

# Virginia Department of Health Weekly Influenza Activity Report

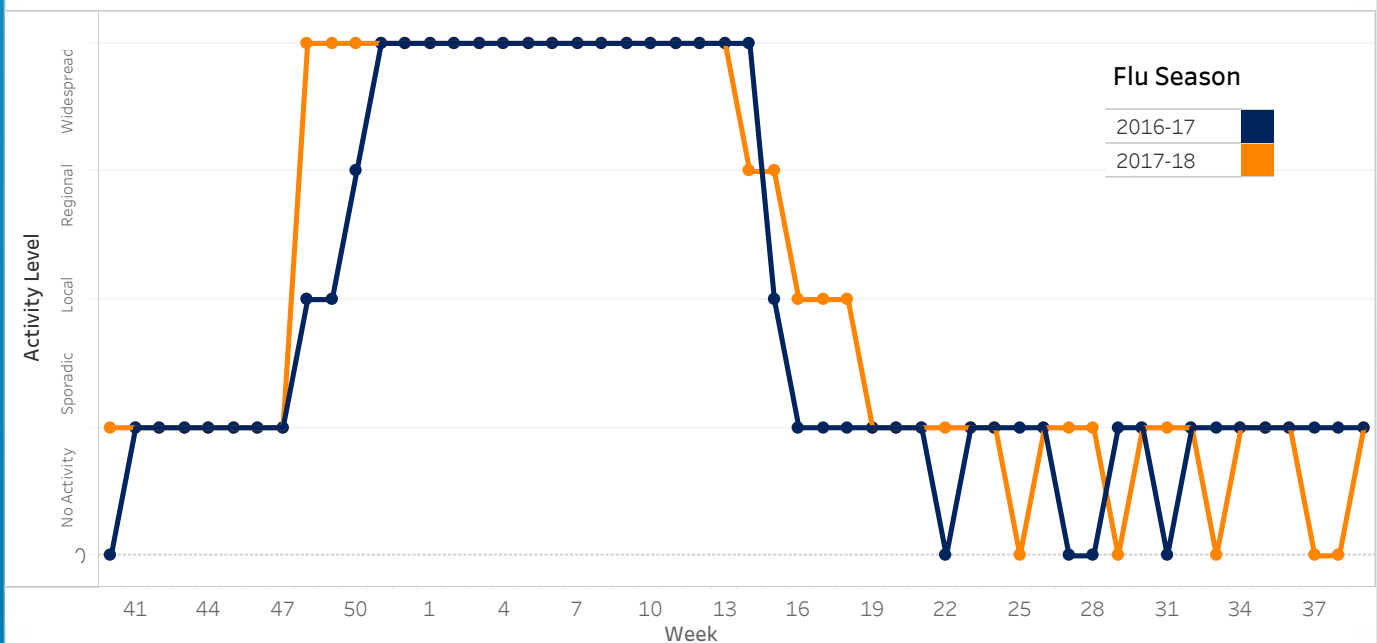


The Virginia Department of Health (VDH) conducts influenza surveillance to provide situational awareness, inform prevention strategies, and prepare for a potential pandemic. These efforts include collecting and analyzing data on visits to emergency departments (EDs) and urgent care centers (UCCs) for an influenza-like illness (ILI), laboratory results of confirmatory tests, suspected and confirmed outbreaks, and pediatric and adult deaths.

Any questions about this report or the data it contains should be directed to [flu@vdh.virginia.gov](mailto:flu@vdh.virginia.gov).

## What does the current geographic spread of influenza look like?

Geographic Activity Level by Week, Last Two Flu Seasons



- During the 2017-18 flu season, Virginia spent **18** weeks at Widespread.
- During the previous five flu seasons, Virginia spent an average of **12** weeks at Widespread.

Activity Levels are determined as follows

- No Activity** - No ILI, outbreak, or lab activity above threshold
- Sporadic** - One confirmed outbreak or lab activity without elevated ILI
- Local** - Lab activity with either elevated ILI or more than one outbreak in one region
- Regional** - Lab activity with either elevated ILI or more than one outbreak in two regions
- Widespread** - Lab activity with either elevated ILI or more than one outbreak in three or more regions

