018-19 was average. However, significant circulation started earlier than average, in 2018, and died down before peaking in early March, a trend not seen in recent seasons.

North Dakota Influenza Cases by Week, 2014-Current Season



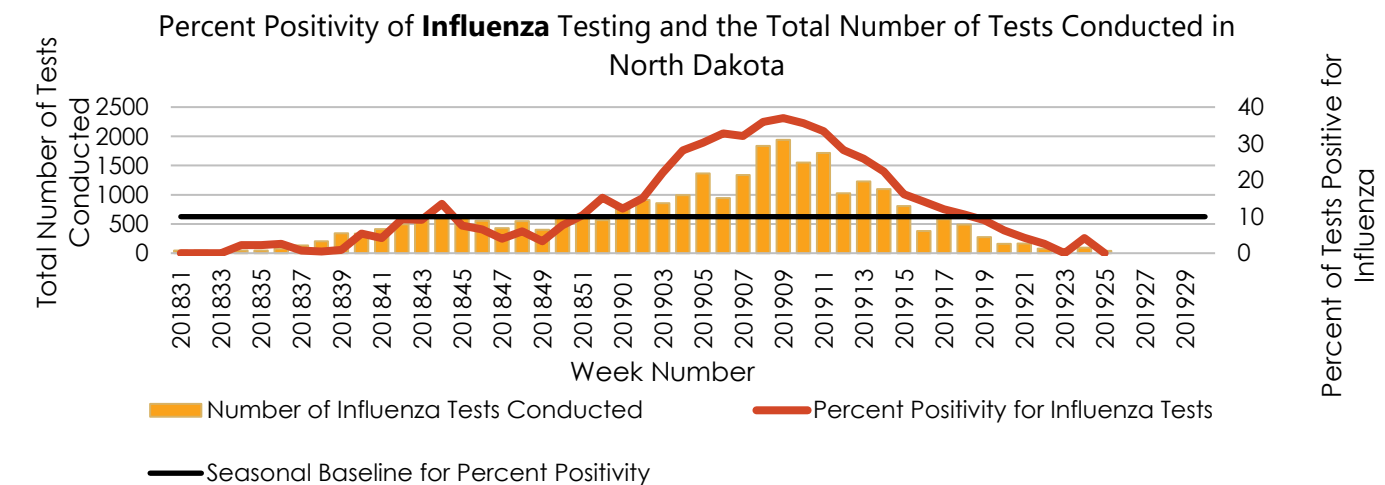
Outpatient Influenza-like Illness Network (ILINet)

Ten individual health care providers or clinics located throughout the state submitted influenza-like illness (ILI) data to the NDDoH as part of the national ILINet sentinel provider program. ILI is defined as having a fever accompanied by a cough and/or sore throat. Percent ILI peaked the 9th week of 2019, the week ending March 2nd, with 4.94 percent of visits due to ILI. The seasonal threshold for ILI in North Dakota is 2.2 percent. For the 2018-19 season, this threshold was exceeded for 15 straight weeks, starting with week 02 (the week ending January 12th, 2018).



