INFLUENZA SURVEILLANCE, 2015–2016

The Department of Health (DOH), in collaboration with local health jurisdictions and Centers for Disease Control and Prevention (CDC), performed surveillance for influenza during the 2015 to 2016 season using several different systems. This report summarizes data collected from July 26, 2015 to July 23, 2016 (week 30 of 2015 through week 29 of 2016) through key systems.

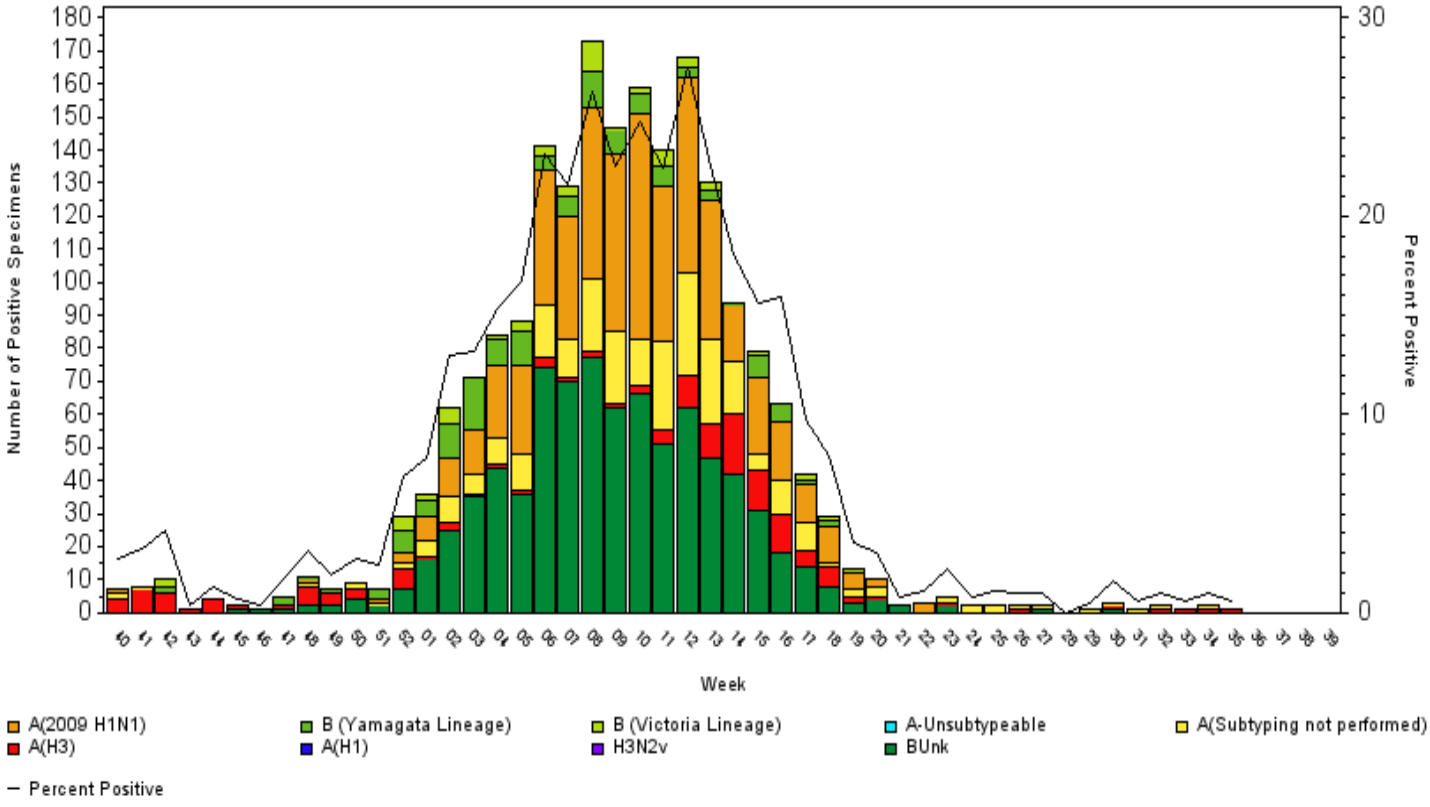
Overall Summary

Nationally, influenza activity remained low from October 2015 until late December 2015 and peaked in mid-March 2016. Compared with recent previous seasons (2012-13, 2013-14, 2014-15), this was a moderate season with lower activity and a later peak. Nationally, influenza A (2009 H1N1) viruses predominated overall, but influenza A(H3N2) viruses were more commonly identified from October through December, and influenza B viruses were more commonly identified from mid-April through mid-May.

