



# WEEKLY RESPIRATORY DISEASE SURVEILLANCE REPORT

Respiratory Season 2024-2025

# Weekly Respiratory Disease Surveillance Report

December 08 - December 14, 2024 (MMWR Week 50)

Report created: 19<sup>th</sup> December 2024

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## Introduction

Respiratory disease surveillance involves monitoring a variety of data sources, including syndromic surveillance, outbreak surveillance, and laboratory surveillance. These data should be evaluated together to create a more complete picture of respiratory disease activity in Virginia.

Syndromic surveillance uses visit data from emergency departments (ED) and urgent care centers to help identify and monitor events of public health concern in near real time. However, many respiratory illnesses cause similar symptoms; for example, measures for flu activity may also reflect activity from other respiratory viruses.

Outbreak surveillance can provide an indicator for how much respiratory disease is spreading within a community and within specific settings. Any person in charge of a residential or day program, service, or facility licensed or operated by any agency of the Commonwealth, or a school, childcare center, or summer camp is required to report to the local health department the presence or suspected presence of persons who have common symptoms suggesting an outbreak situation.

Laboratory surveillance for influenza provides insight into the burden of flu and which viruses are circulating at a given time. Annual vaccinations are updated regularly based on laboratory surveillance findings. However, only confirmatory laboratory results are reported to VDH and can provide information on the type or strain of flu, meaning the data for rapid tests is not included in public health surveillance.

## At a Glance

For the 2024-25 season, 0 pediatric deaths associated with influenza have been reported in Virginia. More data and details on respiratory disease surveillance can be found [here](#).

During the week of December 08 - December 14, 2024 (MMWR Week 50);

- ED and urgent care visits for:
  - Acute Respiratory Illness: **Remained stable** and were elevated
  - Influenza-like Illness: **Increased 0.3 percentage points** and were elevated
  - COVID-19: **Increased 26%** and were not elevated
  - Influenza: **Increased 82%** and were elevated
  - RSV: **Increased 14%** and were elevated
- **29 respiratory outbreaks** (8 confirmed, 20 suspected, and 1 unknown) were reported this week; an **71% increase** from the previous week. The etiologic agent for most of the outbreaks (14; 48%) was SARS-CoV-2 etiologic.
- **663 confirmatory influenza labs** were received this week, a **97% increase** from the previous week.

## 1. Syndromic Surveillance

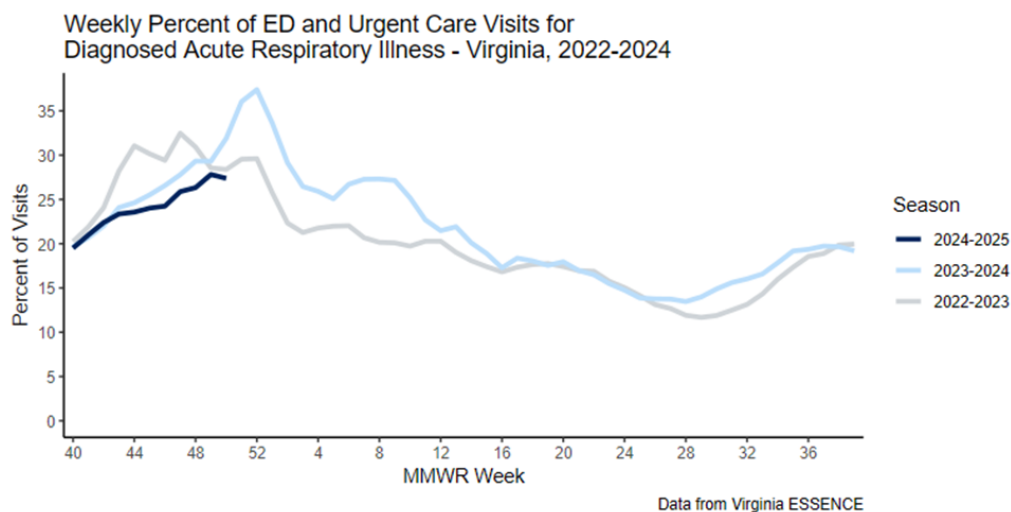
VDH receives data from participating emergency departments (EDs) and urgent care centers through its syndromic surveillance program. The data include visit date and location, patient demographics (e.g., age, race), chief complaint (why the patient is seeking care), and diagnosis.

VDH uses chief complaint and discharge diagnosis to identify visits that meet certain criteria using [syndromic surveillance case definitions](#). This allows public health to monitor disease trends in real time. More information about syndromic surveillance, including data limitations, can be found on the [syndromic surveillance website](#).

## 1.1 Diagnosed Acute Respiratory Illness

During the week of December 08 - December 14, 2024, ED and urgent care visits for diagnosed acute respiratory illness in Virginia:

- **Remained stable (<0.5 percentage point change)** compared to the previous week from 27.8% to 27.4% of visits.
- **Remained significantly elevated** in Virginia's syndromic surveillance system compared to a baseline of previous weeks.

