

# **CDC FluView**

## **Pneumonia, Influenza, and COVID-19 Mortality Surveillance Data**

### **From the National Center for Health Statistics Mortality Surveillance System**

#### **Application Quick Reference Guide – October 2023**

##### **Introduction**

This Quick Reference Guide is intended to provide an overview of pneumonia, influenza and COVID-19 mortality surveillance data from the National Center for Health Statistics Mortality Surveillance system and explain the available features of the “National Center for Health Statistics Mortality Surveillance” FluView Interactive web application.

This application is part of the CDC FluView report, which provides weekly influenza surveillance information in the United States. This application was developed to improve communication about influenza with the public health community, clinicians, scientists, and the general public. This application is added to the series of dynamic visualizations that allow internet users to access influenza information collected by CDC’s monitoring systems. CDC’s FluView report is available at <http://www.cdc.gov/flu/weekly/>.

##### **About the Data**

The National Center for Health Statistics (NCHS) collects and disseminates the Nation's official vital statistics. NCHS collects death certificate data from state vital statistics offices for all deaths occurring in the United States. Influenza deaths; pneumonia and/or influenza (P&I) deaths; and

pneumonia, influenza and/or COVID-19 (PIC) deaths are identified based on ICD-10 multiple cause of death codes. Data presented here are provisional and may not match counts in other sources in part due to differences in timing of data processing.

The NCHS Mortality Surveillance System data will be presented by the week the death occurred at the national, state, and HHS Region levels, based on the state of residence of the decedent. Data on the percentage of deaths due to influenza, P&I, or PIC are released one week after the week of death to allow for collection of enough data to produce a stable percentage. States and HHS regions with less than 20% of the expected total deaths (average number of total deaths reported by week during 2008-2012) will be marked as having insufficient data. Not all deaths are reported within a week of death therefore data for earlier weeks are continually revised and the proportion of deaths due to influenza, P&I, or PIC may increase or decrease as new and updated death certificate data are received by NCHS.

Three measures have been used to monitor influenza mortality: pneumonia and/or influenza (P&I); pneumonia, influenza, and/or COVID-19 (PIC); and influenza (I). P&I no longer measures the impact of influenza in the same way it had prior to the COVID-19 pandemic, and the PIC measure is largely being driven COVID-19 activity making it difficult to monitor the impact of influenza using that measure. Although monitoring influenza-only coded deaths will underestimate the full impact of influenza mortality, the measure allows for tracking the impact of influenza on mortality and is not as influenced by COVID-19 as the other two measures. Additionally, [influenza burden estimates](#) are calculated that account for underreporting of influenza on death certificates.

All three measures are available on FluView Interactive. The P&I and PIC percentages are compared to a seasonal baseline of P&I deaths that is calculated using a periodic regression

model that incorporates a robust regression procedure applied to data from the previous five years. An increase of 1.645 standard deviations above the seasonal baseline of P&I deaths is considered the “epidemic threshold,” i.e., the point at which the observed proportion of deaths is significantly higher than would be expected at that time of the year in the absence of substantial influenza, and now COVID-related mortality. Baselines and thresholds are calculated at the national and regional level and by age groups.

For more information on influenza mortality surveillance please visit:

<http://www.cdc.gov/flu/weekly/overview.htm#Mortality>

## Accessing the FluView Web-based Application

All FluView applications are accessible to the public on the World Wide Web. To access the Pneumonia and Influenza Mortality Surveillance web application, open a web browser on your computer and go to the following

internet link:

<http://gis.cdc.gov/grasp/fluview/mortality.html>

Application requirements:

- ☐ Internet Browser
  - Windows Internet Explorer 7 and later
  - Google Chrome
  - Mozilla Firefox

Once the website is loaded, a disclaimer dialog box will appear. Please review the disclaimer for important reference information. Click “Ok” to continue to the FluView web application.

