# USET Area Seasonal Respiratory Illness Report: 2023-2024 Season Data

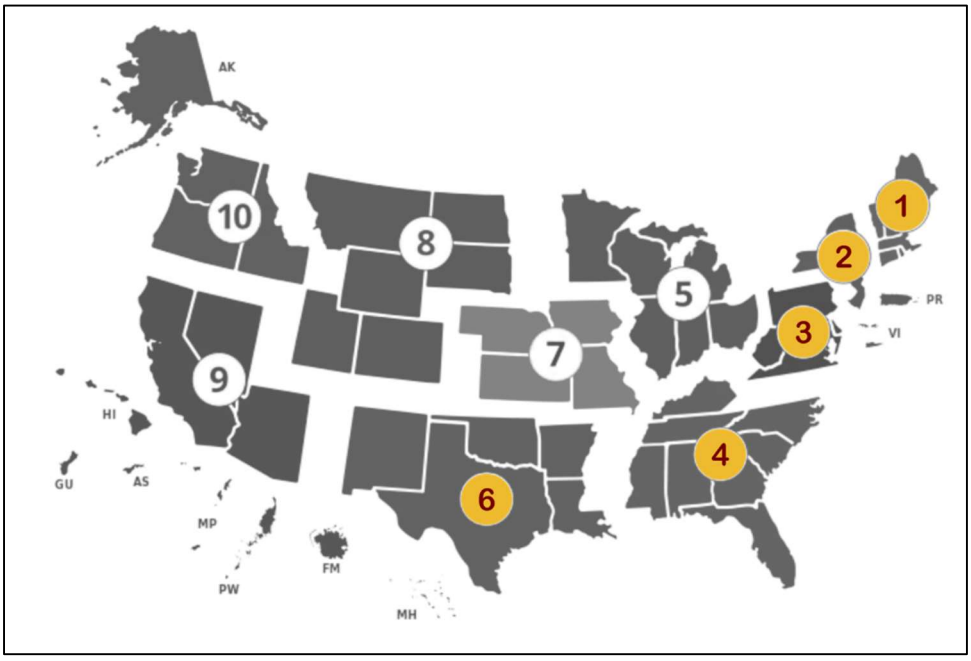
## Additional Information on Data Sources

The data included is sourced from the Centers for Disease Control and Prevention (CDC), Department of Health and Human Services (HHS) Protect, and the Indian Health Service (IHS). This data aims to provide a general overview on the current incidence of COVID-19, influenza and respiratory syncytial virus (RSV) and vaccination across the United States, within the Indian Health Service Areas, and specifically within the IHS Nashville Area.

Data is reported by Morbidity and Mortality Weekly Report (MMWR) week. The MMWR week is the week of the epidemiologic year for which the National Notifiable Diseases Surveillance System (NNDSS) disease report is assigned by the reporting local or state health department for the purposes of MMWR disease incidence reporting and publishing. The new season begins each year on the Sunday of MMWR week 40. For the 2023 - 2024 respiratory season, October 1 was the start of week 40.

The IHS Nashville Area data consists of the aggregate IHS reporting stations of the USET Tribal Nations. Data is also reported as regions, designated by the HHS' Regional Health Operations (RHO), which divides the United States into 10 regions, serving all states and territories. USET member Tribal Nation are in 13 states, covered by five HHS regions:

| HHS Protect Region | USET States Served |
|---|---|
| Region 1 | Maine, Massachusetts, Connecticut, Rhode Island |
| Region 2 | New York |
| Region 3 | Virginia |
| Region 4 | North Carolina, South Carolina, Alabama, Mississippi, Florida |
| Region 6 | Texas, Louisiana |



# Influenza Like Illness (ILI)

## Percentage of IHS ILI Visits

At the top of the report, "Percentage of IHS ILI Visits" provides data comparing the past MMWR week to the previous week to show the change. This is meant to highlight the trends week to week and emphasize the increase or decrease in the metrics.

