

# NYS Health Connector

## New York State Flu Tracker

### Overview

Office of Quality and Patient Safety Center for  
Health Data Innovation

Office of Public Health Bureau of Communicable  
Disease Control and the Bureau of Statistics and Data  
Systems

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## Introduction

Influenza (flu) is a contagious respiratory illness caused by influenza viruses. Seasonal flu epidemics occur yearly and although the annual impact of influenza varies, it places a substantial burden on the health of New Yorkers each year. The datasets include information on the aggregate number of persons with laboratory-confirmed influenza (“cases”) and the aggregate number of persons with laboratory-confirmed influenza who are hospitalized (“hospitalizations”), by county, and week. Laboratory-confirmed cases include the influenza type (type A, type B, or type unspecified), for each influenza season.

The goal of this dashboard is to provide timely information about local, regional, and statewide influenza activity and hospitalizations throughout the current influenza season. Although each influenza season is unique, historical data is also provided for trend comparison. **Data is updated weekly.**

The data represents laboratory-confirmed cases of influenza and influenza-associated hospitalizations reported to the New York State Department of Health (NYSDOH) during the influenza season which meet a standardized case definition. The data do not represent all occurrences of influenza because the following are not reported: 1) undiagnosed influenza cases (i.e., persons who are sick but not tested), 2) clinical diagnoses (i.e., a diagnosis made without a positive flu test), 3) diagnoses based on influenza tests performed outside of clinical laboratories, unless voluntarily reported, and 4) false negative test results. Cases reported during the off season (weeks 21-39; late May-September), which represent a very small proportion of annual cases, are not included.

## Dashboard Data Sources and Methods

Laboratory-confirmed case data displayed are derived from the Communicable Disease Electronic Surveillance System (CDESS) and are also available in the Health Data NY dataset: **Influenza Laboratory Confirmed Cases by County: Beginning 2009-10 Season.** Influenza-associated hospitalization data displayed are derived from the Health Electronic Response Data System (HERDS) and are available in the Health Data NY dataset: **Influenza Hospitalizations: Beginning October 2020**

Reporting of laboratory-confirmed influenza is mandated under the New York State Sanitary Code (10NYCRR 2.10) and Public Health Law (PHL 2102). Full-service licensed clinical laboratories, and optionally, other laboratories, electronically report positive influenza laboratory test results to the NYSDOH via the Electronic Clinical Laboratory Reporting System (ECLRS). As of 2020, >1,000 laboratories report influenza results to ECLRS. The Division of Epidemiology’s Bureau of Statistics and Data Systems (BSDS) analyzes the ECLRS reports and creates confirmed influenza cases on the Communicable Disease Electronic Surveillance System (CDESS) when positive results are reported. Reporting of all community-associated and healthcare facility-associated hospitalizations with laboratory confirmed influenza mandated under section 2.1 of the New York State Sanitary Code. Aggregate data are collected during the season (October to May) through the “Weekly Influenza Hospitalizations” HERDS survey. Laboratory-confirmed diagnostic test for influenza include:

- Rapid Influenza Diagnostic Tests (RIDT)
- Immunofluorescence assays (DFA and IFA)
- Rapid Molecular Assays
- Reverse Transcriptase Polymerase Chain Reaction (RT-PCR)
- Other Nucleic Acid Amplification tests
- Viral Culture

Single serology tests are not interpretable, and cases are not created from such reports; paired acute and convalescent sera are required for case ascertainment. Cases may be revoked when the results from a more reliable test (e.g., RT-PCR) rules out infection.

Cases are counted as “Type A” influenza or “Type B” influenza according to the test result. Rarely, when the virus type cannot be distinguished, cases are counted as “Type Unspecified”.

Hospitalized patients include patients who were admitted to an inpatient unit of the hospital (an overnight stay is not required) or patients who were kept in observation for >24 hours.

Lab-confirmed cases are assigned to a county based on this hierarchy: 1) the patient’s residential address, 2) the ordering healthcare provider’s address, or 3) the ordering facility’s address. Patient-level data is not available for lab-confirmed hospitalizations. County assignment is based on the location of the hospital.

## Definitions

**Influenza case:** A report of influenza identified in a person’s qualifying laboratory specimen; see Methods for more details.

