

CDC FluView

Pneumonia, Influenza, and COVID-19 Mortality Surveillance Data From the National Center for Health Statistics Mortality Surveillance System

Application Quick Reference Guide – December 2020

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. 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.

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 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 P&I or PIC may increase or decrease as new and updated death certificate data are received by NCHS.

The COVID-19 death counts reported by NCHS and presented here are provisional and will not match counts in other sources, such as media reports or numbers from county health departments. COVID-19 deaths may be classified or defined differently in various reporting and surveillance systems. Death counts reported by NCHS include deaths that have COVID-19 listed as a cause of death and may include laboratory confirmed COVID-19 deaths and clinically confirmed COVID-19 deaths. Provisional death counts reported by NCHS track approximately 1-2 weeks behind other published data sources on the number of COVID-19 deaths in the U.S. These reasons may partly account for differences between NCHS reported death counts and death counts reported in other sources.

In previous seasons, the NCHS surveillance data were used to calculate the percent of all deaths occurring each week that had pneumonia and/or influenza (P&I) listed as a cause of death. Because of the ongoing COVID-19 pandemic, COVID-19 coded deaths were added to P&I to create the PIC (pneumonia, influenza, and/or COVID-19) classification. PIC includes all deaths with pneumonia, influenza, and/or COVID-19 listed on the death certificate. Because many influenza deaths and many COVID-19 deaths have pneumonia included on the death certificate, P&I no longer measures the impact of influenza in the same way that it has in the past. This is because the proportion of pneumonia deaths associated with influenza is now influenced by COVID-19-related pneumonia. The PIC percentage and the number of influenza and number of COVID-19 deaths will be presented in order to

help better understand the impact of these viruses on mortality and the relative contribution of each virus to PIC mortality.

The 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 pneumonia and 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 National Age Group Distribution of Influenza Positive Specimens Reported by Public Health Laboratories 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.

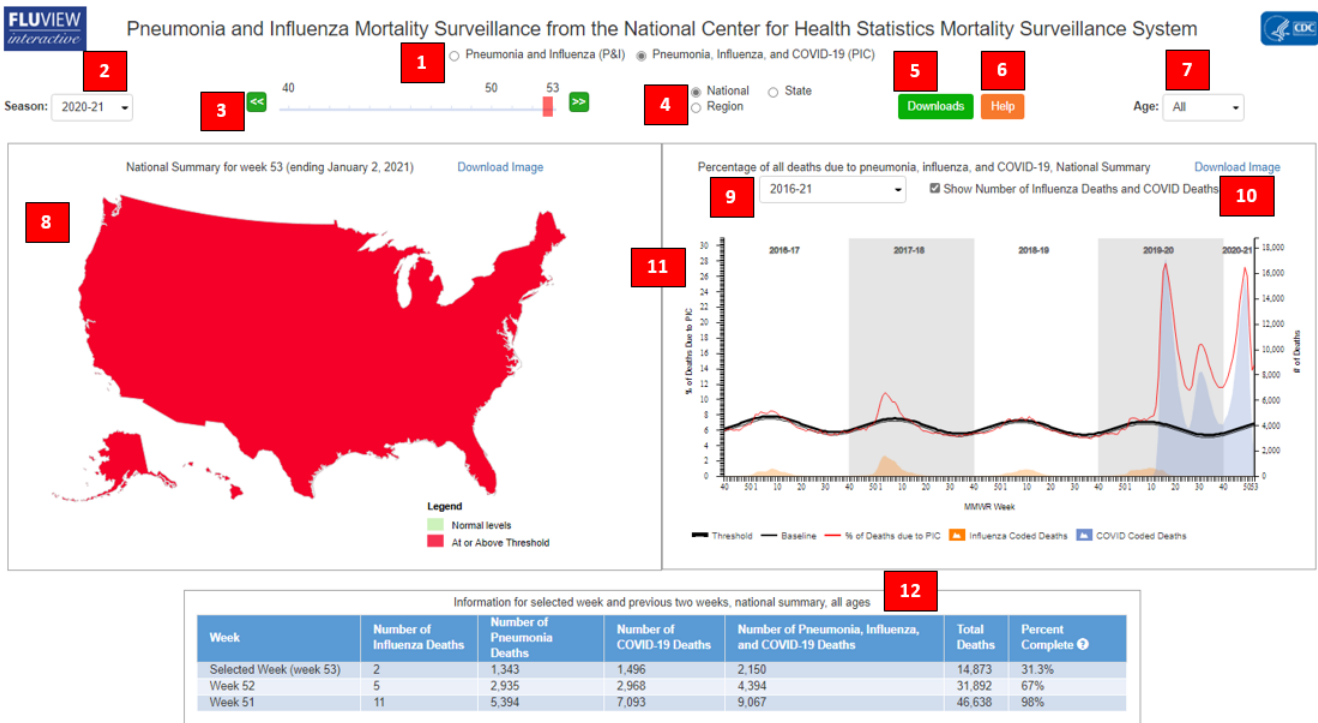
Clicking on Cancel will take you to the CDC FluView weekly Flu report home page