National IHS Percentage (%)

National IHS % is the number of ILI visits divided by the total number of daily outpatient visits on a national scale for IHS. ILI visits are reported as a fever and cough or sore throat and these cases are not laboratory-confirmed as influenza.

Data Source**:** IHS Weekly Influenza Report

Nashville Area IHS Percentage (%)

Nashville Area IHS % is the number of ILI Visits divided by the total number of daily outpatient visits specifically for the IHS Nashville Area. ILI visits are reported as a fever and cough or sore throat and these cases are not laboratory-confirmed as influenza.

Data Source: IHS Weekly Influenza Report

## Percentage of ILI Visits by Age:

The bar graph on the upper right side of the first page is titled "Percentage of ILI Visits by Age." The data for this graph is collected from CDC's U.S. Outpatient Influenza-like Illness Surveillance Network (ILINet) providers that deliver data about the number of respiratory illness patient visits and the associated age of the patient. This metric is reflective of the percentage of ILI patient visits due to respiratory illness categorized by age of the patient. The visits are separated into five age groups: 0-4 years, 5-24 years, 25-49 years, 50-64 years, and 65 and older. As the respiratory season progresses, data from the percentages of ILI visits by age groups may be used to highlight which groups may be more susceptible to respiratory illnesses and may assist in resource and/or vaccination allocation efforts. These respiratory visits include symptoms such as fever plus cough or sore throat (ILI), not laboratory-confirmed influenza, and may include patient visits due to other respiratory pathogens that cause similar symptoms.

Data Source: https://www.cdc.gov/flu/weekly/
Header: Outpatient Respiratory Illness Visits by Age Group

## Influenza Like Illness Activity Level by State:

The map on the first page is titled "Influenza-Like-Illness Activity Level by State." The data for this map is collected from CDC's U.S. Outpatient Influenza-like Illness Surveillance Network (ILINet). This system monitors visits for respiratory illnesses that include fever plus a cough or sore throat (ILI), not laboratory-confirmed influenza, and may include patient visits due to other respiratory pathogens that cause similar symptoms. The activity levels compare the mean reported percentage of visits due to ILI during the current week to the mean reported percentage of visits due to ILI during non-influenza weeks.

The 'ILI Activity Indicator' map reflects the intensity of ILI activity, not the extent of geographic spread of ILI, within a jurisdiction. Therefore, outbreaks occurring in a single area could cause the entire jurisdiction to display high or very high activity levels. In addition, data collected in ILINet may disproportionally represent certain populations within a jurisdiction, and therefore, may not accurately depict the full picture of respiratory illness activity for the entire jurisdiction. Differences in the data presented here by CDC and independently by some health departments likely represent differing levels of data completeness with data presented by the health department likely being more complete.

Activity levels are based on the percentage of outpatient visits due to ILI in a jurisdiction compared to the average percentage of ILI visits that occur during weeks with little or no influenza virus circulation (non-influenza weeks) in that jurisdiction. The number of sites reporting each week is variable; therefore, baselines are adjusted each week based on which sites within each jurisdiction provide data. To perform this adjustment, provider level baseline ILI ratios are calculated for those that have a sufficient reporting history. Providers that do not have the required reporting history to calculate a provider-specific baseline are assigned the baseline ratio for their practice type. The jurisdiction level baseline is then calculated using a weighted sum of the baseline ratios for each contributing provider.

The 13 activity levels correspond to the number of standard deviations below, at, or above the mean for the current week compared with the mean during non-influenza weeks. Activity levels are classified as minimal (levels 1-3), low (levels 4-5), moderate (levels 6-7), high (levels 8-10), and very high (levels 11-13). An activity level of 1 corresponds to an ILI percentage below the mean, level 2 corresponds to an ILI percentage less than 1 standard deviation above the mean, level 3 corresponds to an ILI percentage more than 1 but less than 2 standard deviations above the mean, and increasing respectively to an activity level of 10 corresponding to an ILI percentage 8 to 11 standard deviations above the mean. The very high levels correspond to an ILI percentage 12 to 15 standard deviations above the mean for level 11, 16 to 19 standard deviations above the mean for level 12, and 20 or more standard deviations above the mean for level 13.