**Hospitalization case:** A person admitted to an inpatient unit of the hospital or patients who were kept in observation for >24 hours with a qualifying laboratory specimen; see Methods for more details. Hospitalizations by county are based on the location of the acute care hospital and not the patient’s county of residence. No hospitalization data are available for Greene, Hamilton, Seneca, Tioga, and Washington counties which do not have acute care hospitals.

**Season:** Because influenza activity peaks in winter, the influenza season is named for the two calendar years over which a single influenza epidemic span. CDC defines the influenza season as beginning with week 40 (generally the first week in October) of one calendar year and ending with week 20 of the following calendar year (generally the third week in May). See <https://www.cdc.gov/flu/about/season/index.html>.

**CDC Week:** CDC designates each week of the year with a sequential number starting with 1 to a maximum of 52 or 53. Week 1 is the first week of the year that has at least four days in the calendar year. CDC defines the influenza season as beginning with CDC week 40 (the first week in October) and ending with CDC week 20 of the following calendar year (the third week in May). Also known as MMWR week. Detailed information about how CDC week is calculated is at [https://ndc.services.cdc.gov/wp-content/uploads/MMWR\\_Week\\_overview.pdf](https://ndc.services.cdc.gov/wp-content/uploads/MMWR_Week_overview.pdf).

**Week ending date:** The last date of each CDC week. Each week begins on Sunday and ends on Saturday; week ending dates are always on a Saturday.

**Influenza Type:** Influenza types A and B cause seasonal influenza epidemics. NYSDOH counts cases as “Type A” influenza or “Type B” influenza according to the test result. Rarely, when the virus type cannot be distinguished, cases are counted as “Type Unspecified”. See <https://www.cdc.gov/flu/about/viruses/types.htm>

**Case rate per 100,000 population:** The rate is calculated by dividing the number of influenza cases in a category (county, region, week, type, etc.) by the number of residents of the corresponding geography

(county, region, or statewide). Please note that weekly case rates (calculated using the number of cases reported during a single week) will vary from season-to-date case rates (calculated using the sum of cases so far during the current season) and case rates over an entire season (calculated using the sum of cases over the entire 33 or 34 weeks of the season; applicable to past seasons only). Population denominators are CDC's Bridged-Race Population Estimates for the year preceding the influenza season: <https://wonder.cdc.gov/bridged-race-population.html>.

**Hospitalization rate per 100,000 population:** The rate is calculated by dividing the number of influenza hospitalizations in a category (county, region, week) by the population of the corresponding geography (county, region, or statewide). Please note that weekly hospitalization rates (calculated using the number of hospitalizations reported during a single week) will vary from season-to-date rates (calculated using the sum of hospitalizations so far during the current season) and hospitalization rates over an entire season (calculated using the sum of hospitalizations over the entire 33 or 34 weeks of the season; applicable to past seasons only). Population denominators are CDC's Bridged-Race Population Estimates for the year preceding the influenza season: <https://wonder.cdc.gov/bridged-race-population.html>.

**Region:** The five regions in New York are defined by county as:

Capital District Region counties: Albany, Clinton, Columbia, Delaware, Essex, Franklin, Fulton, Greene, Hamilton, Montgomery, Otsego, Rensselaer, Saratoga, Schenectady, Schoharie, Warren, Washington

Central Region counties: Broome, Cayuga, Chenango, Cortland, Herkimer, Jefferson, Lewis, Madison, Oneida, Onondaga, Oswego, St Lawrence, Tioga, Tompkins

Metropolitan Region counties: Dutchess, Nassau, Orange, Putnam, Rockland, Suffolk, Sullivan, Ulster, Westchester

New York City counties/boroughs: Bronx, Kings, New York, Queens, Richmond

Western Region counties: Allegany, Cattaraugus, Chautauqua, Chemung, Erie, Genesee, Livingston, Monroe, Niagara, Ontario, Orleans, Schuyler, Seneca, Steuben, Wayne, Wyoming, Yates

**Season-to-date:** The cumulative number of cases, or the cumulative case rate, since the beginning of the season (starting with week 40).

## How to interpret the data

Laboratory-confirmed case data and hospitalizations are not intended to represent all influenza illnesses. However, because data is collected systematically from all clinical laboratories, POLs, and POCs, and acute-care hospitals fluctuations in case numbers provide a useful and timely indicator of influenza activity. Case rates (cases standardized to 100,000 population) and Hospitalization rates (hospitalizations standardized to 100,000 population) are provided to aid when comparing activity between geographic areas of different population size.