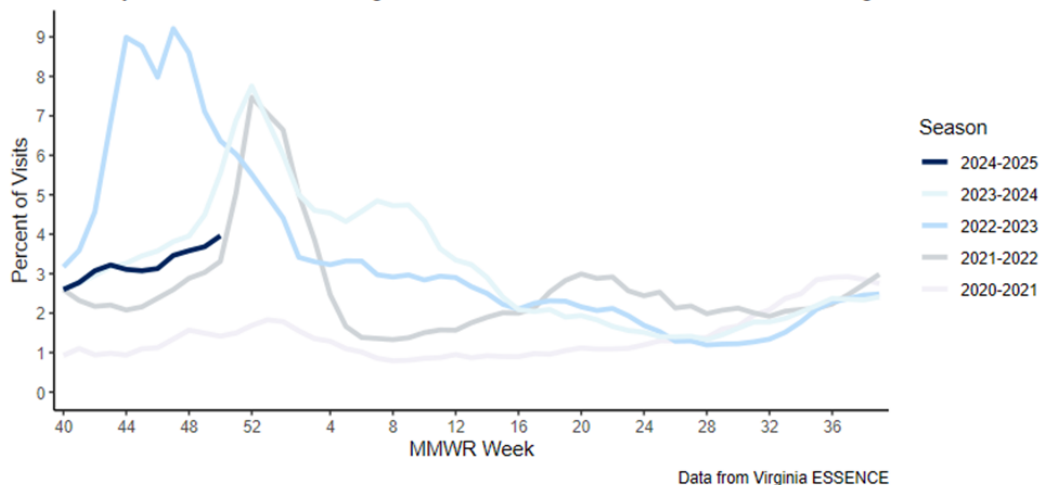


## 1.2 Influenza-Like Illness (ILI)

During the week of December 08 - December 14, 2024, ED and urgent care visits for influenza-like illness in Virginia:

- **Increased 0.3 percentage point** compared to the previous week from 3.7% to 4% of visits.
- **Remained significantly elevated** in Virginia's syndromic surveillance system compared to a baseline of previous weeks.

Weekly Percent of ED and Urgent Care Visits for Influenza-Like Illness - Virginia, 2020-2024

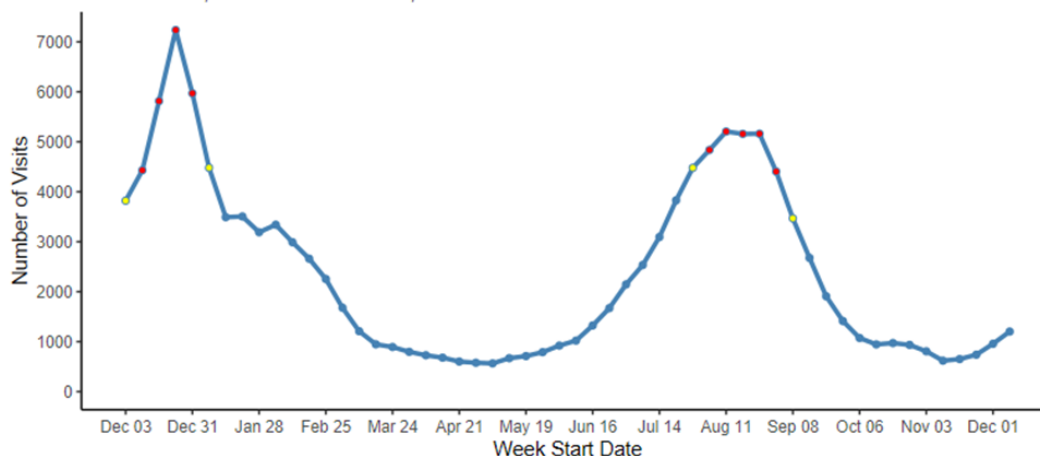


### 1.3 Diagnosed COVID-19

During the week of December 08 - December 14, 2024, ED and urgent care visits for diagnosed COVID-19 in Virginia:

- **Increased 26%** compared to the previous week from 957 to 1,202 visits.
- **Were not significantly elevated** in Virginia’s syndromic surveillance system compared to a baseline of previous weeks.

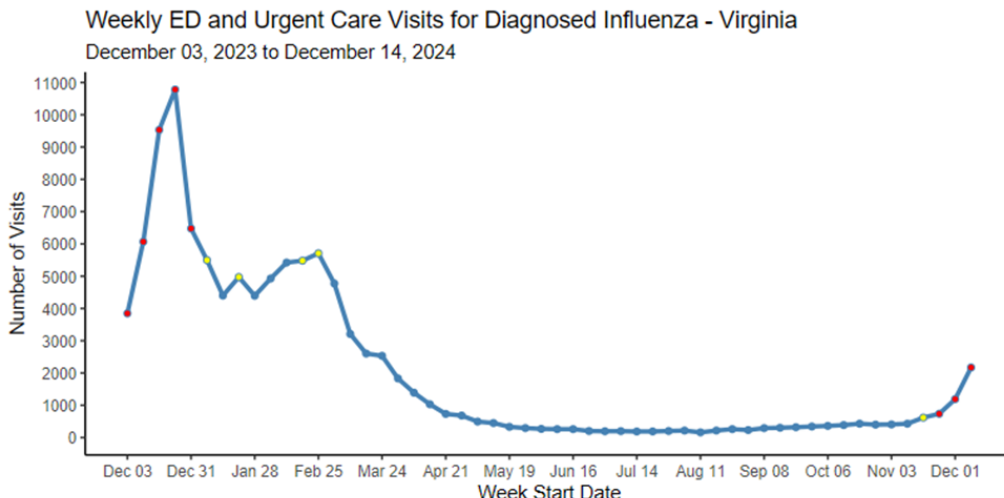
Weekly ED and Urgent Care Visits for Diagnosed COVID-19 - Virginia  
December 03, 2023 to December 14, 2024