Clicking on Cancel will take you to the CDC FluView weekly Flu report home page

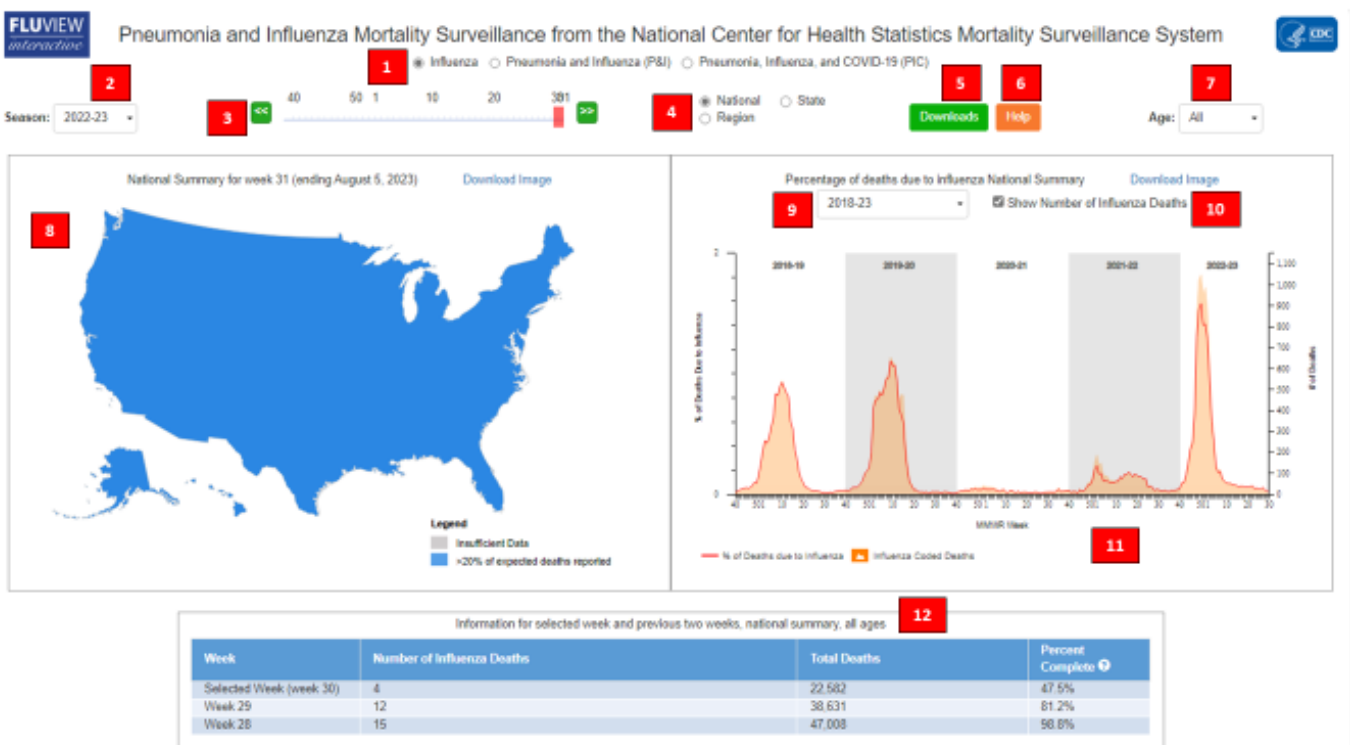
<http://www.cdc.gov/flu/weekly/>

# Application Functions and Tool Overview

This interactive tool allows users to display and query information for current and previous influenza

seasons. Descriptions of tool features are listed below the application image. Below are images of the default view, which shows influenza, and two alternative views, which show P&I and PIC data from the National Center for Health Statistics Mortality Surveillance System FluView Interactive web application.