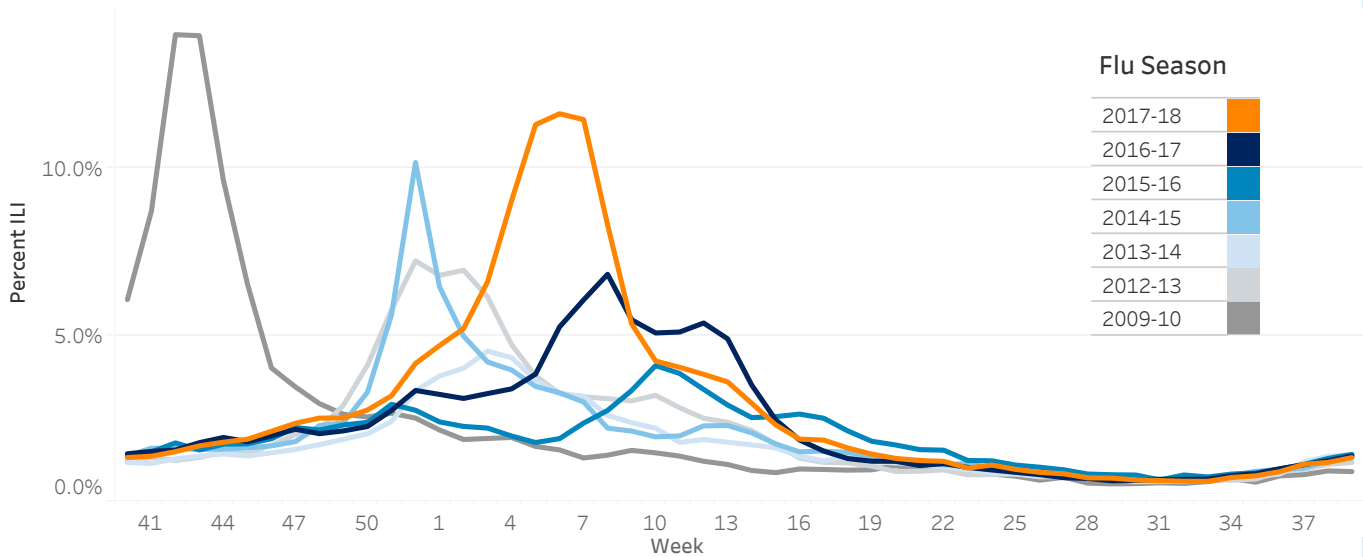
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## How many people are seeking care for an influenza-like illness (ILI)?

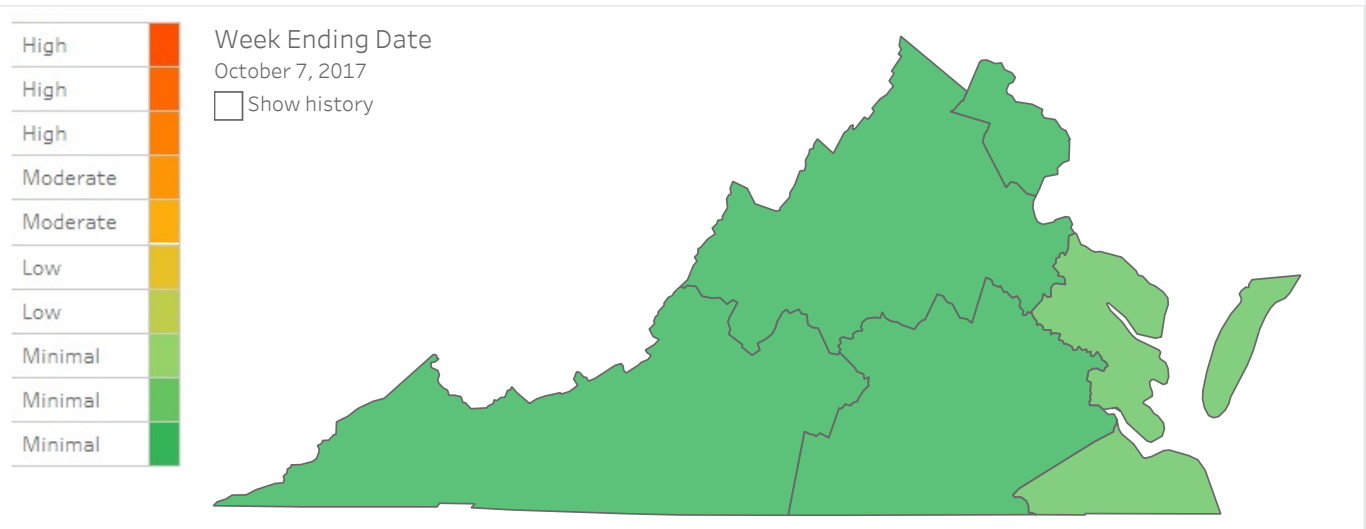
Percent of Visits for Influenza-like Illness by Flu Season



Virginia reported a peak of **11.6%** of ED and UCC visits were for ILI during the week ending February 10, 2018 (week 6).