### 1.4 Diagnosed Influenza

During the week of December 08 - December 14, 2024, ED and urgent care visits with diagnosed influenza in Virginia:

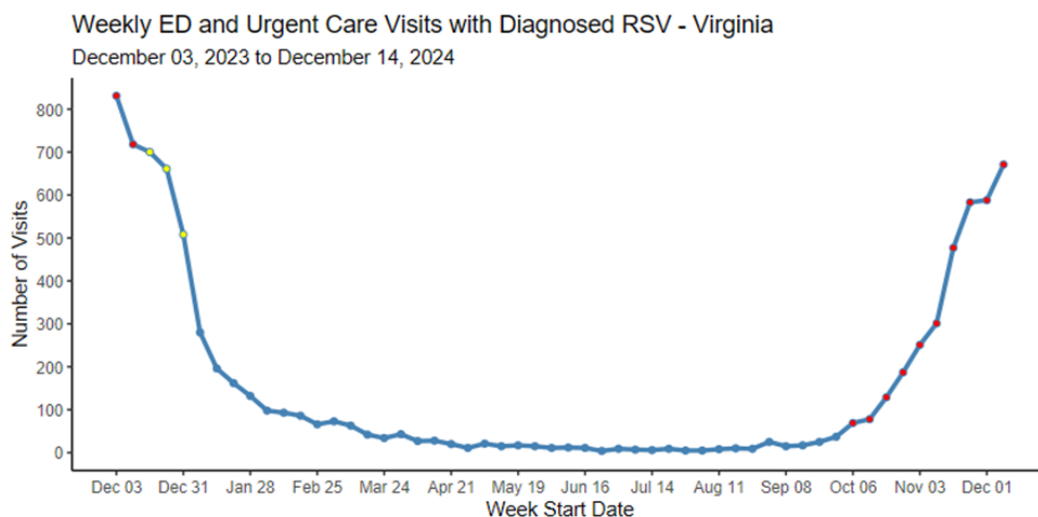
- **Increased 82%** compared to the previous week from 1,191 to 2,171 visits.
- **Remained significantly elevated** in Virginia’s syndromic surveillance system compared to a baseline of previous weeks.



### 1.5 Diagnosed Respiratory Syncytial Virus (RSV)

During the week of December 08 - December 14, 2024, ED and urgent care visits with diagnosed Respiratory Syncytial Virus (RSV) in Virginia:

- **Increased 14%** compared to the previous week from 588 to 671 visits.
- **Remained significantly elevated** in Virginia’s syndromic surveillance system compared to a baseline of previous weeks.