## View 1: Influenza (default view)

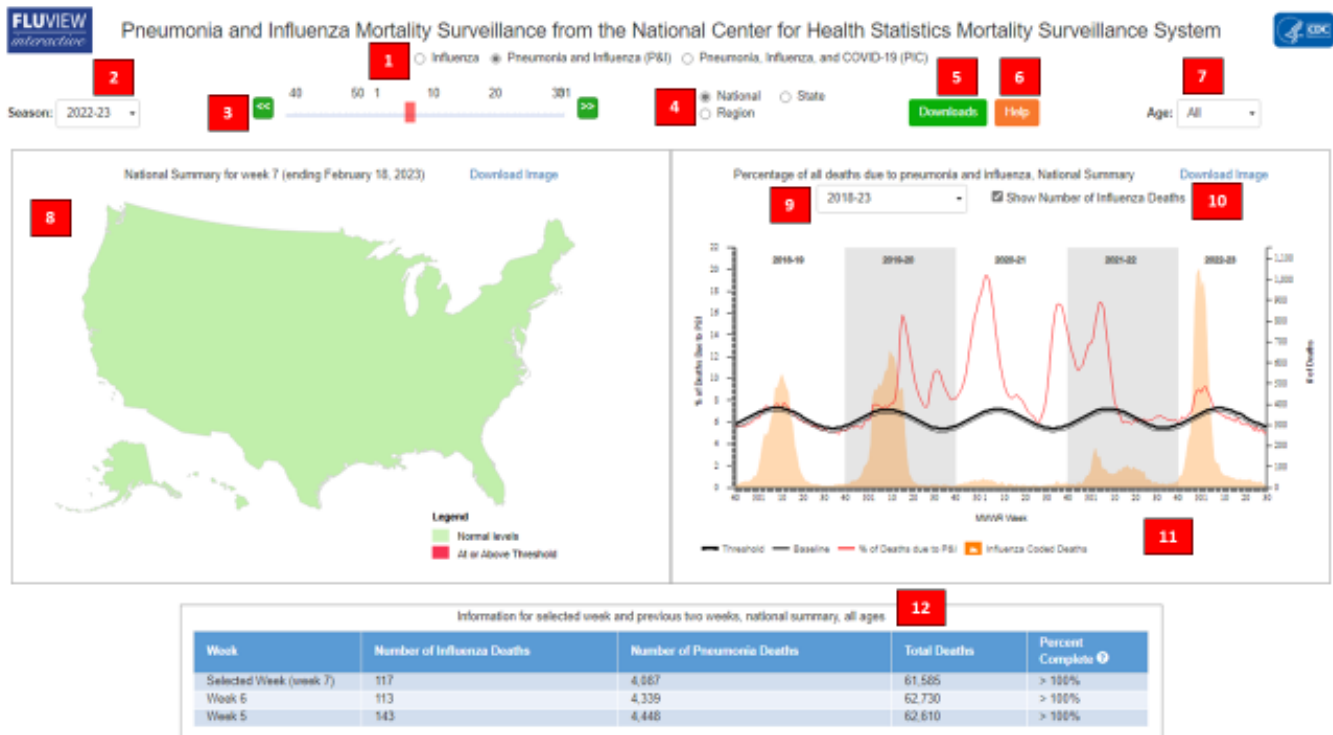


- 1. View Selection Tool** – A toggle allows the user to select which view to display: Influenza view (default), Pneumonia and Influenza (P&I) view, or Pneumonia, Influenza and COVID-19 (PIC) view.

2. **Influenza Season Selection Tool** – A drop down menu allows the user to choose which influenza season to display.
3. **MMWR Week Selection Tool** – A sliding bar allows the user to select which week to view in the map (8) as well as adjusts sliding bar on the figure (11) and selected week in table below (12).
4. **Geographic Level Selection Tool** – Select National level data, HHS Regional data, or State level data to be displayed.
5. **Downloads** – Download data as currently displayed or select custom data to be downloaded.
6. **Help** – The Help Menu provides a detailed overview and describes the full functionality of the FluView Web application.
7. **Age Group Selection Tool** – Allows the user to select which age groups to display. This function is only active when “National” is selected in the Geographic Level Selection Tool.
8. **Week Summary Map** – Displays week summary statistics based on Geographic level.
9. **Influenza Season Range Selection Tool** – A series of check boxes that allow the user to choose which influenza seasons are displayed on the “Percentage of deaths due to influenza” figure (11). A total of five consecutive seasons can be selected at a time, and the season which is selected within the “Influenza Season Selection” tool must be selected.
10. **Number of Viral Deaths Tool** – A check box that allows the user to display the number of influenza-associated deaths on the “Percentage of deaths due to influenza” figure (11).
11. **Percentage of Deaths Due to Influenza Figure** – Figure displaying the percent influenza deaths by MMWR week for the selected influenza seasons and geographic scale.