<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 flu seasons. Descriptions of tool features are listed below the application image. Below are images of the default view (which shows pneumonia, influenza and COVID-19 (PIC) data) and an alternative view (which shows pneumonia and influenza (P&I) data) from the National Center for Health Statistics Mortality Surveillance System FluView Interactive web application.

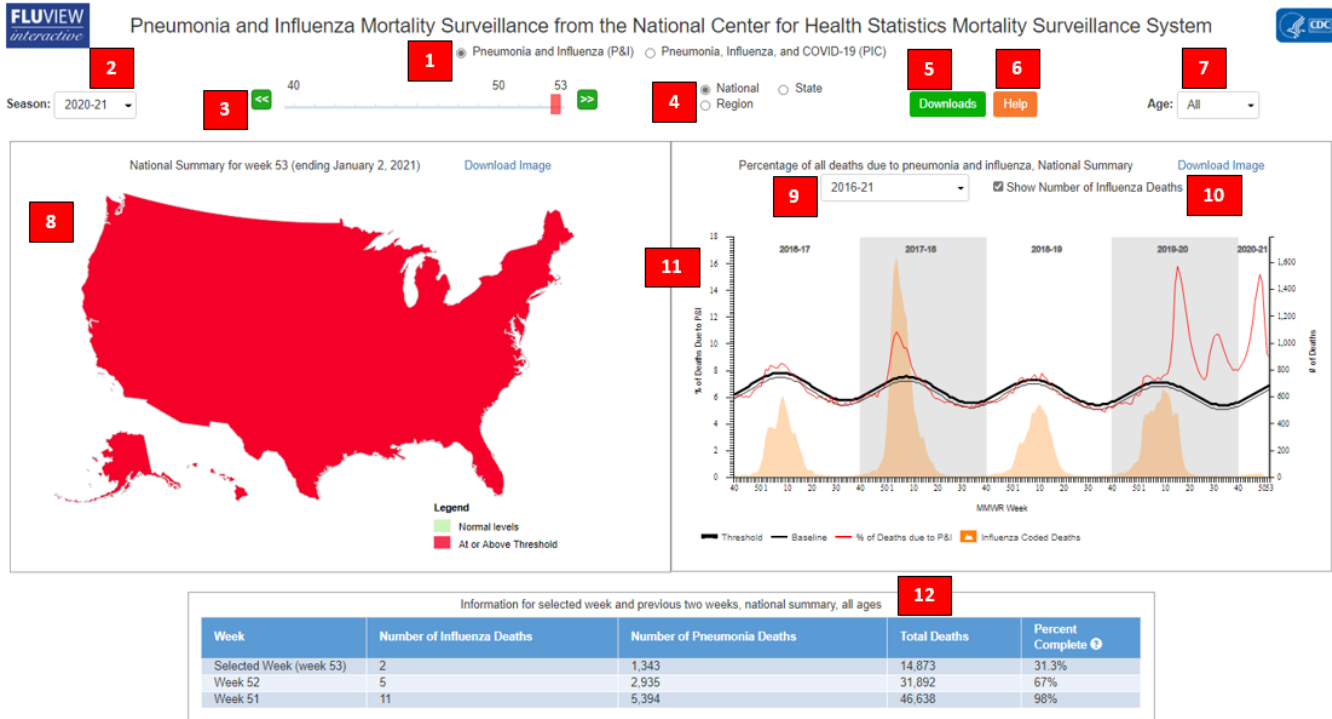
View 1: Pneumonia, Influenza and COVID-19 (PIC) view (default view)



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

View 2: Pneumonia and Influenza (P&I)



- View Selection Tool** – A toggle allows the user to select which view to display: the Pneumonia, Influenza and COVID-19 (PIC) view (default) or the Pneumonia and Influenza (P&I) view.
- Influenza Season Selection Tool** – A drop down menu allows the user to choose which influenza season to display.
- 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).
- Geographic Level Selection Tool** – Select National level data, HHS Regional data, or State level data to be displayed.
- Downloads** – Download data as currently displayed or select custom data to be downloaded.
- Help** – The Help Menu provides a detailed overview and describes the full functionality of the FluView Web application.
- 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.
- 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 during 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.