

Washington State Influenza Update

Week 41: October 7, 2018-October 13, 2018

Washington State Department of Health, Communicable Disease Epidemiology

Please note all data are preliminary and may change as data are updated

State Summary: Flu activity is low

- Zero lab-confirmed influenza deaths have been reported for the 2018-2019 season to date.
- Zero influenza-like illness outbreaks in long term care facilities have been reported for the 2018-2019 season to date.
- During week 41, 0.6 percent of visits among Influenza-like illness Network participants were for influenza-like illness, below the baseline of 1.1 percent.
- During week 41, 1.8 percent of specimens tested by WHO/NREVSS collaborating laboratories in Washington were positive for influenza.
- Influenza A and Influenza B were reported during week 41.

Influenza Laboratory Surveillance Data

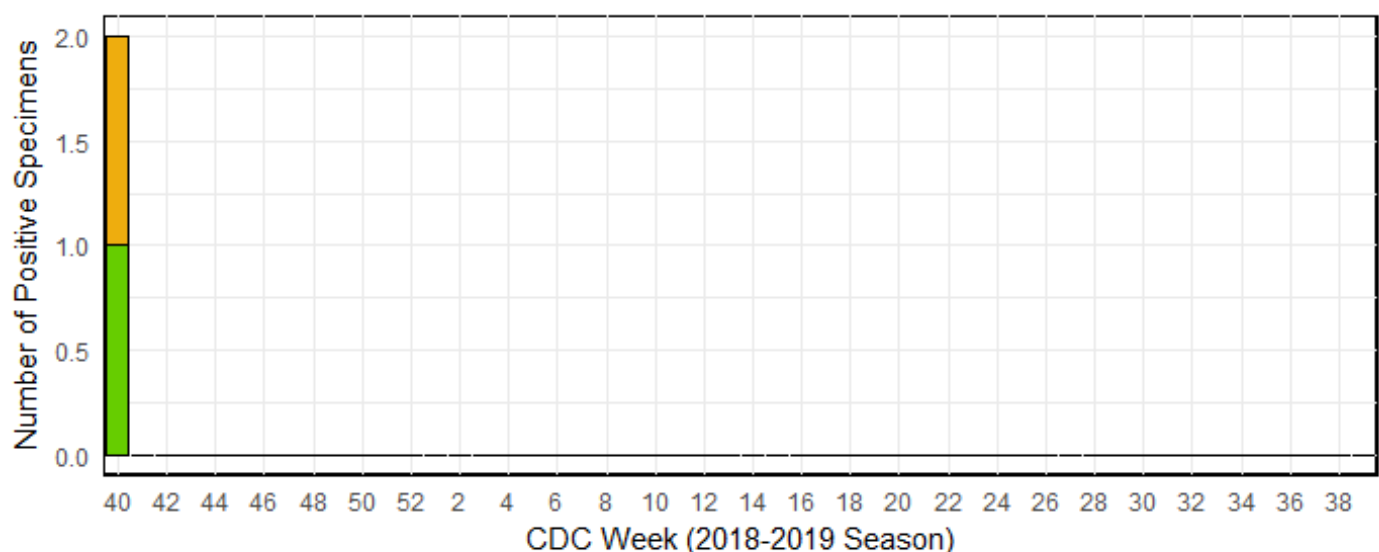
Laboratory Data: World Health Organization (WHO) & National Respiratory and Enteric Virus Surveillance System (NREVSS) Data Reported to CDC

For the 2018-2019 influenza season, CDC has generated separate graphs of data reported to CDC by public health laboratories (Figure 1) and commercial laboratories (Figure 2). Table 1 combines the data from the public health and commercial laboratories.