World Health Organization/National Respiratory and Enteric Virus Surveillance System (WHO/NREVSS)

Seven laboratories in Washington participate in the WHO/NREVSS surveillance network, along with other laboratories nationwide that test Washington residents for influenza. WHO/NREVSS laboratory data for WA residents are shown in the following figure.

Figure 1. Influenza positive tests reported to CDC by WHO/NREVSS collaborating laboratories, Washington, 2015-2016



Updated 09/09/2016

DOH 420-100

Antigenic Characterization

Antigenic characterization has been conducted by CDC on a subset of influenza specimens collected in Washington during the 2015-2016 season, as described below.

Fifteen influenza A (H3N2) specimens were characterized as A/Switzerland/9715293/2013-like, the influenza A (H3N2) component of the 2015-2016 vaccine. Two influenza A (H3N2) specimens were characterized as A/Hong Kong/4801/2014-like, the influenza A (H3N2) component of the 2016-2017 Northern Hemisphere vaccine.

Twenty-three influenza A (2009 H1N1) specimens were characterized as A/California/07/2009-like, the influenza A (H1N1) component of the 2015-2016 vaccine.

Thirty-three influenza B specimens were characterized as B/Phuket/3073/2013-like, the B Yamagata lineage component of the 2015-2016 trivalent and quadrivalent vaccines.

Fifteen influenza B specimens were characterized as B/Brisbane/60/2008-like, the B Victoria lineage component of the 2015-2016 quadrivalent influenza vaccine.

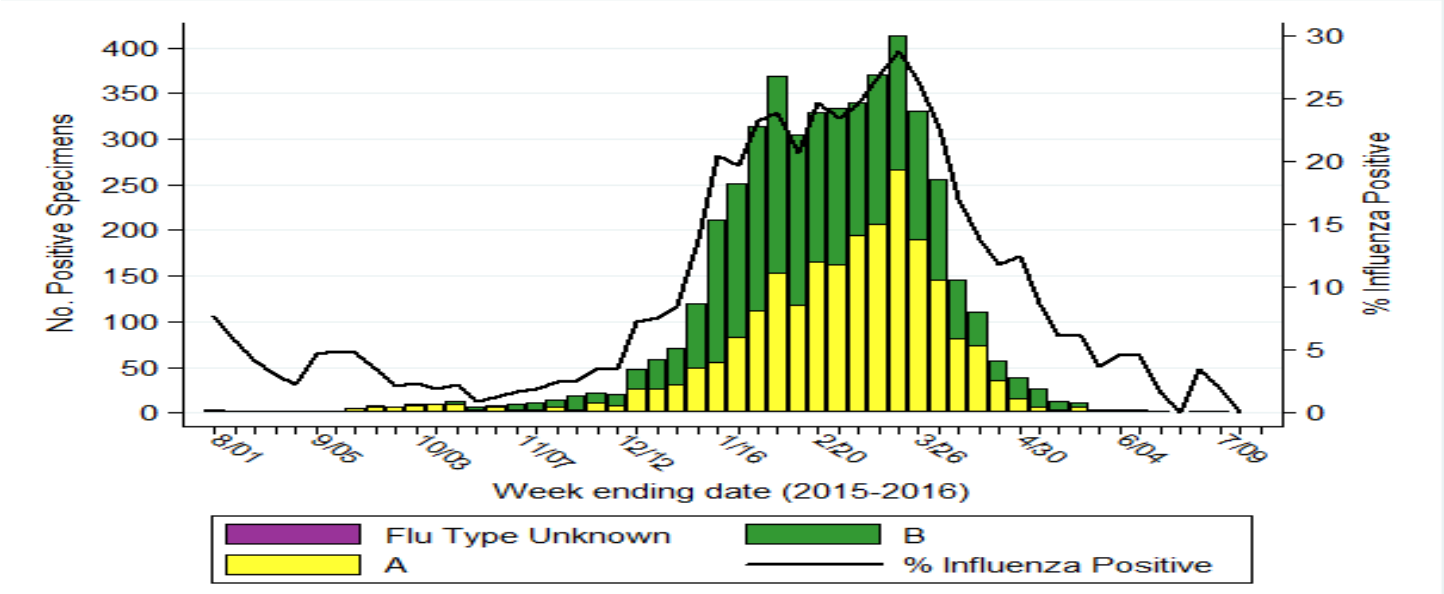
Antiviral Resistance Testing and Novel Influenza A Viruses