For **6** consecutive weeks in the 2017-18 flu season (weeks ending January 20, 2018 through February 24, 2018), all regions observed a high ILI intensity level.

Intensity Level by Region, Week ending October 7, 2017



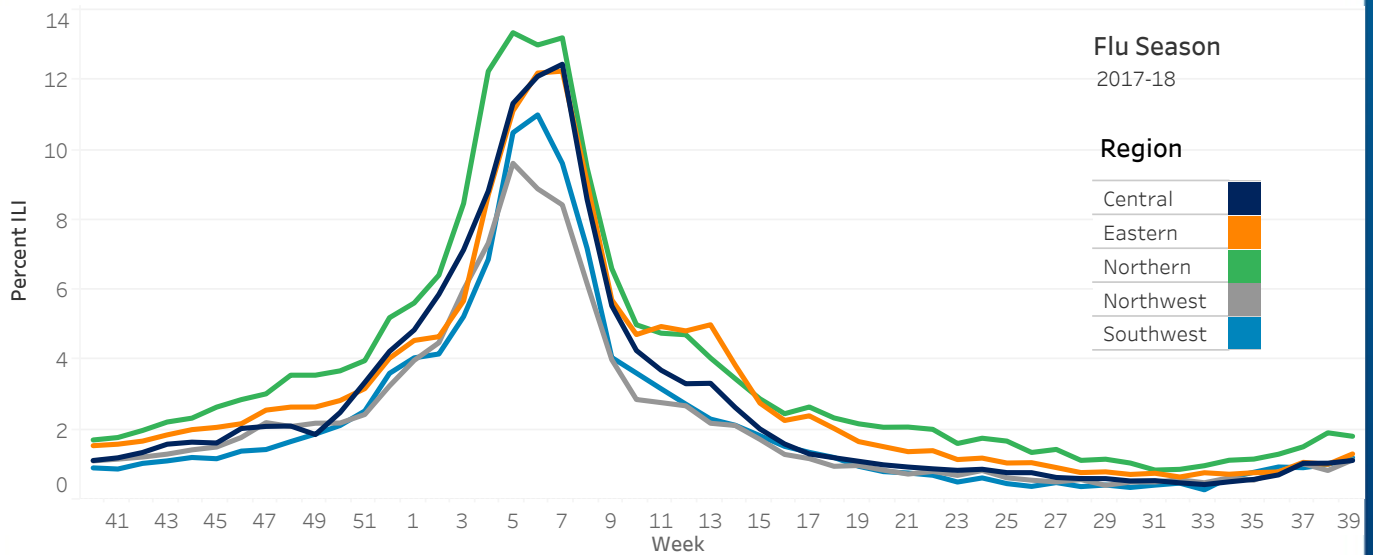
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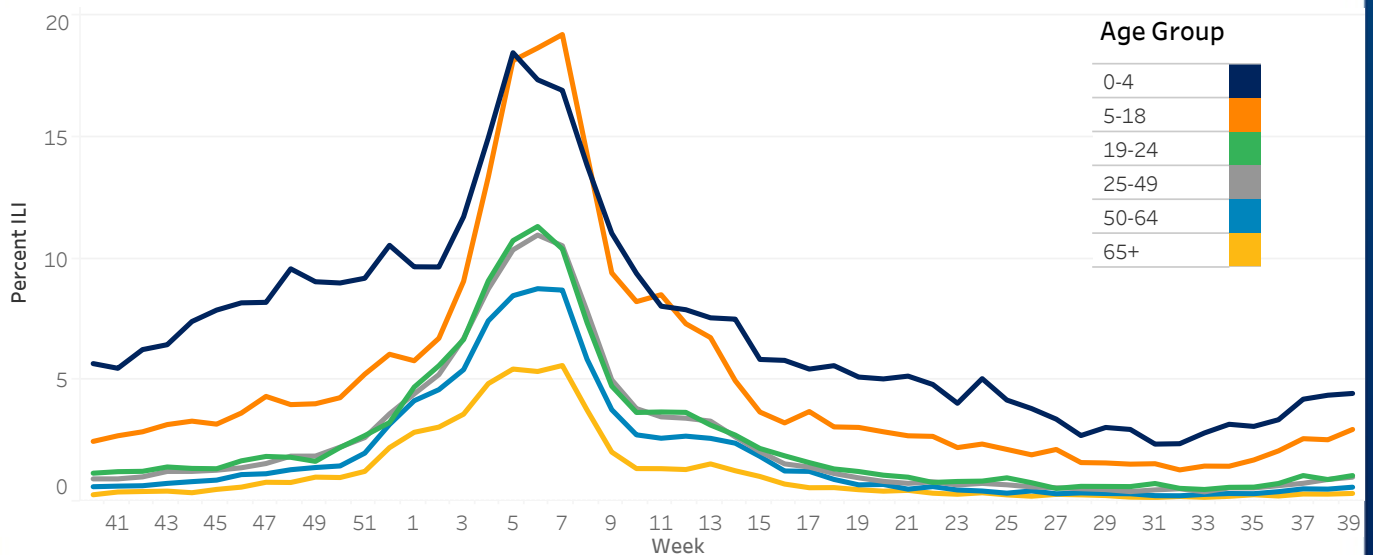