Table 1: WA Influenza Specimens Reported to CDC, Public Health Laboratories and Commercial Laboratories

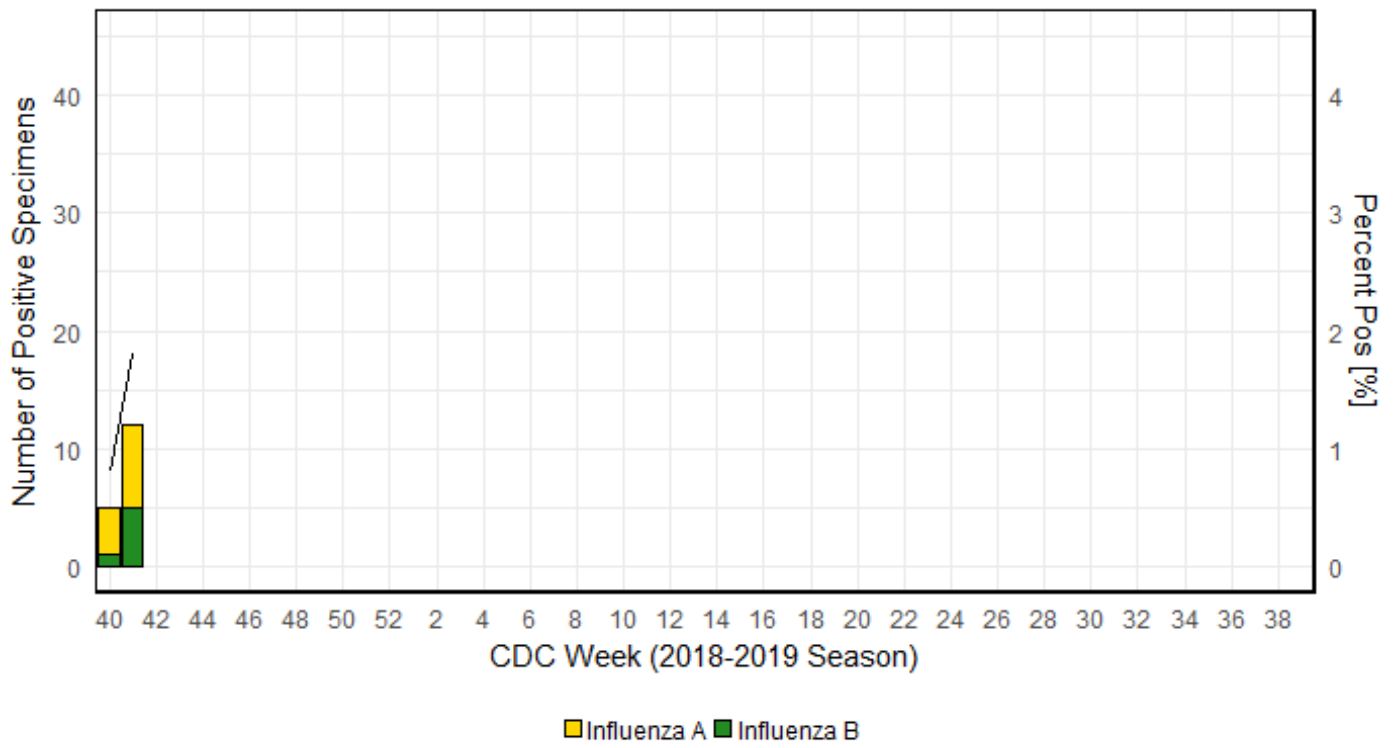
Week	A (H1)	A (2009 H1N1)	A (H3N2)	A (Unable to Subtype)	A (Subtyping not performed)	B	BYam	BVic	Total Tested	% Flu Positive
40	0	2	0	0	3	1	1	0	644	1.1
41	0	0	0	0	7	5	0	0	651	1.8

Figure 1: Influenza Positive Tests Reported to CDC, WA Public Health Laboratories



■ A (H1) ■ A (H3N2) ■ A (Subtyping not performed) ■ BYam
■ A (2009 H1N1) ■ A (Unable to Subtype) ■ B ■ BVic

Figure 2: Influenza Positive Tests Reported to CDC, WA Commercial Laboratories



Antigenic Characterization

No testing has yet occurred on specimens collected during the 2018-2019 influenza season.