Forty-four influenza A (H1N1) isolates collected in Washington during the 2015-2016 season had antiviral resistance testing performed at CDC, with one isolate resistant to oseltamivir and peramivir. Forty-four influenza A(H3N2) isolates and 94 influenza B isolates had antiviral resistance testing performed at CDC, with none found to be resistant. Nationally, less than one percent of influenza viruses tested have resistance to antivirals.

Public Health Reporting of Aggregate Influenza Data (PHRAID)

Select commercial laboratories in Washington report the number of influenza tests performed and the number positive for influenza A and B each week through PHRAID (Figure 2).

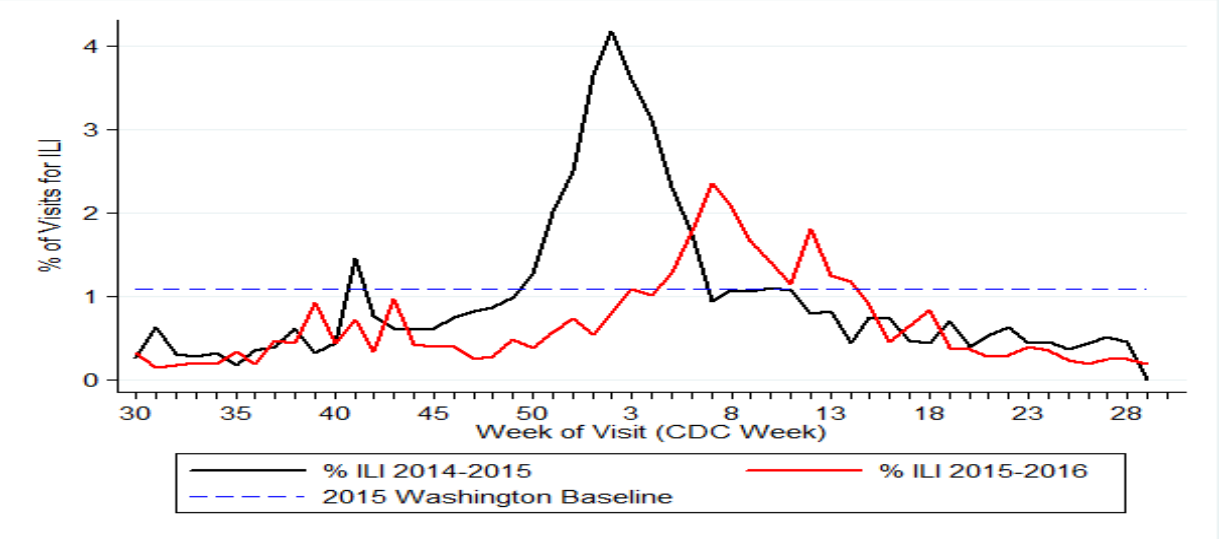
Figure 2. Aggregate Influenza Testing Results, Western Washington, 2015–2016



Outpatient Influenza-like Illness Surveillance Network (ILINet) Data

Information on patient visits to health care providers for influenza-like illness is collected through the U.S. Outpatient Influenza-like Illness Surveillance Network (ILINet). Each week, up to 35 outpatient healthcare providers in Washington reported data to CDC on the total number of patients seen and the number of those patients with influenza-like illness (ILI) by age group.