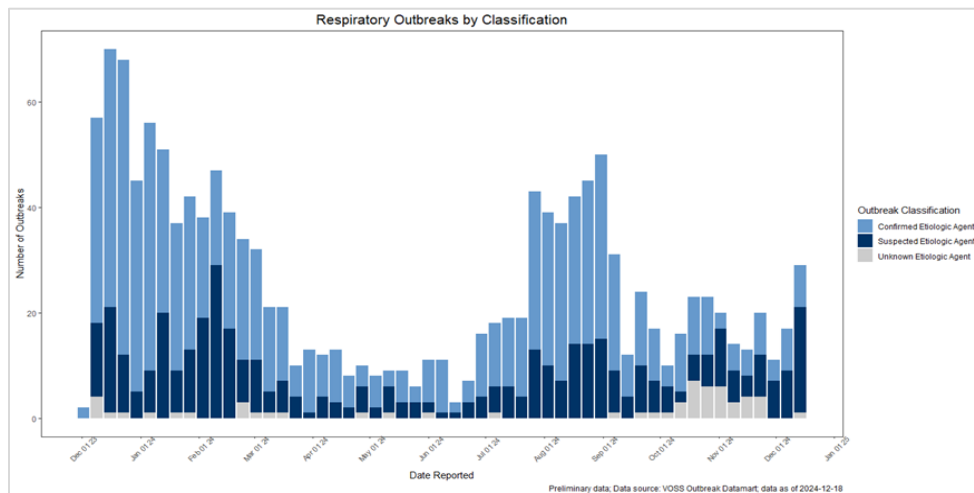


## 2. Outbreak Surveillance

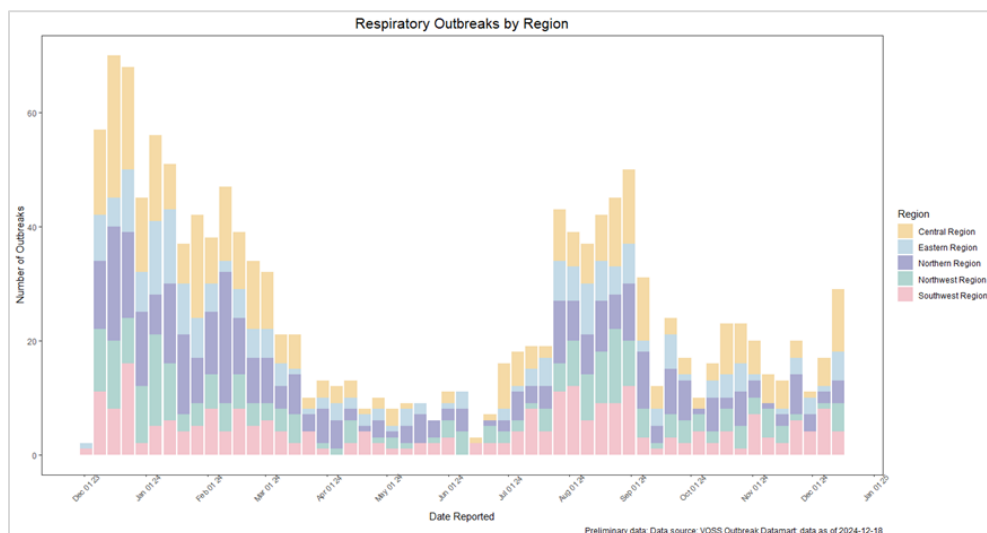
VDH requires certain facilities or programs to report the presence or suspected presence of an outbreak to the local health department. Reported outbreaks can be a good indicator of how much respiratory disease is spreading within a community and within specific settings. Investigators try to collect laboratory evidence to identify the etiologic agent (disease) causing the outbreak. The lab evidence is used to classify the outbreak as either a ‘Suspected’ or ‘Confirmed’ outbreak using [outbreak surveillance definitions](#). If no lab evidence is collected, the etiologic agent will be marked as unknown and the outbreak will be classified as ‘Suspected.’

### 2.1 Overall Respiratory Outbreaks by Week

During the week of December 08 - December 14, 2024, there were 8 confirmed, 20 suspected and 1 outbreak with an unknown etiologic agent reported to VDH; a **71% increase** from the previous week.



### 2.2 Respiratory Outbreaks by Region





**Table 1: Number of Outbreaks by Region and Etiologic Agent During the Week December 08 - December 14, 2024.**

Region	Etiologic Agent	Number of Outbreaks
Central	Bordetella pertussis	1
Central	Influenza	4
Central	Mycoplasma pneumoniae	1
Central	Respiratory Syncytial Virus	2
Central	SARS-CoV-2	1
Central	Streptococcus	1
Central	Unknown	1
Eastern	SARS-CoV-2	4
Eastern	Streptococcus	1
Northern	Influenza	2
Northern	Respiratory Syncytial Virus	1
Northern	SARS-CoV-2	1
Northwest	Influenza	1
Northwest	SARS-CoV-2	4
Southwest	SARS-CoV-2	4

### 2.3 Respiratory Outbreaks by Etiologic Agent

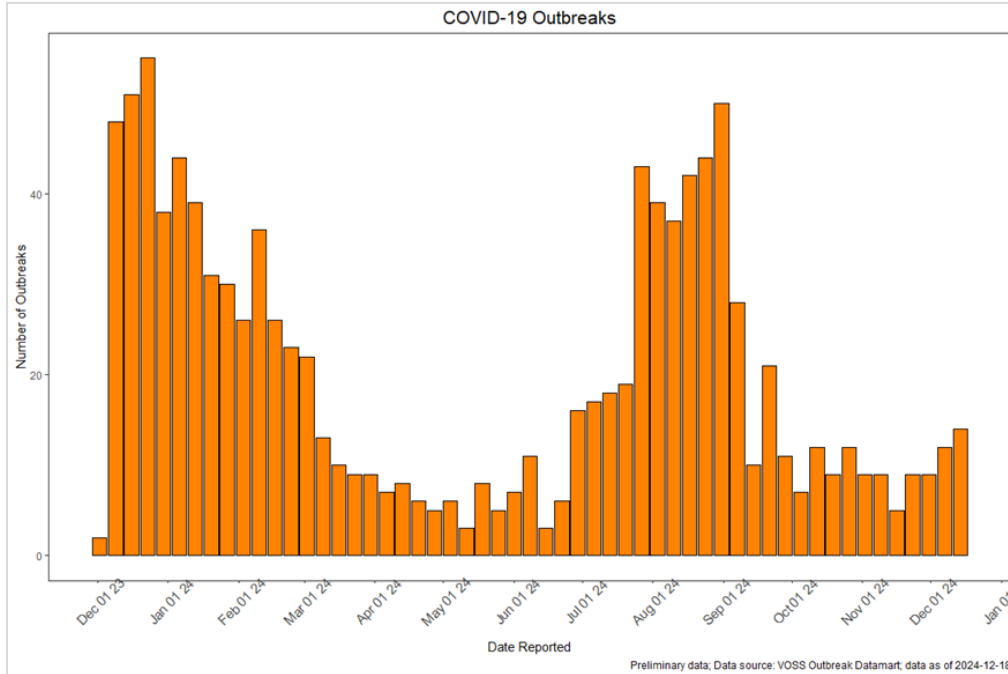
During the week ending December 14, 2024, there were a total of **29** respiratory outbreaks in Virginia:

Etiologic Agent	Number of Outbreaks
Bordetella pertussis	1
Influenza	7
Mycoplasma pneumoniae	1
Respiratory Syncytial Virus	3
SARS-CoV-2	14
Streptococcus	2
Unknown	1



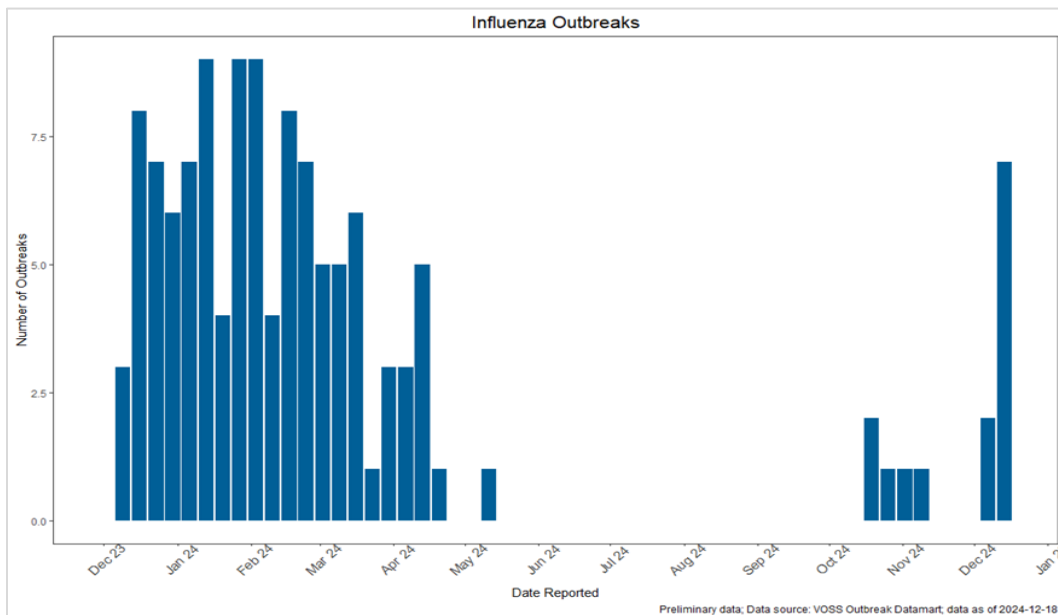
### Weekly COVID-19 Outbreaks

The graph below displays both confirmed and suspected COVID-19 outbreaks from **December 2023** through **December 2024**. For the week ending **December 14, 2024**, there were 14 SARS-CoV-2 outbreaks reported.



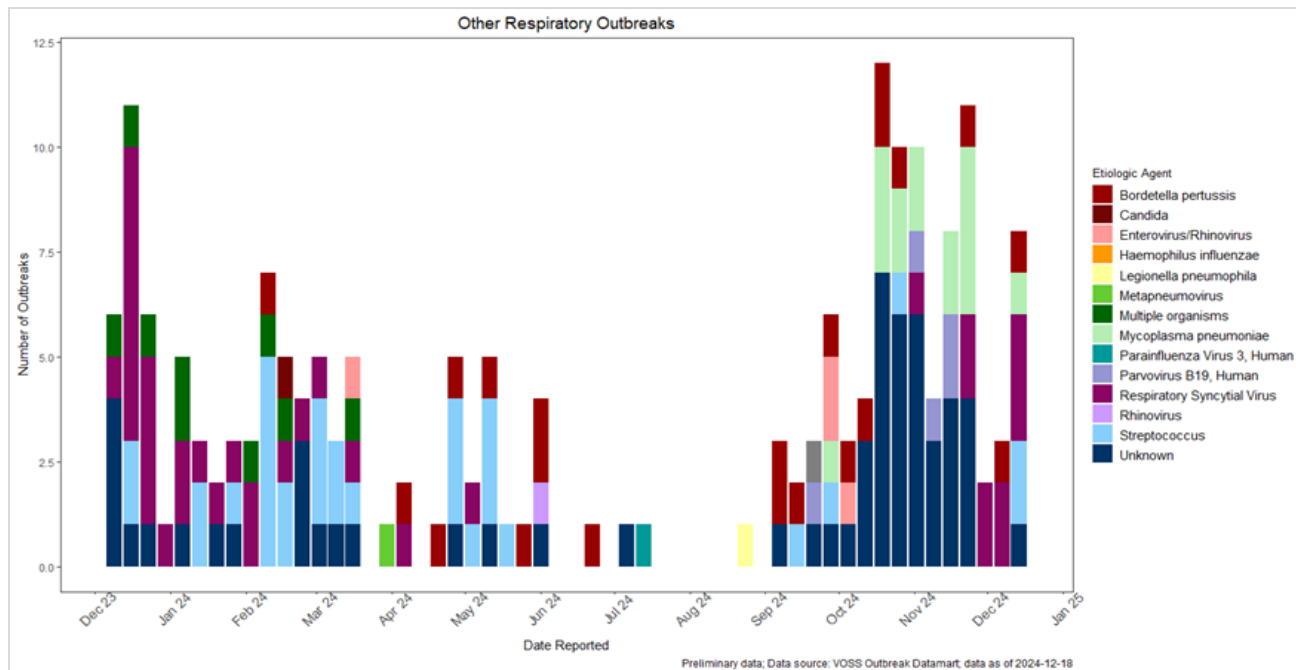
### Weekly Influenza Outbreaks

The graph below displays both confirmed and suspected Influenza outbreaks from **December 2023** through **December 2024**. For the week ending **December 14, 2024**, there were 7 Influenza outbreaks reported.