Antiviral Resistance Testing

No testing has yet occurred on specimens collected during the 2018-2019 influenza season.

Outpatient Influenza-like Illness Surveillance

Outpatient Influenza-like Illness Surveillance Network (ILINet) Data

ILI is defined as fever (temp 100°F/37.8°C or higher) plus cough and/or sore throat. During week 41, 14 sentinel providers in Washington reported data through the U.S. Outpatient Influenza-like Illness Surveillance Network (ILINet). Of 5409 visits reported, 34 (0.6%) were due to ILI, below the baseline of 1.1%.

Note that for this figure the baseline is determined by calculating the mean percentage of patient visits for ILI during non-influenza weeks for the previous three seasons and adding two standard deviations. A non-influenza week is defined as periods of two or more consecutive weeks in which each week accounted for less than 2% of the season's total number of specimens that tested positive for influenza in public health laboratories. See <http://www.cdc.gov/flu/weekly/overview.htm>

Figure 3: Percentage of ILI Visits Reported by Sentinel Providers, Washington, 2016-2018

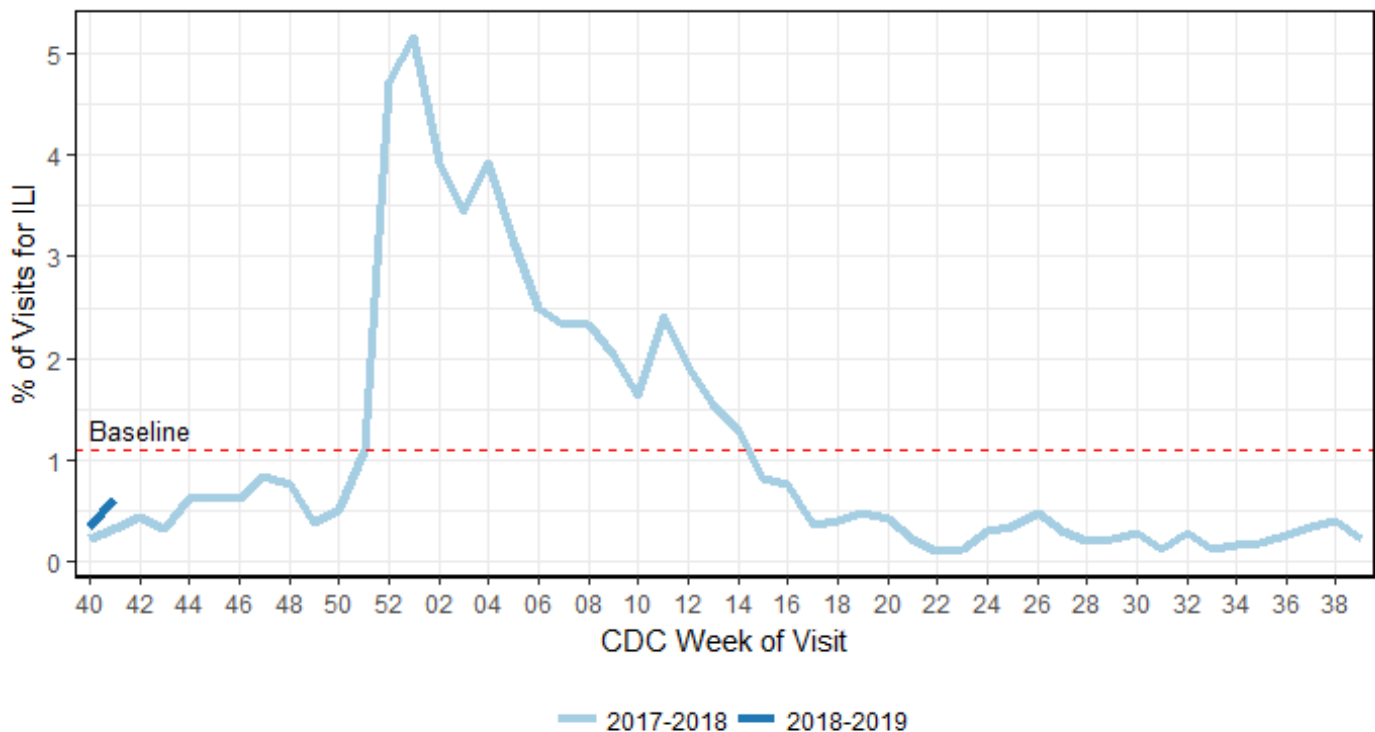


Table 2: Number of ILI Visits Reported by Sentinel Providers by Age Group, Washington