**12. Information Table** – Displays influenza death information for the selected week and the previous two weeks.

## View 2: Pneumonia and Influenza (P&I)

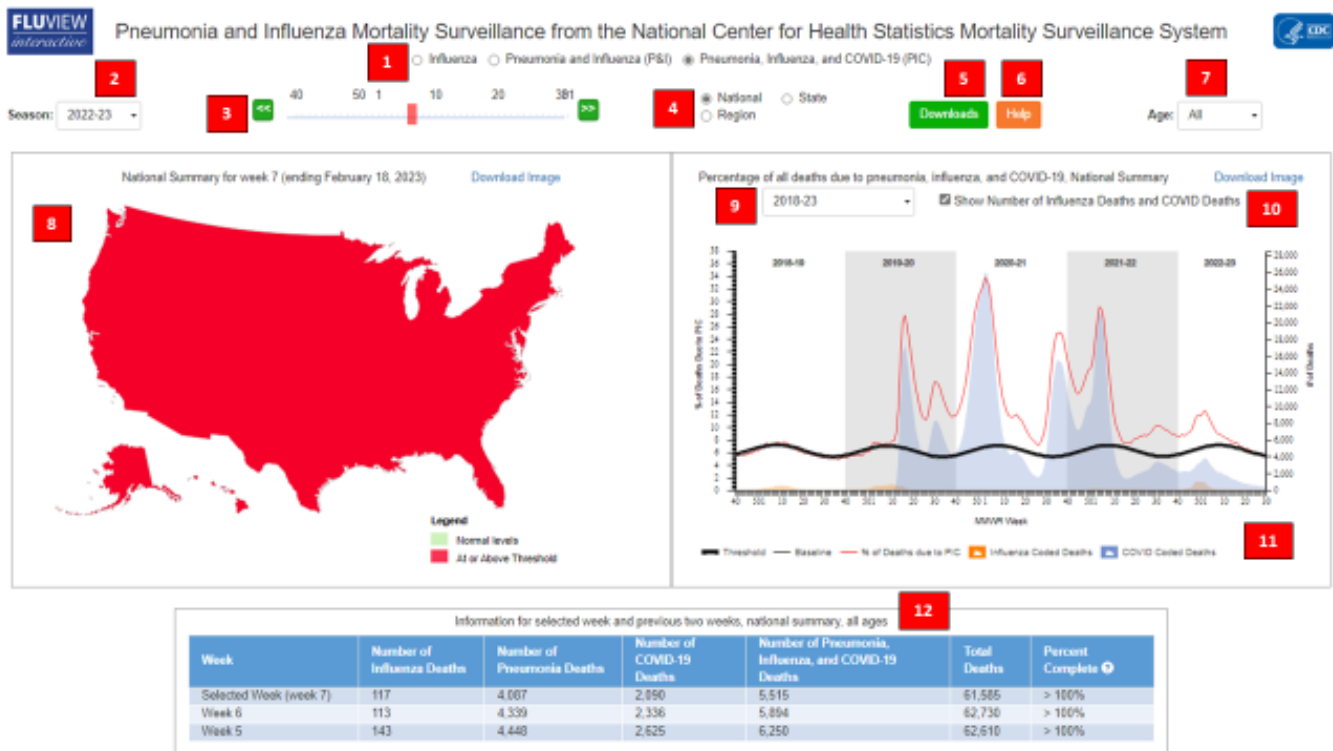


- 1. View Selection Tool** – A toggle allows the user to select which view to display:  
Influenza view (default), Pneumonia and Influenza (P&I) view, or Pneumonia, Influenza and COVID-19 (PIC) view.
- 2. Influenza Season Selection Tool** – A drop down menu allows the user to choose which influenza season to display.
- 3. MMWR Week Selection Tool** – A sliding bar allows the user to select which week to view in the map (8) as well as adjusts sliding bar on the figure (11) and selected week in table below (12).
- 4. Geographic Level Selection Tool** – Select National level data, HHS Regional data, or State level data to be displayed.
- 5. Downloads** – Download data as currently displayed or select custom data to be downloaded.

6. **Help** – The Help Menu provides a detailed overview and describes the full functionality of the FluView Web application.
7. **Age Group Selection Tool** – Allows the user to select which age groups to display. This function is only active when “National” is selected in the Geographic Level Selection Tool.
8. **Week Summary Map** – Displays week summary statistics based on Geographic level.
9. **Influenza Season Range Selection Tool** – A series of check boxes that allow the user to choose which influenza seasons are displayed on the “Percentage of all deaths due to pneumonia and influenza (P&I)” figure (11). A total of five consecutive seasons can be selected at a time, and the season which is selected within the “Influenza Season Selection” tool must be selected.
10. **Number of Viral Deaths Tool** – A check box that allows the user to display the number of influenza-associated deaths on the “Percentage of all deaths due to pneumonia and influenza (P&I)” figure (11).
11. **Percentage of Deaths Due to Pneumonia and Influenza Figure** – Figure displaying the threshold, baseline and actual percent pneumonia and influenza (P&I) death by MMWR week for the selected influenza seasons and geographic scale.
12. **Information Table** – Displays influenza death and pneumonia death information for the selected week and the previous two weeks.