Data Source: https://www.cdc.gov/flu/weekly/index.htm#HHSProtect
Header: Outpatient Respiratory Illness Activity Map

## Percentage of Outpatient Visits for Respiratory Illness Reported by ILINet

The lower graph on the first page is titled “Percentage of Outpatient Visits for Respiratory Illness reported by The U.S. Outpatient Influenza-like Illness Surveillance Network (ILINet).” This compares the percentage of outpatient visits for respiratory illness by season. The new season begins each year on the Sunday of MMWR week 40. For 2023, October 1 was the start of week 40. The current season is notated as a green line on the left-hand side of the graph. The baseline is developed by calculating the mean percentage of patient visits for ILI during non-influenza weeks for the most recent three seasons excluding the COVID-19 pandemic and adding two standard deviations. The national baseline should not be compared to regional data. For regional baseline estimates or additional information, visit https://www.cdc.gov/flu/weekly/overview.htm.

Data Source: https://www.cdc.gov/flu/weekly/index.htm#HHSProtect
Header: Outpatient Respiratory Illness Visits

# COVID-19, Influenza, & Respiratory Syncytial Virus (RSV)

## The United States Percentage of Visits for Respiratory Diseases by Week

The top line graph on the second page is titled “The United States Percentage of Visits for Respiratory Diseases by Week.” This graph compares three respiratory diseases being tracked for this respiratory season: COVID-19, influenza, and RSV.

COVID-19, influenza, and RSV are presented as a percentage of all emergency department visits in the United States. Findings for each of the three respiratory virus types (COVID-19, influenza, RSV) are presented individually and combined (‘combined’ data point) as a percentage of total emergency department visits.

Emergency department visits are assigned to the Morbidity and Mortality Weekly Report (MMWR) week that they occur; MMWR weeks begin on Sunday and end on the following Saturday. The new respiratory season begins each year on the Sunday of MMWR week 40. For 2023, October 1 was the start of week 40.

Diagnostic codes and clinical terms were used to create definitions for diagnosed COVID-19, influenza, and RSV. Data is based on electronic diagnostic codes transmitted automatically. The data remains dynamic and updates as codes are added or changed. The weekly percentage of emergency department visits with COVID-19 diagnosis is not designed to match the percentages shown on the CDC COVID Data Tracker. Metrics will differ across data sources due to factors such as the data update day of the week or different calculations, and the presentation of a 7-day moving average on daily data rather than weekly totals. Data will also differ from state websites due to different update schedules, calculations, or definitions.

Definition name and diagnostic code types in the NSSP Surveillance System for the Early Notification of Community-Based Epidemics (ESSENSE) System can be found at the bottom of the page under ‘Companion Guide: NSSP Emergency Department Data for Respiratory Illness.’

Data source: https://data.cdc.gov/Public-Health-Surveillance/2023-Respiratory-Virus-Response-NSSP-Emergency-Dep/vutn-jzwm

## Percentage of Respiratory Visits by USET States

The lower bar graph on the second page is titled “Percentage of Respiratory Visits by USET States.” This graph has been modified from the data set and shows the combined respiratory illnesses (COVID-19, influenza, and RSV) as an average percentage of all emergency department visits of each USET state. The ‘combined’ data point is taken from findings for each respiratory virus type that are presented individually and combined for all three as a percentage of total emergency department visits.

Data Source: https://data.cdc.gov/Public-Health-Surveillance/2023-Respiratory-Virus-Response-NSSP-Emergency-Dep/vutn-jzwm

# Influenza

## Seasonal Influenza Vaccination Percentage by IHS Region

The top left bar chart on page three is titled "Seasonal Influenza Vaccination Percentage by IHS Region." The bars in red emphasize the national IHS seasonal vaccination percentage and the Nashville Area, in which USET Tribal Nations are located.

