

### 2017–2018 Influenza Season (10/01/2017 – 9/29/2018)

#### Synopsis:

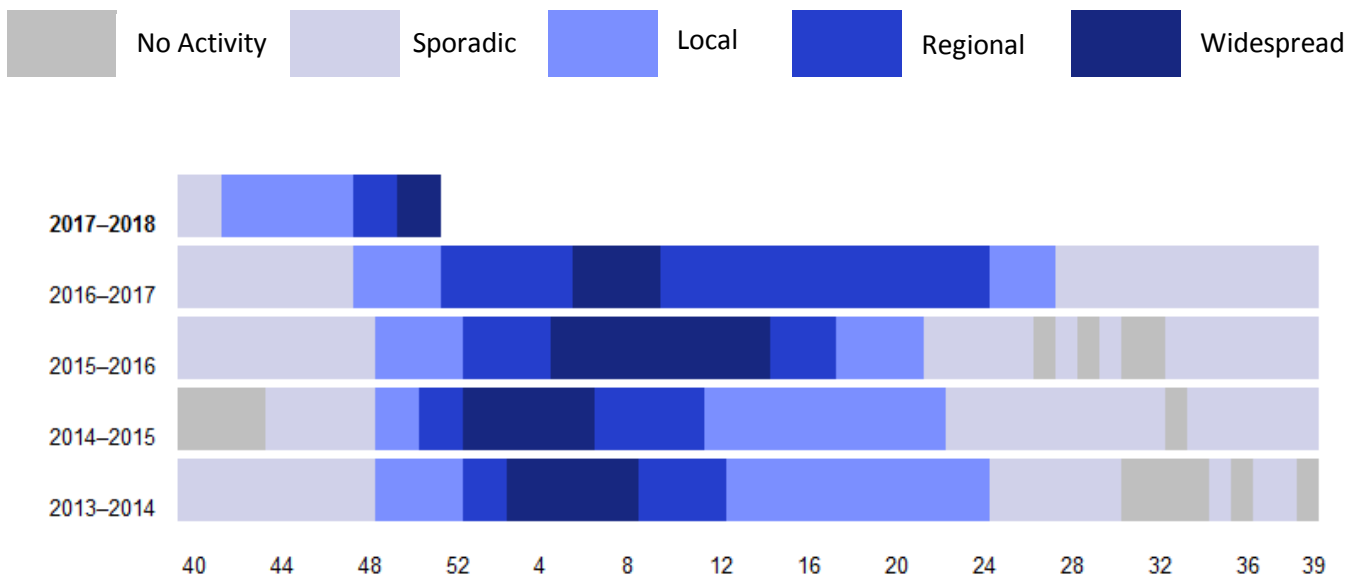
Influenza activity is increasing. Arizona reported Widespread Activity for week 51.

#### Influenza activity highlights:

- 1,920 laboratory-confirmed cases of influenza were reported in the past week, from 15 counties. 5,051 cases have been reported this season, with laboratory-confirmed cases identified in 15 counties.
- 4,578 (91%) reports this season are influenza A, 355 (7%) are influenza B, and 118 (2%) are of unknown type.
- In the past week, 130 (100%) of 130 specimens tested positive for influenza at ASPHL: 4 influenza A (H1N1) pdm09 viruses, 114 influenza A (H3) viruses, 3 influenza B/Victoria viruses and 9 influenza B/Yamagata viruses.
- One influenza-associated pediatric death has been reported for the 2017–2018 season in a Maricopa County resident. This case was PCR positive for influenza A (H3).
- The cases included in this report represent a small proportion of the true number of cases of influenza. Many people do not visit the doctor when ill and doctors should not be expected to run tests on all patients exhibiting influenza-like symptoms.
- Subscribe to the *Flu & RSV* report at [azhealth.gov/email](http://azhealth.gov/email).

#### Arizona Influenza Activity Levels (see definitions at the end of this report)

Arizona reported **Widespread** activity for week 51.