Week	Sentinel Providers	Age 0-4	Age 5-24	Age 25-49	Age 50-64	Over 64	Total ILI	Total Patients	Percent ILI
38	34	10	6	2	1	1	20	4,889	0.4
39	21	3	2	4	2	0	11	4,907	0.2
40	29	6	11	3	1	3	24	6,964	0.3
41	14	9	9	8	3	5	34	5,409	0.6

Influenza-like Illness Syndromic Surveillance Data

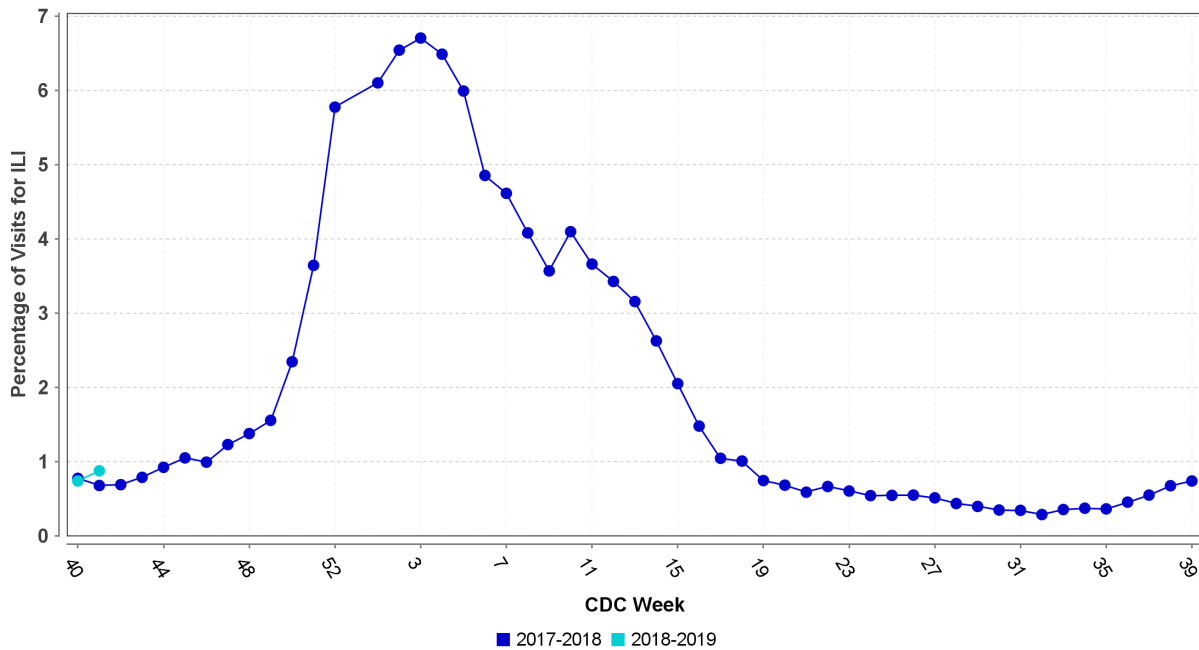
ESSENCE Syndromic Surveillance Data

Figure 6 shows the proportion of visits at a subset of emergency departments across Washington for a chief complaint of influenza-like illness, or discharge diagnosis of influenza, by CDC week. For this purpose, ILI is defined as “influenza” or fever with cough or fever with sore throat.