### Weekly Respiratory Outbreaks (Excluding COVID-19 & Flu)

The graph below displays both confirmed and suspected respiratory outbreaks from **December 2023** through **December 2024**. For the week ending **December 14, 2024**, there were **8** other respiratory outbreaks (excluding SARS-CoV-2 & Influenza) reported.



### 3. Laboratory Surveillance

Laboratory surveillance provides insight into the burden of flu and which viruses are circulating at a given time.

VDH receives reports of positive confirmatory influenza lab results. The confirmatory tests that are available (PCR, viral culture, and DFA [direct fluorescent antigen]) for the flu are not commonly used. For people who seek care for flu, most are diagnosed with a rapid influenza diagnostic test, or by their symptoms alone. These data are not reported to VDH. Therefore, influenza positive labs reported to public health represent only a small proportion of all people testing positive for influenza.

One of the major benefits to the confirmatory lab results is that they can provide more detailed information about what strain and subtype of flu viruses are circulating. Knowing whether we're experiencing a flu season with a certain type of flu can be important for identifying what communities are at highest risk for complications and negative outcomes. This information also helps us to evaluate the effectiveness of the vaccine each year.

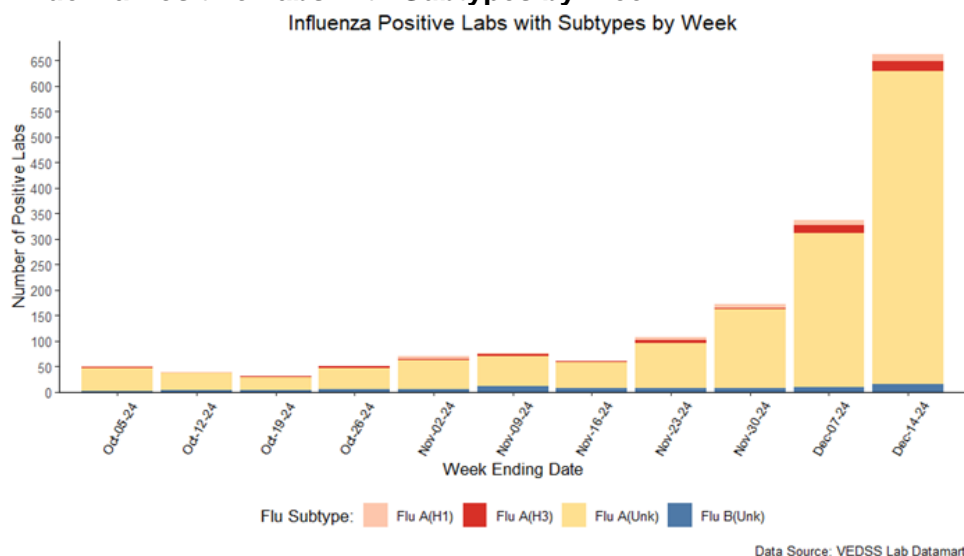
### 3.1 Lab Confirmed Influenza by Week

During the week of December 08 - December 14, 2024, VDH received **663** positive influenza lab results, a **97% increase** from the previous week.

For the 2024-25 influenza season VDH received a total of 1,654 positive influenza lab results. Of the positive labs reported this flu season there were;

- 1,470 Flu A labs without subtyping
- 50 Flu A (H1)
- 56 Flu A (H3)
- 78 Flu B

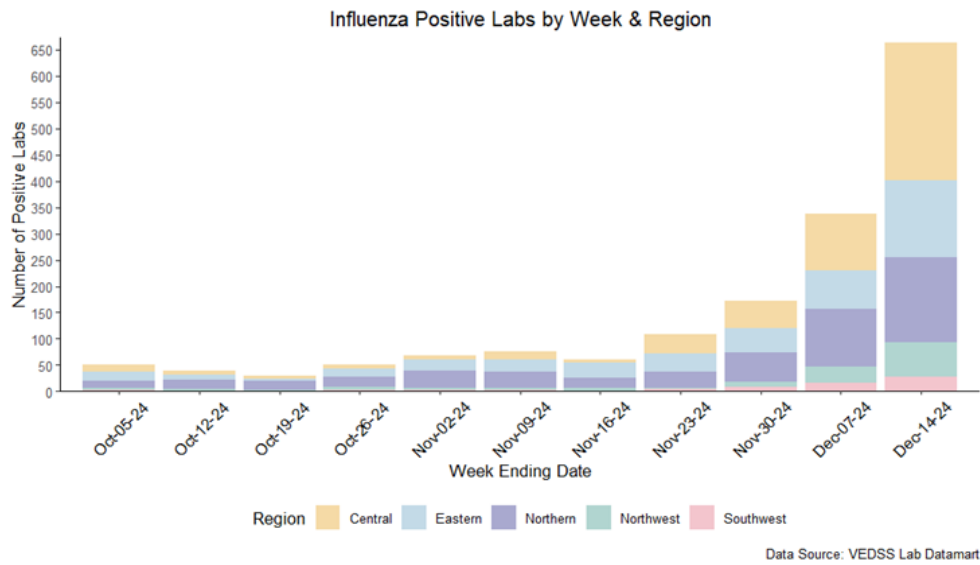
#### Influenza Positive Labs with Subtypes by Week



### 3.2 Lab Confirmed Influenza by Region

VDH received a total of 1,654 influenza positive labs from all 5 health planning regions of Virginia during the 2024-25 influenza season. Central region reported the highest number of labs (262, 40%) during the week of December 08 - December 14, 2024.