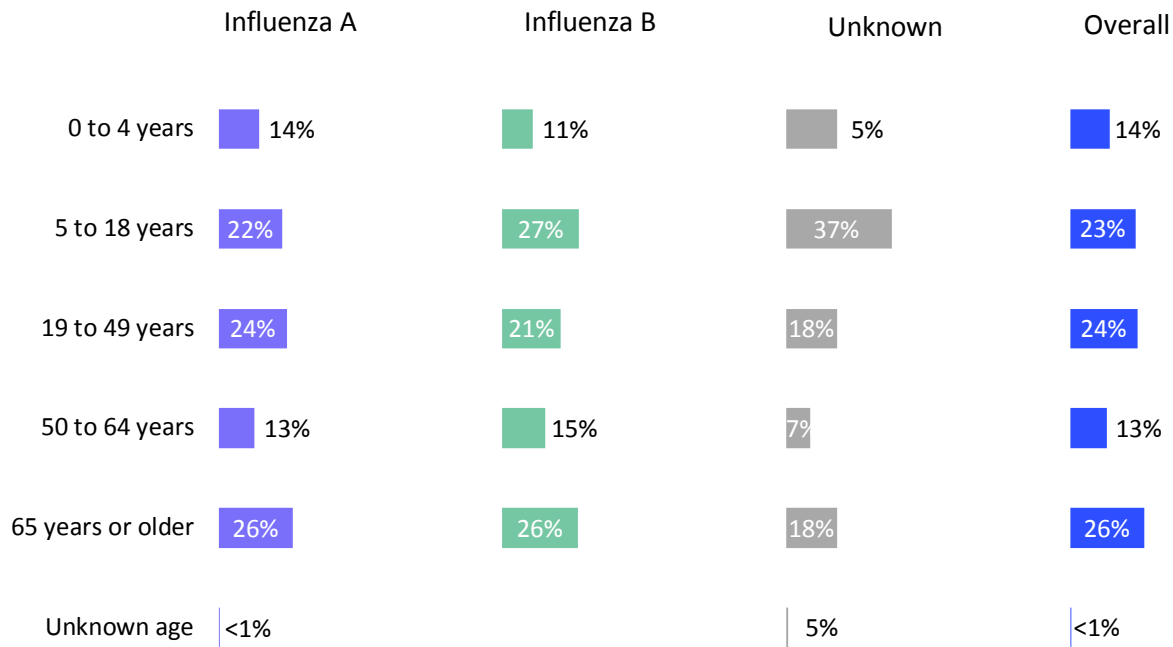
See [Table 1](#) in the appendix for additional information



## Age of Reported Influenza Cases

The age groups most affected by influenza vary somewhat season-to-season, depending in part on the circulating influenza types and subtypes and any existing immunity in the community. Variations in age groups of reported influenza cases can also be caused by differences in laboratory testing and reporting practices year-to-year.