Figure 3. Percentage of ILI Visits Reported by Sentinel Providers, Washington, 2014–2016

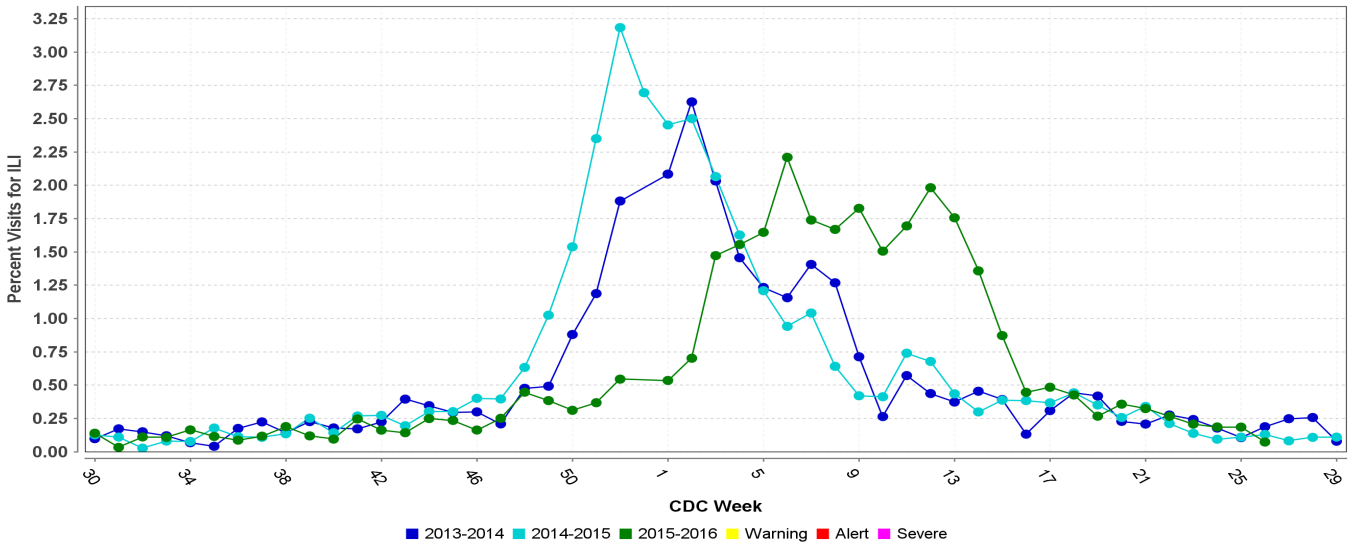


ESSENCE Syndromic Surveillance Data

Figure 4 shows the proportion of visits at a sample of emergency departments in western 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. Syndromic Surveillance ILI data are not available for eastern Washington facilities.

For more information about Syndromic Surveillance in Washington state, see http://www.doh.wa.gov/ForPublicHealthandHealthcareProviders/HealthcareProfessionsandFacilities/DataReportingandRetrieval/ElectronicHealthRecordsMeaningfulUse/SyndromicSurveillance.

Figure 4: Syndromic Surveillance, Percentage of Hospital Visits for a Chief Complaint of ILI, or Discharge Diagnosis of Influenza, by CDC Week, Western Washington, 2013-2016



Reported Laboratory-Confirmed Influenza-Associated Deaths

Sixty-eight laboratory-confirmed influenza deaths were reported from week 30 of 2-15 through week 29 of 2016, including one pediatric death. Forty-two deaths were attributable to influenza A, twenty-five to influenza B and one to co-infection of influenza A and B.

Table 14: Number and rate of reported laboratory-confirmed influenza-

Age Group (in years)	Number of Deaths	Death Rate (per 100,000 population)
0–4	0	0
5–24	1	0.06
25–49	12	0.52
50–64	19	1.37
65+	36	3.84
Total	68	0.99

Reported Laboratory-Confirmed Influenza-Associated Deaths, Past Seasons

For reference, lab-confirmed influenza death totals reported to DOH for past seasons are presented below in Table 15. Note that for the purposes of tables 14 and 15, each influenza season runs from week 30 of one year to week 29 of the next (roughly July to July).
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 15: Number and rate of reported laboratory-confirmed influenza-associated deaths by age group, past season totals

Season	Number of Deaths, All Ages	Death Rate
2015-2016, total	68	0.99
2014-2015, total	157	2.28
2012-2013, total	54	0.80
2011-2012, total	18	0.27
2010-2011, total	36	0.53