## Who is seeking care for an influenza-like illness (ILI)?

Percent of Visits for Influenza-like Illness by Region, 2017-18 Flu Season



Percent of Visits for Influenza-like Illness by Age Group, 2017-18 Flu Season



During the 2017-18 flu season, all five regions were above threshold for ILI visits for a consecutive **14** weeks.

The largest proportion of visits by age group for ILI for any week occurred during the week ending February 17, 2018 (week 7) with **19.2%** of visits among 5-18 year-olds.

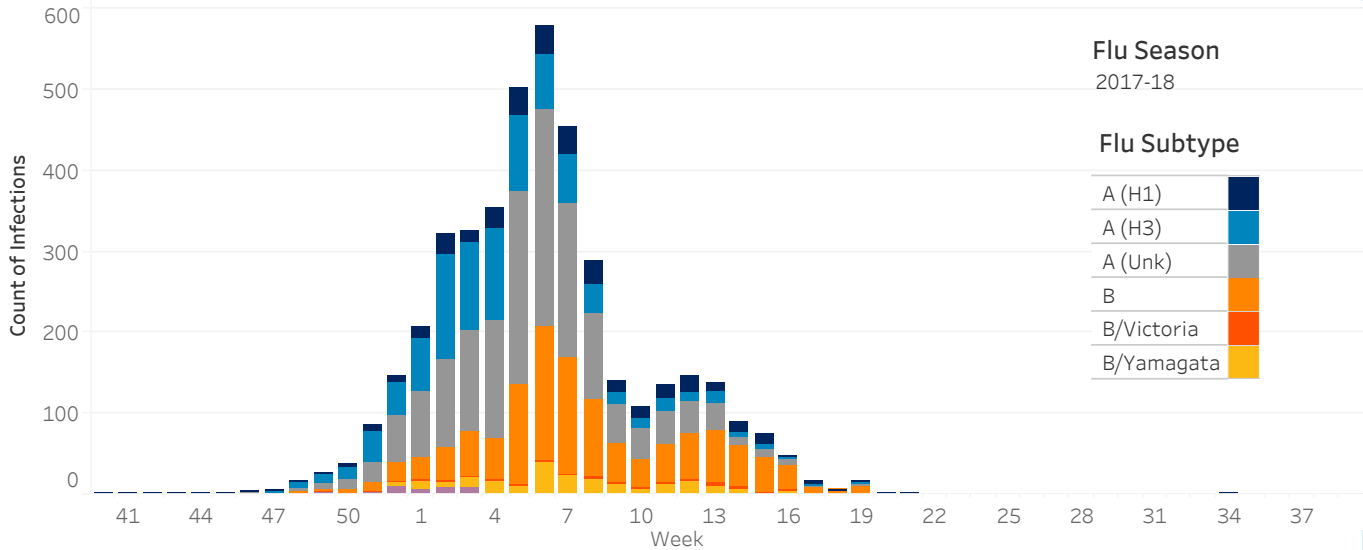
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## What influenza strains are circulating?