For more information about Syndromic Surveillance in Washington State, see

<http://www.doh.wa.gov/ForPublicHealthandHealthcareProviders/HealthcareProfessionalsandFacilities/DataReportingandRetrieval/ElectronicHealthRecordsMeaningfulUse/SyndromicSurveillance>.

Figure 6: Syndromic Surveillance, Percentage of Hospital Visits for a Chief Complaint of ILI, or Discharge Diagnosis of Influenza, by CDC Week, Washington, 2016-2018



Influenza-like Illness Outbreaks in Long Term Care Facilities

Long term care facilities are required to report all suspected and confirmed outbreaks to their [local health jurisdiction](#) per Washington Administrative Code (WAC) [246-101-305](#). Long-term care facilities are required to report the following:

- A sudden increase in acute febrile respiratory illness over the normal background rate (e.g., 2 or more cases of acute respiratory illness occurring within 72 hours of each other) OR
- Any resident who tests positive for influenza

Recommendations for prevention and control of influenza outbreaks in long-term care facilities are available at: <http://www.doh.wa.gov/Portals/1/Documents/5100/fluoutbrk-LTCF.pdf>

Local health jurisdictions in turn report long-term care facility influenza-like illness outbreaks to the Washington State Department of Health.

Since Week 40 of 2018, 0 influenza-like illness outbreaks in long-term care facilities have been reported to the Washington State Department of Health.

Seasonal Baselines and Epidemic Thresholds

Figures 8 and 9 are courtesy of Elaine Nsoesie of the University of Washington Institute for Health Metrics and Evaluation and Al Ozonoff of Harvard Medical School. Methods are based on the work of Robert E Serfling (1963). <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC1915276/>

Figure 8 shows the percentage of specimens tested for influenza at WHO/NREVSS labs that are positive for influenza by week. For week 41, the percentage of specimens positive for influenza is below both the seasonal baseline and the epidemic threshold.

Figure 9 shows the percentage of visits that are for influenza like illness among ILINet providers. For week 41, the percentage of visits for ILI is below both the seasonal baseline and the epidemic threshold.

The seasonal baseline is calculated using data from the previous five years, and the epidemic threshold is 1.645 standard deviations above the seasonal baseline. This method is similar to that used by CDC when calculating pneumonia and influenza mortality, as described in <http://www.cdc.gov/flu/weekly/overview.htm>.

The intention of these models is to provide a data driven approach to determining when influenza has reached an epidemic level. Under these models, influenza is considered to be epidemic when the percentage of specimens positive for influenza is at or above the epidemic threshold, and the percentage of visits for ILI is also at or above the epidemic threshold.

Taken together, these figures show that influenza activity is below both the seasonal baseline and the epidemic threshold for week 41. Feedback on the use of these models is welcomed.