Weekly data is provided to monitor how influenza activity changes over time, and county-level data is provided to allow focus on a particular geography. Because influenza A tends to circulate earlier in the season than influenza B, influenza type is provided to provide information about the currently circulating viruses. Data from the current influenza season in progress and each of the three most recent previous seasons are displayed.

Cases and hospitalization data are displayed on the “Cases to Hospitalizations – Compare with Previous Seasons” tab. Here the number of reported cases to hospitalizations are displayed for the current season and the previous two seasons. Data for a single season or multiple seasons can be displayed from the select season option.

Second, the latest weekly data are displayed on the “Cases - Current Week” and “Hospitalizations – Current Week” tabs. Here, the number of reported cases and hospitalizations (or rate/100,000 population) are displayed by county, region, and statewide. The percentage of cases and hospitalizations change over the previous week, and the breakdown by influenza type are also displayed for cases only. Individual counties, or groups of counties, can be selected on either the map or the percent change graph on the right.

Third, influenza trends during the current season are displayed on the “Cases - Current Season” and “Hospitalizations – Current Season” tabs. The graphs for “Cases – Current Season” at the top display influenza trends (cases or case rates) by influenza type and by region, respectively, over the course of the season. The bottom map displays influenza data by county; each week of the season can be selected separately. When a county (or group of counties) is selected on the map, the graph to its right will display the trend for that county (or group of counties) under the statewide trend for the entire season.

The graphs for “Hospitalizations– Current Season” at the top display hospitalization trends by region for the current week and previous two weeks, hospitalizations by region, over the course of the season. The bottom map displays hospitalization data by county; each week of the season can be selected separately. When a county (or group of counties) is selected on the map, the graph to its right will display the trend for that county (or group of counties) under the statewide trend for the entire season.

Fourth, cases of influenza and hospitalization trends for the current season can be compared with the two most recent previous seasons on the “Cases - Compare with Previous Seasons” “Hospitalizations - Compare with Previous Seasons” tabs. The map displays the cumulative number of cases or hospitalizations (or rates/100,000 population) for the selected season; season-to-date data will be displayed when the current season is selected. The table on the right displays weekly data for each season; darker colors indicate greater numbers of cases or hospitalizations (or rates). The bottom graph displays influenza trends for the three seasons. All fields are interactive. Influenza type can be selected at the top of the page for cases only. A hover-over table at the top displays the week ending date for each week.

## Limitations

The data is not intended to represent all influenza illnesses. The data do not represent all cases of influenza because the following are not reported: 1) undiagnosed influenza cases, 2) clinical diagnoses, and 3) false negative test results. It is unknown how many influenza patients do not seek medical care or are not tested by a reliable assay. Further, certain tests such as RIDTs have limited accuracy; false negative and false positive results do occur.

The number of laboratories reporting data to ECLRS has increased over time. However, it is not known how influenza testing practices, or the proportion of all tests being performed in clinical laboratory settings have changed over time or how they vary geographically. Thus, caution should be used when comparing data such as absolute numbers of cases between seasons or counties. Also, because the onset of influenza activity varies annually, caution should be used when comparing a single week's data (or season-to-date data) to the corresponding week(s) in previous seasons as a measure of relative activity.

The number of cases reported is only one measure of influenza's impact; information on illness severity cannot be derived from the case counts. Despite these limitations, the data can provide useful situational awareness (e.g., trend) information during an influenza season. Data may also be used to compare epidemic characteristics, e.g., timing or proportion of virus types, between seasons. However, comparing absolute numbers of cases between seasons should be approached with caution, as noted above.

No hospitalization data are available for Greene, Hamilton, Seneca, Tioga, and Washington counties which do not have acute care hospitals.

## De-identification

The New York State Department of Health adheres to all applicable federal and state rules, regulations, and standards for the de-identification of protected health information. For more information on de-identification methods, please visit:

[https://www.hhs.gov/hipaa/forprofessionals/privacy/special-topics/deidentification/index.html#\\_edn1](https://www.hhs.gov/hipaa/forprofessionals/privacy/special-topics/deidentification/index.html#_edn1).

## Contact Information

For more information or questions about this data, please contact [nysapd@health.ny.gov](mailto:nysapd@health.ny.gov).