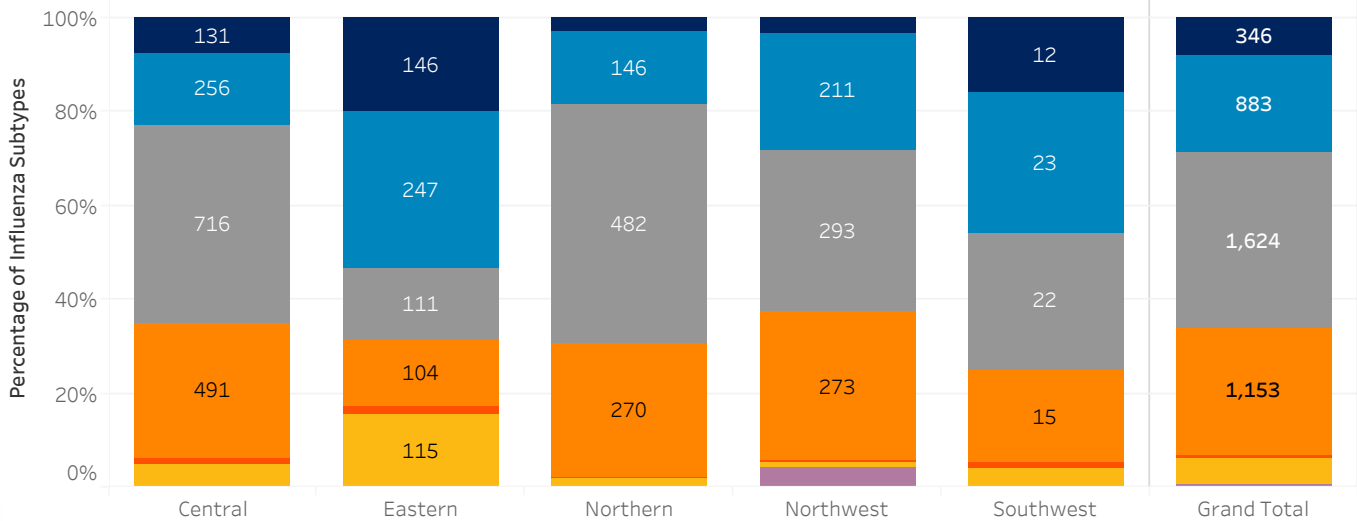
Confirmatory Laboratory Reports by Week and Subtype, 2018-19 Flu Season



## Timeframe

Flu Season

Confirmatory Laboratory Reports by Subtype, 2017-18 Flu Season



Virginia received **4,304** positive confirmatory lab reports during the flu season, representing **4,310** distinct infections.



Of the total **4,310** infections in Virginia during the 2017-18 flu season, **2,853 (66.2%)** were influenza A and **1,415 (32.8%)** were influenza B. Among subtyped specimens, the predominant strains were **A (H3)** with **883 (71.8%)** results and **B/Yamagata** with **229 (87.4%)** results.

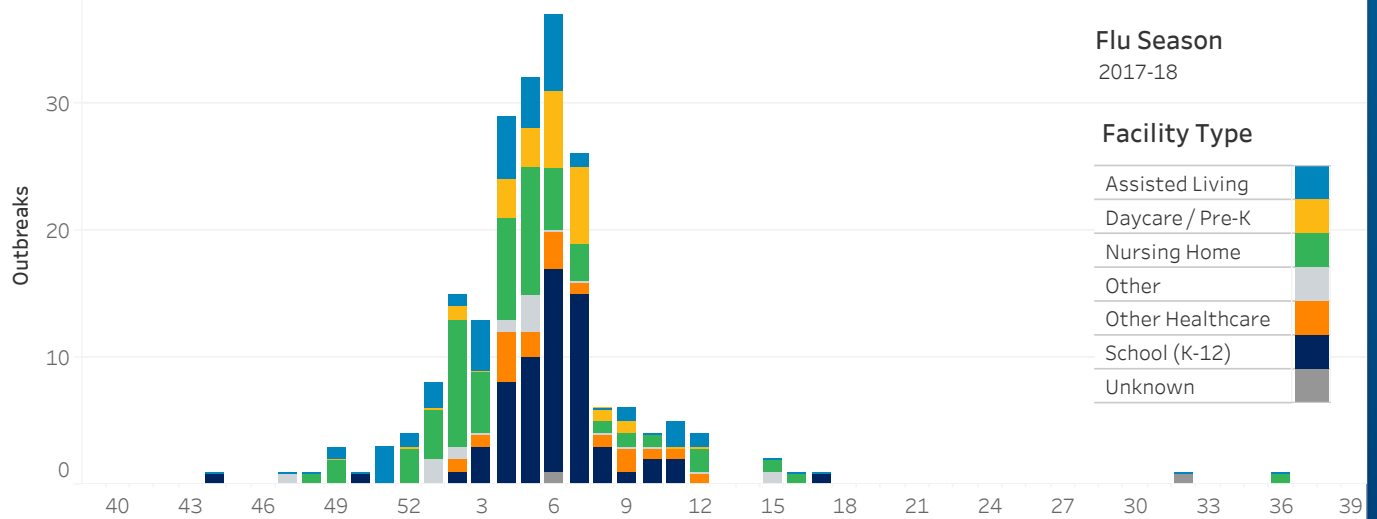
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## Where are outbreaks occurring?