Figure 8: Percentage of Specimens Positive for Influenza, WHO/NREVSS labs

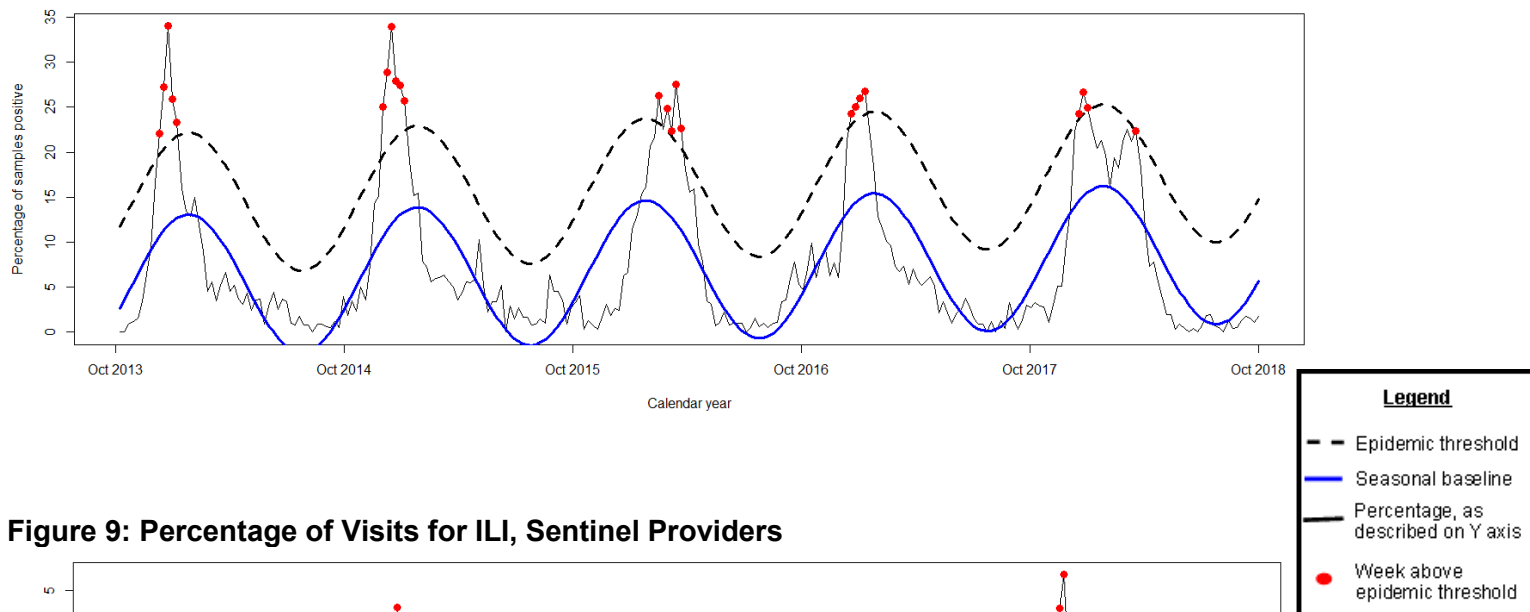
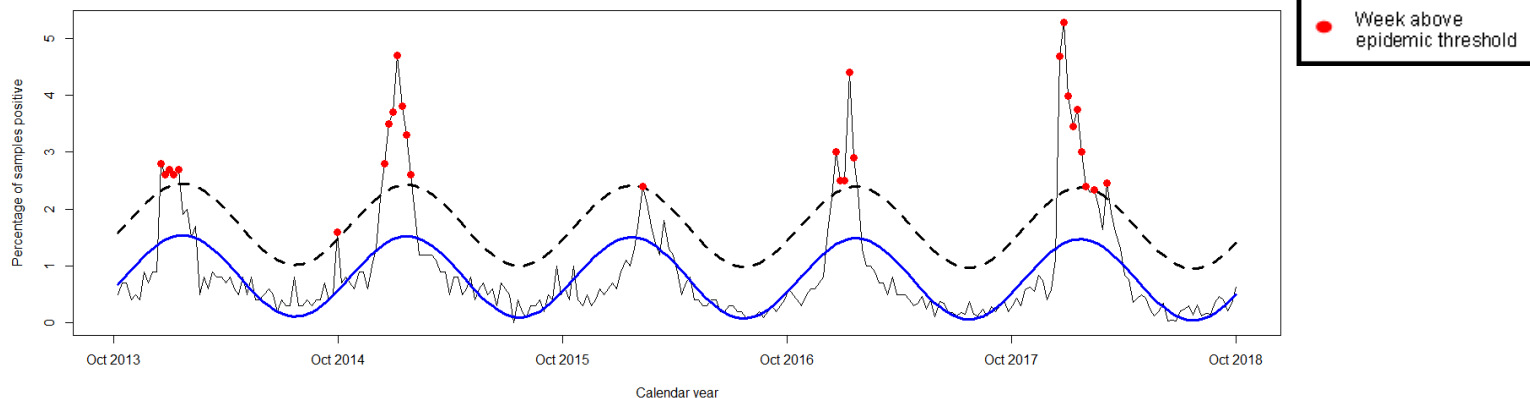


Figure 9: Percentage of Visits for ILI, Sentinel Providers



Other Causes of Respiratory Infections

During the 2018-2019 season, the following non-influenza respiratory viruses were reported to the National Respiratory and Enteric Surveillance System (NREVSS).