Percentages are calculated by dividing the number of individuals vaccinated with the seasonal flu vaccine (at least one dose) by the active clinical population of the IHS region. Individuals vaccinated are counted as unique patients with at least one dose administered. Active clinical population is defined as patients who have had at least two visits to an IHS facility in three years.
Data Source: IHS Weekly Influenza Report

## National IHS Seasonal Influenza Vaccination Percentage by Age Group

The top right bar chart on page two is titled "National IHS Seasonal Influenza Vaccination Percentage by Age Group." The chart indicates vaccination rates nationally for IHS by seven age groups: 6 months to 23 months, 2 years to 4 years, 5 to 17 years, 18 years to 49 years, 50 to 64 years, 65 years or older, and the total of everyone 6 months and older. The age group categories range from six months and up because a seasonal influenza vaccine is recommended for everyone six months of age and older. Vaccination data reported by age group supports data-driven vaccination campaign strategies, highlights which groups may be more susceptible to illness, and may assist in resource and/or vaccination allocation efforts. For more information regarding influenza vaccines by age group, visit https://www.cdc.gov/flu/prevent/vaccinations.htm.
Data Source: IHS Weekly Influenza Report

## Percentage of Positive Influenza Specimens by Type for Clinical Laboratories

The pie graph on the lower left side of page three is "Percentage of Positive Influenza Specimens by Type for Clinical Laboratories." This data is collected from clinical laboratories nationwide and includes the percentage of specimens tested that are positive for influenza virus. From the percentage of positive specimens tested, the type is divided into the percentage of influenza A or influenza B that is currently circulating.

CDC performs genetic and antigenic characterization of viruses that are submitted by U.S. state and local public health laboratories. Data is then used to compare how similar the current circulating influenza viruses are to the reference viruses that are in the current year's vaccines and whether influenza activity is increasing or decreasing. The data is also used to monitor evolutionary changes that occur in influenza viruses circulating in humans. This is important in terms of predicting the next respiratory season's vaccine efficiency. For more information regarding influenza vaccine effectiveness, visit https://www.cdc.gov/flu/vaccines-work/vaccineeffect.htm. Since the Southern Hemisphere's

influenza season is earlier, there may be predictive insights for the current vaccine effectiveness in the Northern Hemisphere. For information regarding the Southern Hemisphere's 2023 influenza vaccine effectiveness, visit https://www.cdc.gov/mmwr/volumes/72/wr/mm7237e1.htm.
Data Source: https://www.cdc.gov/flu/weekly/index.htm
Header: Clinical Laboratories

## IHS Nashville Area Seasonal Influenza Vaccination Percentage by Age Group

The table on the right side of page three is titled "IHS Nashville Area Seasonal Influenza Vaccination Percentage by Age Group." The chart indicates vaccination rates in the Nashville Area by two age groups: 6 months to 17 years, and 65 years or older. Vaccination data reported by age group supports data-driven vaccination campaign strategies, highlights which groups may be more susceptible to illness, and may assist in resource and/or vaccination allocation efforts. For more information regarding influenza vaccines by age group, visit https://www.cdc.gov/flu/prevent/vaccinations.htm. The vaccination rates for all age groups in the Nashville Area can be viewed under the bar graph on the upper left side of page three titled "Seasonal Influenza Vaccination Percentage by IHS Region."

Percentages are calculated by dividing the number of individuals vaccinated with the seasonal flu vaccine (at least one dose) by the active clinical population of the Nashville Area. Individuals vaccinated are counted as unique patients with at least one dose administered. Active clinical population is defined as patients who have had at least two visits to an IHS facility in three years.
Data Source: IHS Weekly Influenza Report

## Number of New Hospital Admissions with Influenza by HHS Protect Region

The table on the lower left side of page three is titled "Number of New Hospital Admissions with Influenza by HHS Protect Region." This table indicates the total number of hospital admissions from the prior MMWR week to the current MMWR week and is organized by HHS region. The new season begins each year on the Sunday of MMWR week 40. For 2023, October 1 was the start of week 40.