### Influenza Positive Labs by Week and Region



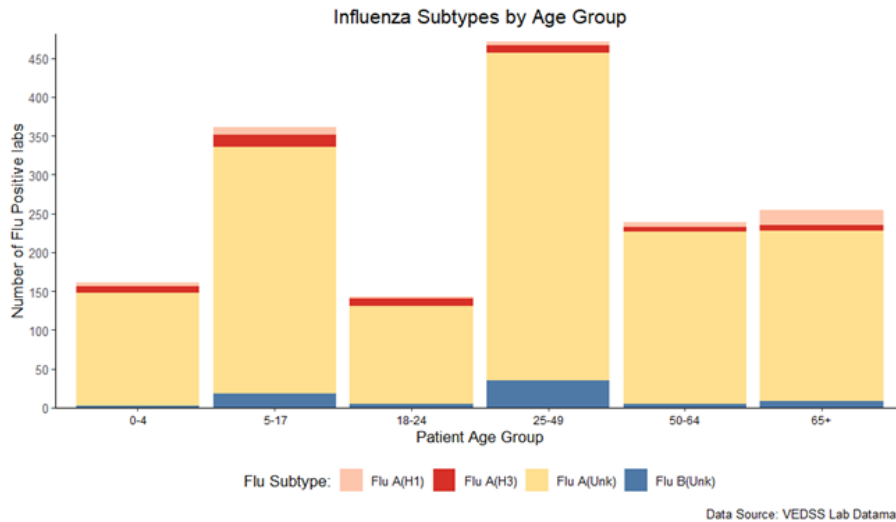
**Table 3: Number of Influenza Positive Lab Reports by Region**

Health Regions	Reporting Week	Cumulative
	N = 663 <sup>†</sup>	N = 1654 <sup>†</sup>
Central	262 (40%)	520 (31%)
Eastern	146 (22%)	422 (26%)
Northern	162 (24%)	506 (31%)
Northwest	66 (10.0%)	140 (8.5%)
Southwest	27 (4.1%)	66 (4.0%)
<sup>†</sup> n (%)		

### 3.3 Demographic Distribution of Influenza Positive Labs

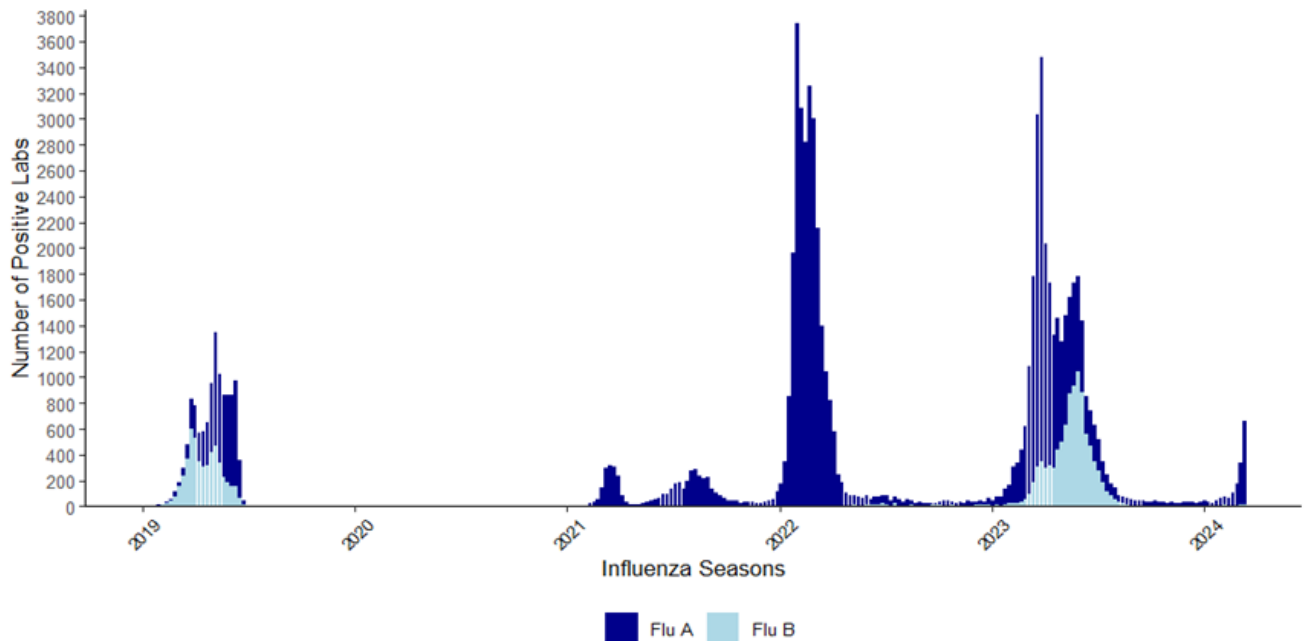
During the 2024-25 influenza season, those aged 25-49 years old (471, 28%) had the highest number of influenza positive labs reported to VDH.