For more information about NREVSS, see <https://www.cdc.gov/surveillance/nrevss/index.html>.

Figure 10: Respiratory and Enteric Viruses, Washington, 2018-2019 Season to Date

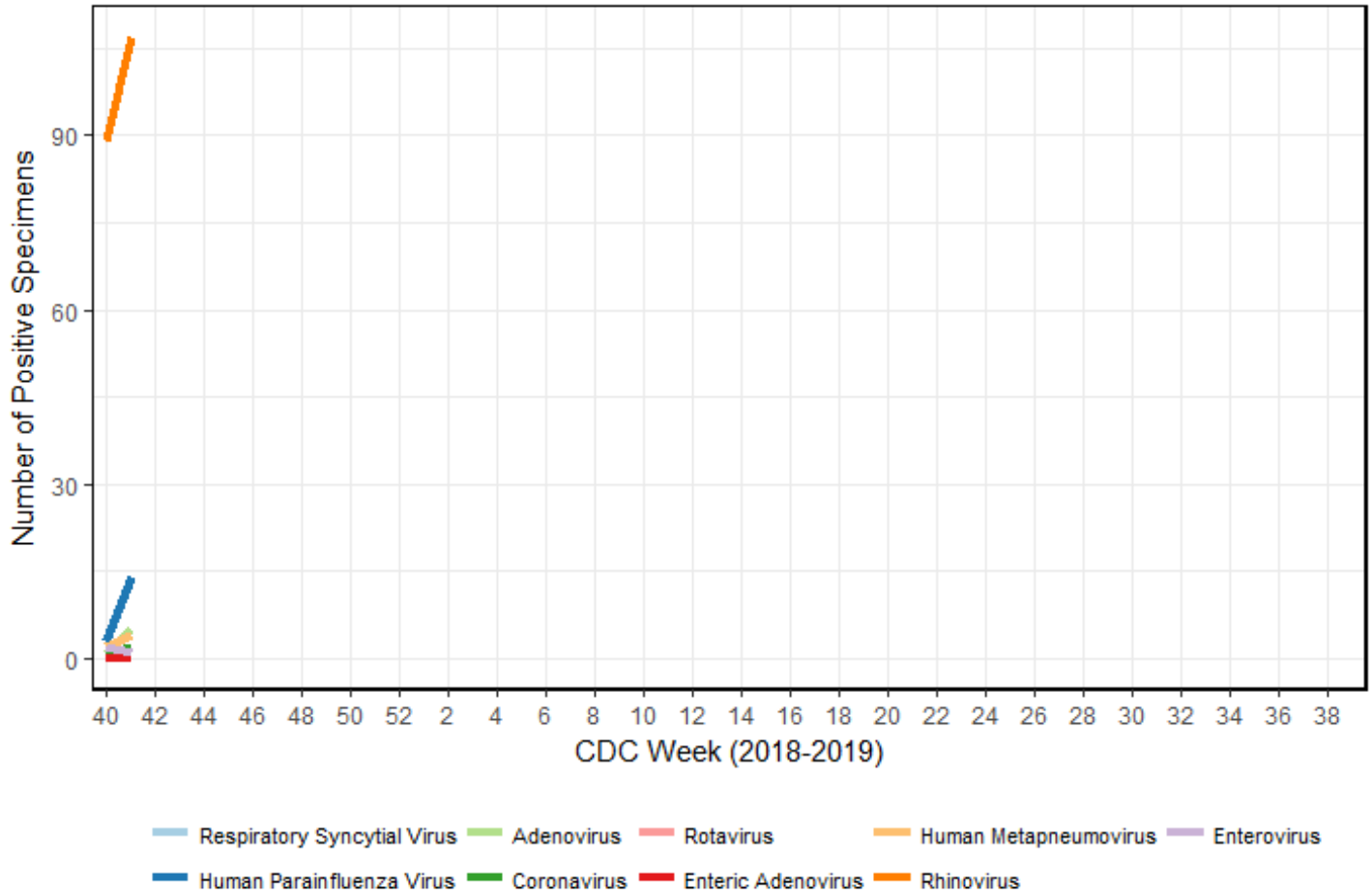


Table 3: Respiratory and Enteric Viruses, 2018-2019 Season to Date

Week	Reporters	Respiratory Syncytial Virus	Human Parainfluenza Virus	Adenovirus	Coronavirus	Rotavirus	Enteric Adenovirus	Human Metapneumovirus	Rhinovirus	Enterovirus
38	11	2	4	4	0	1	0	1	65	0
39	11	3	9	6	0	1	0	1	71	1
40	10	1	3	1	1	0	0	2	89	2
41	8	1	14	5	2	0	0	4	107	1

Laboratory Confirmed Influenza-Associated Deaths

Reported Laboratory-Confirmed Influenza Associated Deaths

Note that these counts reflect only deaths officially reported to the Washington State Department of Health.

Note that each influenza season is reported as week 40 through week 39 of the following year. Previously counts of death were reported from week 30 through week 29.

Zero laboratory-confirmed influenza deaths have been reported since week 40 of 2018.

Table 4: Count and rate of reported laboratory-confirmed influenza-associated deaths by age group, Washington, 2018-2019 season to date

Age Group (in years)	Count of Deaths	Death Rate (per 100,000 population)
0-4	0	0.00
5-24	0	0.00
25-49	0	0.00
50-64	0	0.00
65+	0	0.00
Total	0	0.00

Reported Laboratory-Confirmed Influenza-Associated Deaths, Past Seasons

For reference, lab-confirmed influenza death totals reported to the Department of Health for past seasons are presented below in Table 5. Note that for the purposes of tables 4 and 5, each influenza season runs from week 40 of one year to week 39 of the next (roughly October to October).

Past season summaries are available:

<http://www.doh.wa.gov/DataandStatisticalReports/DiseasesandChronicConditions/CommunicableDiseaseSurveillanceData/InfluenzaSurveillanceData>