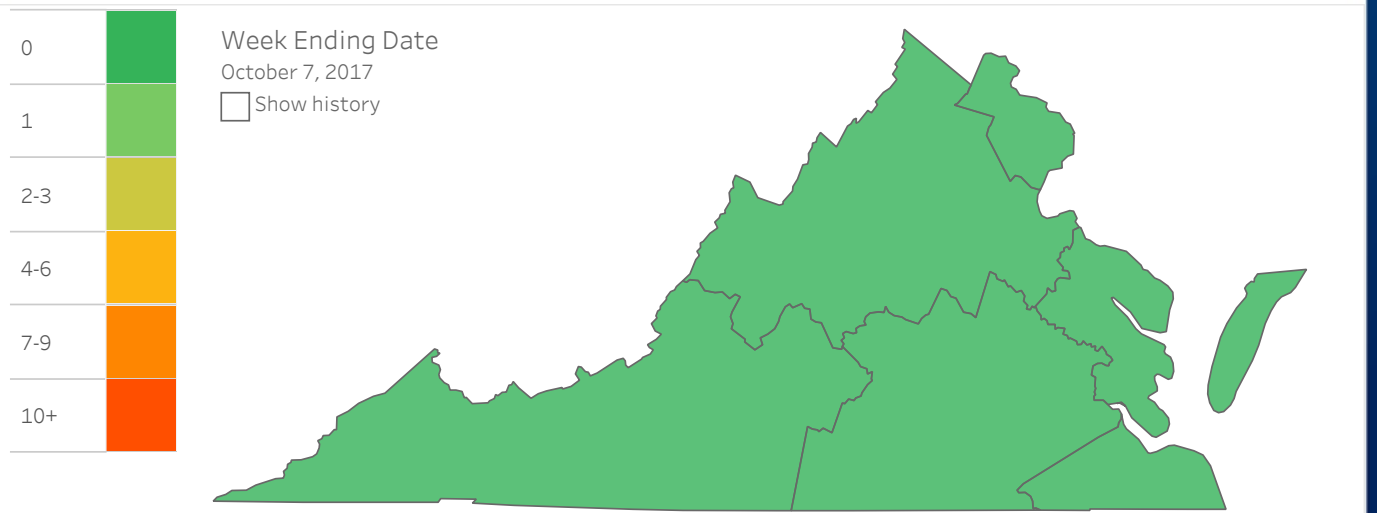
Suspected or Confirmed Outbreaks by Facility Type, 2018-19 Flu Season



At the peak of the 2017-18 flu season, Virginia investigated **37** influenza outbreaks during the week ending February 10, 2018 (week 6).

Virginia investigated a total of **205** outbreaks during the 2017-18 flu season.