The HHS' Regional Health Operations divides the United States into 10 regions, serving all states and territories. USET Tribal Nation members are in 13 states, covered by five HHS regions:

| HHS Protect Region | USET States Served |
|---|---|
| Region 1 | Maine, Massachusetts, Connecticut, Rhode Island |
| Region 2 | New York |
| Region 3 | Virginia |
| Region 4 | North Carolina, South Carolina, Alabama, Mississippi, Florida |
| Region 6 | Texas, Louisiana |

The hospital admission data includes the total number of hospitalized patients with laboratory-confirmed influenza virus infection, the previous day's number of admissions with laboratory-confirmed influenza virus infection, and the total number of hospitalized Intensive Care Unit (ICU) patients with laboratory-confirmed influenza infection. The numbers of new hospital admissions with

laboratory-confirmed influenza virus infection reported to NHSN are aggregated by week at the national and HHS region level. New hospital admissions are defined as patients who were admitted to an inpatient bed on the previous calendar day and had a positive influenza test at admission or during the 14 days prior. Laboratory confirmation includes detection of influenza virus infection through molecular tests (e.g., polymerase chain reaction, nucleic acid amplification), antigen detection tests, immunofluorescence tests, and virus culture. For hospital reporting, laboratory-confirmed influenza is defined as influenza A or B.

Data Source: https://www.cdc.gov/flu/weekly/index.htm
Header: National Healthcare Safety Network (NHSN) Hospitalization Surveillance

## Percentage of New Influenza Hospitalizations by Week by HHS Region

The horizontal bar graph on the lower right side of page three is titled "Percentage of New Influenza Hospitalizations by Week by HHS Region." This graph compares the percentage of new influenza hospitalizations of the prior MMWR week and the current MMWR week and is organized by HHS region. Percentages are calculated by dividing the corresponding week's regional hospital admissions by the total USA hospital admissions. The new season begins each year on the Sunday of MMWR week 40. For 2023, October 1 was the start of week 40.

The HHS' Regional Health Operations divides the United States into 10 regions, serving all states and territories. USET Tribal Nation members are in 13 states, covered by five HHS regions:

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The hospital admission data includes the total number of hospitalized patients with laboratory-confirmed influenza virus infection, the previous day's number of admissions with laboratory-confirmed influenza virus infection, and the total number of hospitalized Intensive Care Unit (ICU) patients with laboratory-confirmed influenza infection. The numbers of new hospital admissions with laboratory-confirmed influenza virus infection reported to NHSN are aggregated by week at the national and HHS region level. New hospital admissions are defined as patients who were admitted to an inpatient bed on the previous calendar day and had a positive influenza test at admission or during the 14 days prior. Laboratory confirmation includes detection of influenza virus infection through molecular tests (e.g., polymerase chain reaction, nucleic acid amplification), antigen detection tests, immunofluorescence tests, and virus culture. For hospital reporting, laboratory-confirmed influenza is defined as influenza A or B.

Data Source: https://www.cdc.gov/flu/weekly/index.htm
Header: National Healthcare Safety Network (NHSN) Hospitalization Surveillance

# COVID-19

## COVID-19 Variants of Concern (>5% Total)

The top of the fourth page of the report, "COVID-19 Variants of Concern (>5% Total)" provides data on the variant proportions of the variants of SARS-CoV-2, or the virus that causes COVID-19 disease. In this respiratory report, the variants greater than five percent (>5%) of the total variants currently circulating are presented. This is important because variants circulating more widely have a higher probability of spreading through person-to-person transmission.