Note that influenza deaths are likely under-reported. The reasons for this under-reporting vary. Influenza may not be listed as a cause of death, influenza testing may not have occurred in a timely fashion to identify the virus, or may not have been performed at all, and lab-confirmed influenza deaths may not have been appropriately reported to public health.

CDC has published information about estimating seasonal influenza-associated deaths:

(http://www.cdc.gov/flu/about/disease/us_flu-related_deaths.htm?mobile=nocontent)

Table 5: Count of Reported Laboratory-Confirmed Influenza-Associated Deaths, Past Seasons to Week 41 and Total

Season	Count of Deaths as of Week 41 of Season	Count of Deaths Reported for the Entire Season (week 40 to week 39)
2018-2019, to date	0	0
2017-2018	0	296
2016-2017	1	278
2015-2016	0	67
2014-2015	0	156
2013-2014	0	80
2012-2013	0	54
2011-2012	0	20
2010-2011	0	36

Additional Resources

International Influenza Data: <http://www.who.int/topics/influenza/en/>
National Influenza Surveillance Report: <http://www.cdc.gov/flu/weekly/>

Washington DOH Influenza Information for Public Health and Healthcare Providers:
<http://www.doh.wa.gov/ForPublicHealthandHealthcareProviders/PublicHealthSystemResourcesandServices/Immunization/InfluenzaFluInformation#recommendation>

Washington Local Health Department Influenza Surveillance Reports:

Clark County: <https://www.clark.wa.gov/public-health/flu>

King County: <http://www.kingcounty.gov/healthservices/health/communicable/diseases/Influenza.aspx>

Kitsap County: <http://www.kitsappublichealth.org/Respiratory.pdf>

Pierce County: <http://providerresources.tpchd.org/influenza/>

Whatcom County: <http://www.co.whatcom.wa.us/967/Influenza>

Yakima County: <http://www.yakimacounty.us/365/RSV-Flu-Stats>