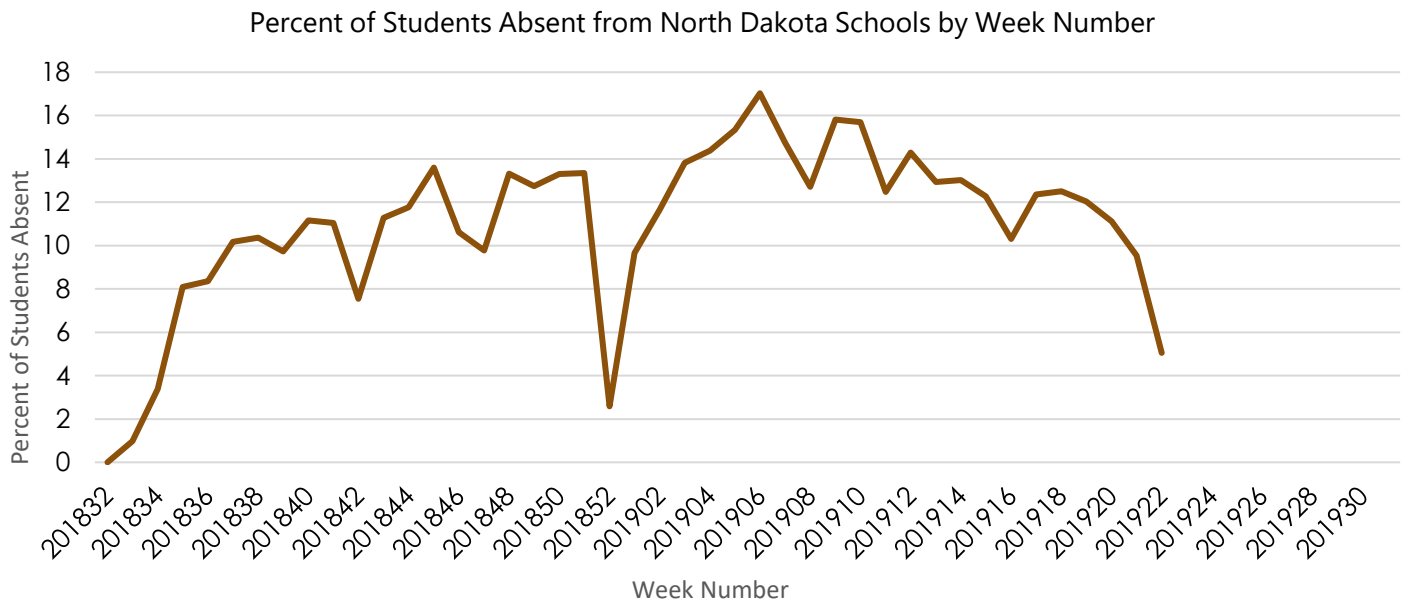
Laboratory Surveillance

Thirty-two laboratories in North Dakota participated in the laboratory sentinel program for the season, submitting the total number of influenza tests conducted and the total number of positive results. Tests include rapid, DFA, culture, and molecular methodology. Ten percent or greater positivity is considered season-level influenza activity. Percent positivity for the 2018-19 season was above 10 percent for 20 weeks (down from 25 last year) beginning in week 51, the week ending December 22nd, 2018. The highest percent positivity was 36.99 percent during week 10, the week ending March 9th, 2019.



School Absenteeism

The NDDOH collects school absenteeism data that is reported to the state through the State Longitudinal Data Service (SLDS). This system compiles information from the Power School platform for use in examining absenteeism rates. School absences peaked slightly earlier than did seasonal influenza (week 06), and remained relatively constant throughout the school year.

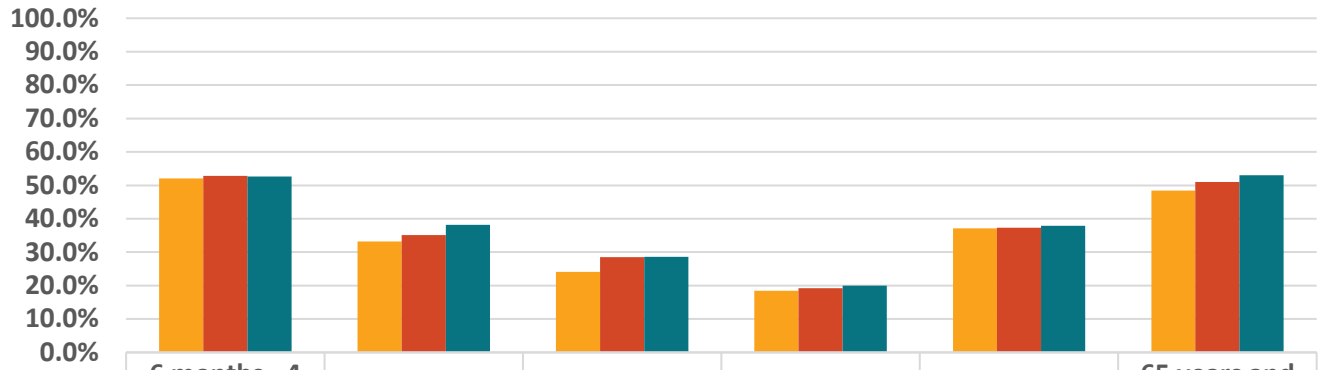


Vaccination

The North Dakota Immunization Information System (NDIIS) collects data on vaccinations administered to North Dakotans. Vaccines given to children are required to be entered into the NDIIS, while vaccines given to adults are often entered into the NDIIS but are not required to be entered. Many providers in North Dakota have established an electronic connection with the NDIIS, allowing all vaccinations for that provider to be sent to the NDIIS automatically.

According to the NDIIS, vaccination rates for almost all age groups were higher during the 2018-19 influenza season compared with the two previous seasons. The percent of children 6 months- 4 years old who were vaccinated decreased by 0.2%. We continue to see higher vaccination rates for children 5-12 years, 13-28 years, and adults 19 and older. Adults 19 to 49 consistently have the lowest vaccination rates for influenza in North Dakota.

Percent of ND residents who received **at least 1 dose of influenza vaccine** during the flu season



	6 months - 4 years	5 - 12 years	13 - 18 years	19 - 49 years	50 - 64 years	65 years and older
2016-2017	52.1%	33.2%	24.1%	18.5%	37.2%	48.4%
2017-2018	52.8%	35.1%	28.5%	19.2%	37.4%	51.1%
2018-2019	52.6%	38.2%	28.6%	20.0%	37.9%	53.0%