The SARS-CoV-2 virus is constantly changing and accumulating mutations in its genetic code over time. New variants of SARS-CoV-2 are expected to continue to emerge. Some variants will emerge and disappear, while others will continue to spread. To track the SARS-CoV-2 variants, the CDC uses genomic surveillance. This is performed by collecting SARS-CoV-2 specimens for sequencing through the National SARS-CoV-2 Strain Surveillance (NS3) program, in addition to sequences that are generated by commercial, academic, state, and local public health laboratories. The viral genetic sequences are analyzed and classified as a particular lineage. The proportions of SARS-CoV-2 variants in a population are calculated nationally, by HHS region, and by jurisdiction. For more information regarding genetic sequencing, and to view the entirety of the variant proportion rates, visit https://covid.cdc.gov/covid-data-tracker/#variant-proportions.

Data Source: https://covid.cdc.gov/covid-data-tracker/#variant-proportions
Header: Types of Variant Proportion Data

## Weekly COVID-19 Case Positivity (%) by United States and USET States

The top line graph on the fourth page is titled "Weekly COVID-19 Case Positivity Rate (%) by United States and USET States." This graph compares the percentage of COVID-19 nucleic antigen amplification tests that were positive over the past week in the United States and the USET states for the respiratory season. The new season begins each year on the Sunday of MMWR week 40. For the 2023-2024 season, October 1 was the start day of week 40. After data acquisition, each corresponding MMWR week positivity rate will be updated and added to the line graph for both the United States and USET states for comparison.

Data is collected from the United States COVID-19 Hospitalizations, Deaths, Emergency Department (ED) Visits, and Test Positivity by Geographic Area data from CDC's COVID Data Tracker.

Data Source: https://covid.cdc.gov/covid-data-tracker/#datatracker-home
Header: View Trends > Hospitalizations, Deaths, Emergency Department (ED) Visits, and Test Positivity

## Weekly COVID-19 Hospitalization Rate per 10,000 People

The bar graph on the lower left side of the fourth page is titled "Weekly COVID-19 Hospitalization Rate per 10,000 People." The data is collected from the United States COVID-19 Hospitalizations, Deaths, Emergency Department (ED) Visits, and Test Positivity by Geographic Area data from CDC's COVID Data Tracker. In this respiratory report, to simplify the comparison of hospitalization rates between the populations of United States and USET states, where there is a sizeable difference in total population count, the rate was changed from per 100,000 population to per 10,000 population.

The original data from the chart indicates the total number of new COVID-19 hospital admissions (including adult and pediatric patients) divided by 2019 population estimate for the entire geographic unit of the United States, multiplied by 100,000. This rate allows for comparisons between areas with different population sizes but is not adjusted for age distribution. The rate utilized in this USET respiratory report was calculated by dividing the United States hospitalization rate by 10 to show a per 10,000 population proportion. The USET state hospitalization rate was calculated by averaging the USET states' hospitalization rates and dividing by 10 to account for the per 10,000 population recalculation. These calculations were performed due to a sizeable difference in total population count and for ease of interpretation for state-level data.

Data Source: https://covid.cdc.gov/covid-data-tracker/#datatracker-home
Header: View Trends > Hospitalizations, Deaths, Emergency Department (ED) Visits, and Test Positivity

## Weekly Number of COVID-19 Hospitalizations

The bar graph on the lower right side of the fourth page is titled, "Weekly Number of COVID-19 Hospitalizations." This data is collected from the United States COVID-19 Hospitalizations, Deaths, Emergency Department (ED) Visits, and Test Positivity by Geographic Area data from CDC's COVID Data Tracker.

The graph indicates the total number of new admissions of patients from laboratory-confirmed COVID-19 in the past week, including both adult and pediatric patients. The count for the United States is the count of the entire geographic United States area, and the hospitalization count for the USET states is the aggregate sum of the 13 USET states.

Data Source: https://covid.cdc.gov/covid-data-tracker/#datatracker-home
Header: View Trends > Hospitalizations, Deaths, Emergency Department (ED) Visits, and Test Positivity