### View 3: Pneumonia, Influenza and COVID-19 (PIC)



- 1. View Selection Tool** – A toggle allows the user to select which view to display: Influenza view (default), Pneumonia and Influenza (P&I) view, or Pneumonia, Influenza and COVID-19 (PIC) view.
- 2. Influenza Season Selection Tool** – A drop down menu allows the user to choose which influenza season to display.
- 3. MMWR Week Selection Tool** – A sliding bar allows the user to select which week to view in the map (8) as well as adjusts sliding bar on the figure (11) and selected week in table below (12).
- 4. Geographic Level Selection Tool** – Select National level data, HHS Regional data, or State level data to be displayed.
- 5. Downloads** – Download data as currently displayed or select custom data to be downloaded.

6. **Help** – The Help Menu provides a detailed overview and describes the full functionality of the FluView Web application.
7. **Age Group Selection Tool** – Allows the user to select which age groups to display. This function is only active when “National” is selected in the Geographic Level Selection Tool.
8. **Week Summary Map** – Displays week summary statistics based on Geographic level.
9. **Influenza Season Range Selection Tool** – A series of check boxes that allow the user to choose which influenza seasons are displayed on the “Percentage of all deaths due to pneumonia, influenza and COVID-19 (PIC)” figure (11). A total of five consecutive seasons can be selected at a time, and the season which is selected within the “Influenza Season Selection” tool must be selected.
10. **Number of Viral Deaths Tool** – A check box that allows the user to display the number of influenza associated deaths and COVID-19 associated deaths on the “Percentage of all deaths due to pneumonia, influenza and COVID-19 (PIC)” figure (11).
11. **Percentage of Deaths Due to Pneumonia, Influenza and COVID-19 Figure** – Figure displaying the threshold, baseline and actual percent pneumonia, influenza and COVID-19 (PIC) death by MMWR week for the selected influenza seasons and geographic scale.
12. **Information Table** – Displays influenza death, pneumonia death and COVID-19 death information for the selected week and the previous two weeks.