Suspected or Confirmed Outbreaks by Region, 2017-18 Flu Season

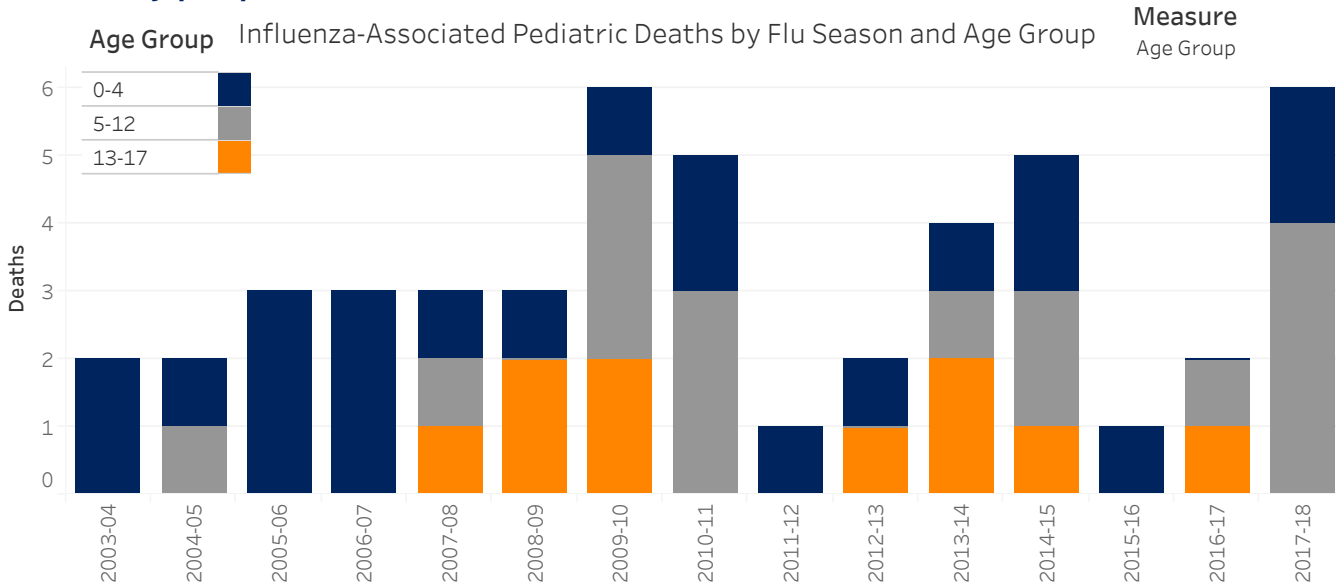


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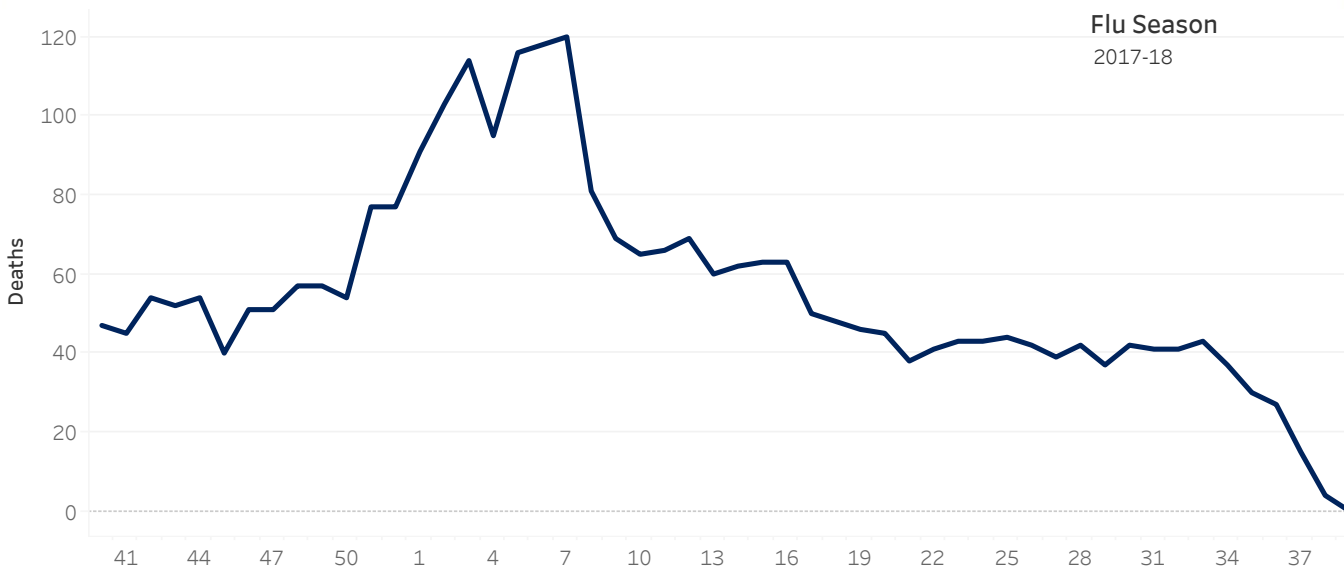
## How many people have died with influenza?



VDH reported **6** influenza-associated pediatric deaths during the 2017-18 flu season.

At the peak of the 2017-18 flu season, Virginia received data on **120** deaths among residents attributed to pneumonia and influenza during the week ending February 17, 2018 (week 7).

Total Deaths due to Pneumonia and Influenza by Week, Flu Season



For more details on the data and methods used in this report, please see the Additional Information tab.

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## What are the main points about influenza activity in Virginia right now?