#### Influenza positive labs with subtypes by age group, 2024-25 influenza season



### 3.4 Seasonal Trend of Lab Confirmed Influenza in Virginia

Seasonal Trend of Lab Confirmed Influenza: 2019-20 to 2024-25



## Methodology

### I. Syndromic Surveillance Methodology

VDH analyzes chief complaints and discharge diagnoses of ED and urgent care visits to identify and monitor issues of public health concern. The chief complaint is a free-text field capturing the patient's primary reason for seeking medical care. The discharge diagnosis is a coded field that uses standardized values outlined by the International Classification of Diseases (ICD) 10th Revision and SNOMED Clinical Terms (CT) code sets. Data in this report includes Virginia residents and out of state residents who visit facilities that send data to VDH. Readers are strongly encouraged to review [syndromic surveillance data limitations](#) when interpreting this report.

**Data alerts** (shown by yellow and red dots in graphs) indicate the number of ED and urgent care visits for that week was higher than the number of visits expected to occur compared to a baseline from the previous weeks (**red alert** = p-value <0.01, **yellow warning** = p-value <0.05).

Weekly visit counts for diagnosed COVID-19, influenza, and RSV with a zero to four percent change ( $0 \pm 4\%$ ) compared to the previous week are defined as **stable**. Weekly visit percentages for acute respiratory illness and influenza-like illness that are within 0.5 percentage points from the previous week are considered **stable**.

### II. Outbreak Surveillance Methodology

When a Local Health Department (LHD) is notified of an outbreak of any disease, the outbreak is entered into the Virginia Outbreak Surveillance System (VOSS). As the outbreak investigation continues, users update and add data to the outbreak record. Outbreaks are categorized by syndrome: Respiratory, Dermatological, Gastrointestinal, Sepsis, and Other. Respiratory syndrome outbreak data is pulled for this report.

The Earliest Outbreak Report Date (displayed as Date Reported) is the earliest date from among the following: 1) the date the local health department was notified of the outbreak, 2) the date VDH central office staff was notified of the outbreak, 3) the date the outbreak investigation began, or 4) the date the outbreak record was created in the Virginia Outbreak Surveillance System.

### III. Laboratory Surveillance Methodology

Influenza positive labs are reported by laboratories and the providers via Electronic Lab Report (ELR) or fax. ELR submissions go directly in the Virginia Electronic Disease Surveillance System (VEDSS) and the faxed influenza positive labs (if confirmed by culture, antigen detection by direct fluorescent antigen (DFA), or nucleic acid detection) are entered in VEDSS manually. R version 4.1.1 was used to run this report. Flu+SARS CoV-2 multiplex tests are not included as of this report but will be added in the future reports.

## Case Definitions

### I. Syndromic Surveillance Definitions

Each of the definitions below includes visits to emergency departments (EDs) and urgent cares.

**Diagnosed Acute Respiratory Illness:** visits with any acute respiratory diagnosis, including specific respiratory infections (e.g. influenza, RSV, or coronavirus) and general respiratory illness diagnoses, such as bronchitis, upper respiratory infection, or pneumonia.

**Influenza-like Illness:** visits with a chief complaint of 'flu', fever and sore throat, or fever and cough.

**Diagnosed COVID-19:** visits that include COVID-19 in the discharge diagnosis.

**Diagnosed Influenza:** visits that include influenza in the discharge diagnosis.

**Diagnosed Respiratory Syncytial Virus (RSV):** visits that include RSV in the discharge diagnosis.

Note that data may not represent confirmed cases of these conditions, but they can assist with understanding the burden on healthcare systems and the community.

### II. Outbreak Surveillance Definitions

**Confirmed Outbreak:** An outbreak with 2 or more positive confirmatory lab results<sup>2</sup> without a more likely source of exposure.

**Suspected Outbreak:** An outbreak with either 1 or more confirmatory and 1 or more non-confirmatory positive lab results<sup>1</sup> or case that meets the epidemiological case definition without a more likely source of exposure.

**Unknown Etiologic Agent:** An outbreak without a clear distinction or enough supportive laboratory confirmation results to declare a true etiologic agent. In this report, outbreaks with an unknown agent contain respiratory disease symptoms (cough, sneeze, headache, etc.) but do not have confirmatory lab information that proves a specific respiratory etiologic agent (negative flu panel or SARS-CoV-2 tests).

### III. Laboratory Surveillance Definitions

**Influenza Positive Lab Reports:** Influenza positive lab reports include lab reports that were confirmed by PCR or viral culture or antigen detection by DFA to be positive for influenza virus. This does not include 'Flu Rapid Antigen' tests as those are not reportable in Virginia. 'Undetermined' test results are not included in this report.

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<sup>1</sup> Dependent on the etiologic agent in question