- During the 2017-18 flu season, Virginia spent **18** weeks at Widespread.
- During the previous five flu seasons, Virginia spent an average of **12** weeks at Widespread.
- Virginia reported a peak of **11.6%** of ED and UCC visits were for ILI during the week ending February 10, 2018 (week 6).
- For **6** consecutive weeks in the 2017-18 flu season (weeks ending January 20, 2018 through February 24, 2018), all regions observed a high ILI intensity level.
- During the 2017-18 flu season, all five regions were above threshold for ILI visits for a consecutive **14** weeks.
- The largest proportion of visits by age group for ILI for any week occurred during the week ending February 17, 2018 (week 7) with **19.2%** of visits among 5-18 year-olds.
- Virginia received **4,304** positive confirmatory lab reports during the flu season, representing **4,310** distinct infections.
- Of the total **4,310** infections in Virginia during the 2017-18 flu season, **2,853 (66.2%)** were influenza A and **1,415 (32.8%)** were influenza B. Among subtyped specimens, the predominant strains were **A (H3)** with **883 (71.8%)** results and **B/Yamagata** with **229 (87.4%)** results.
- At the peak of the 2017-18 flu season, Virginia investigated **37** influenza outbreaks during the week ending February 10, 2018 (week 6).
- Virginia investigated a total of **205** outbreaks during the 2017-18 flu season.
- VDH reported **6** influenza-associated pediatric deaths during the 2017-18 flu season.
- At the peak of the 2017-18 flu season, Virginia received data on **120** deaths among residents attributed to pneumonia and influenza during the week ending February 17, 2018 (week 7).

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## Where do these data and methods come from? What are their limitations?



### Geographic Spread Activity Level

Geographic spread is calculated using the percent of visits for ILI, the number of laboratory confirmed cases of influenza, and the number of confirmed or suspected outbreaks per region according to guidance from the Centers for Disease Control and Prevention (CDC).

This measure provides a snapshot of how much of Virginia is affected by influenza at any given time, but does not reflect intensity or severity.



### Emergency Department (ED) and Urgent Care Center (UCC) Visits for Influenza-like Illness (ILI)

VDH receives data on ED and urgent care visits from 154 facilities throughout Virginia as part of the syndromic surveillance program. Each visit's chief complaint, or patient-stated reason for seeking medical care, is analyzed using a syndrome definition for ILI (fever with cough or fever with sore throat). These data are presented as a percentage of total ED and urgent care visits in order to adjust for increased reporting over time.

Baseline is calculated by averaging the percent of visits for ILI during non-flu weeks and is determined using CDC methodology. A threshold is calculated for each region in Virginia as baseline plus two standard deviations.

These data provide valuable information on the timing and burden of ILI, but are not specific. ILI may be caused by a number of respiratory diseases, not just influenza.



### Confirmatory Laboratory Results

Reverse transcription polymerase chain reaction (RT-PCR), viral culture, and direct fluorescent antibody (DFA) test results are considered confirmatory for influenza. Some medical providers are able to offer these tests at in-house laboratories, some send samples to commercial laboratories, and some have partnered with the Virginia public health laboratory, the Division of Consolidated Laboratory Services (DCLS) to have select specimens tested. In Virginia, if confirmatory lab results are available, they are required to be reported to VDH. These data provide details on the specific strains and subtypes circulating each year for situational awareness, future vaccine strain selection, and potential pandemic preparedness.

These data are not regionally comparable or representative, however, as some providers have greater access to confirmatory testing methods than others. Use of confirmatory testing has increased in recent years, meaning that these data are also not comparable across flu seasons.



### Suspected and Confirmed Outbreaks

In Virginia, all outbreaks are required to be reported to the local health department. Local and regional epidemiologists respond to reported outbreaks by collecting data and providing infection control recommendations. Influenza outbreaks are considered suspected if the symptoms, onset dates, and general presentation matches the flu and can be confirmed with the presence of at least one positive flu test - either one of the confirmatory test types mentioned above or a commercially-available rapid test.

Not all facilities report outbreaks to the health department. These data are an under-representation of the true burden of disease.



### Influenza-Associated Pediatric Deaths

In 2004, the CDC made influenza-associated pediatric mortality a nationally-notifiable condition. VDH acts as the reporting agency by investigating, collecting, and providing data on each case including virus subtype, vaccination history, and any viral or bacterial coinfections. Only the child's age group and geographic region are reported to the public in order to maintain privacy and sensitivity.



### Pneumonia and Influenza (P&I) Deaths

The VDH Office of Vital Records collects and maintains death certificates on all Virginia residents. These records are sent to the National Center for Health Statistics (NCHS) for cause-of-death coding. VDH receives these records back in the weeks and months that follow with associated ICD-10 codes for each contributing cause of death.

Influenza infection can lead to severe and life-threatening complications. Counting only those death record that list influenza underrepresents the burden of disease. Death records that list pneumonia as the cause of death are often used as a proxy variable for influenza. In recent years, however, there's been a decline in the number of deaths due to pneumonia, giving the P&I trend line a downward slope that is not necessarily reflective of influenza mortality trends. This is a complex issue that many influenza surveillance experts are currently debating.

Please direct any additional questions about this report or these data sources to [flu@vdh.virginia.gov](mailto:flu@vdh.virginia.gov).