**A larger proportion of influenza A cases were in those 19 to 49 years old and 65 years or older.**

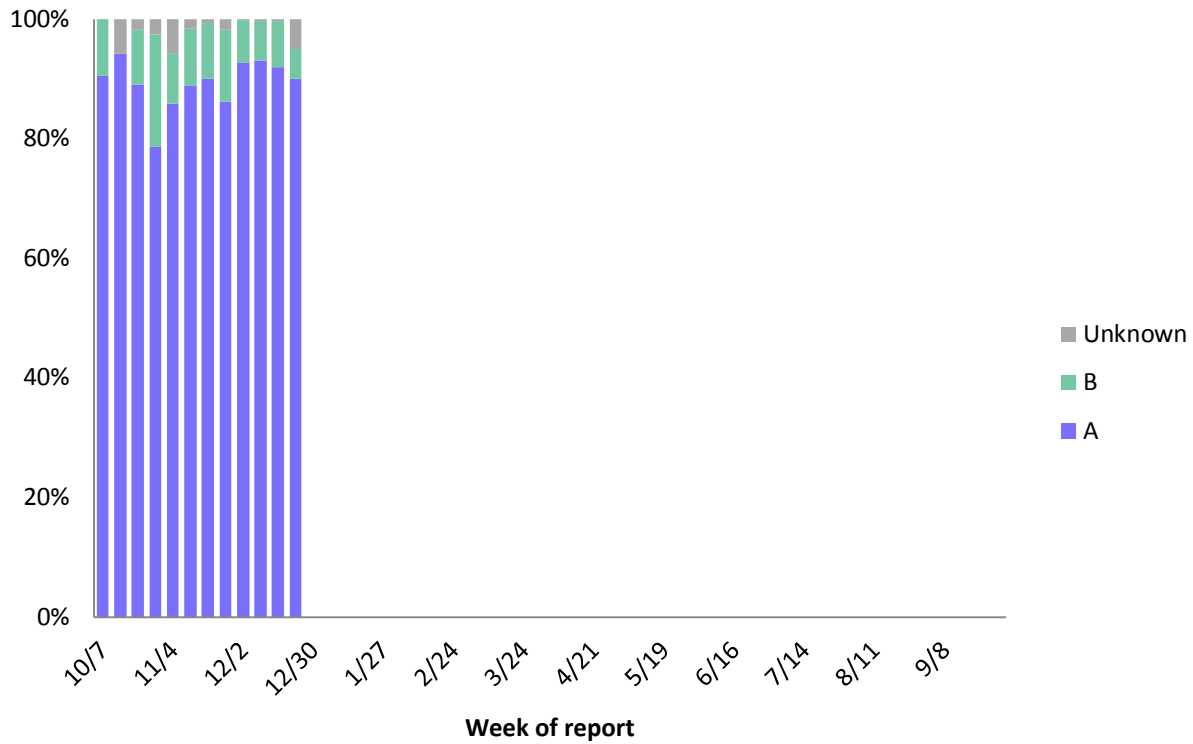


See [Tables 4 & 5](#) in the appendix for additional information

## Influenza Types and Subtypes

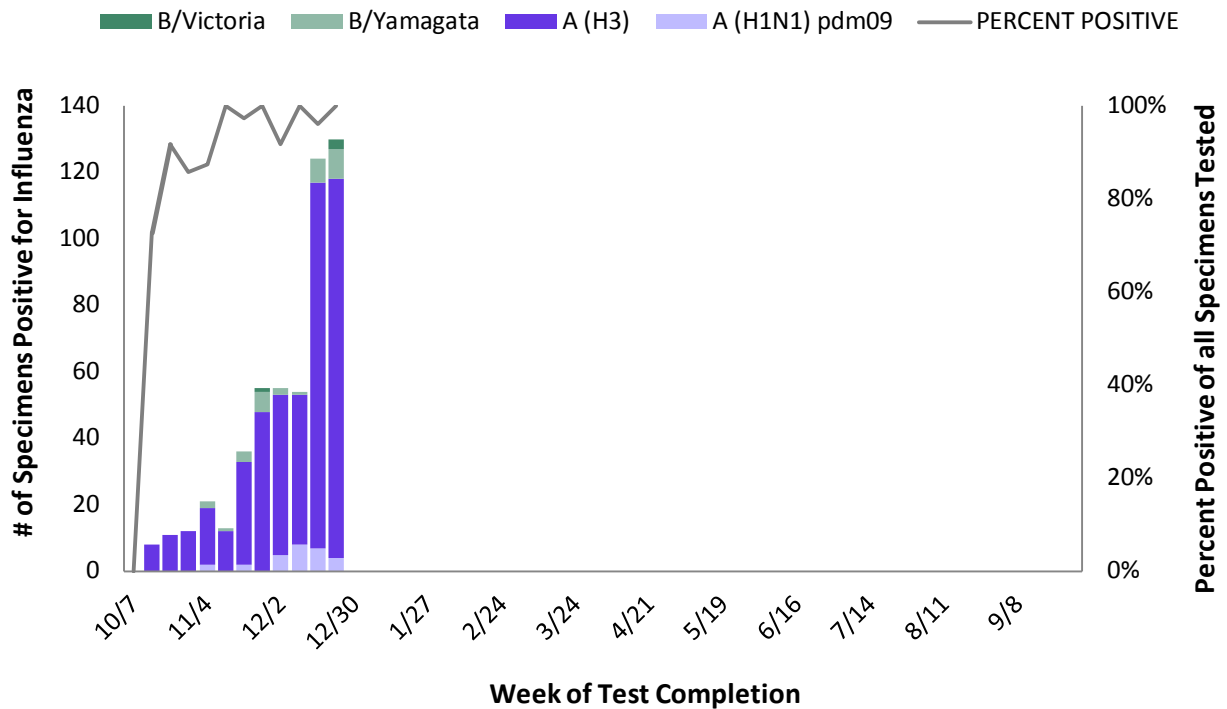
There are two main types of influenza – Type A and Type B – that cause illness in people. Influenza A viruses can be further divided into subtypes such as A (H1), or A (H3). While most tests can distinguish between influenza A and B, only specialized testing such as that done at the State Public Health Laboratory and a few other labs around the state can differentiate subtypes. Viral culture or molecular testing (reverse transcriptase polymerase chain reaction or RT-PCR) are the methods used to identify subtypes; knowing the type and subtype of the influenza viruses circulating can help health professionals make the best treatment and vaccination decisions.

Last week, 91% of influenza cases were type A and 7% were type B.



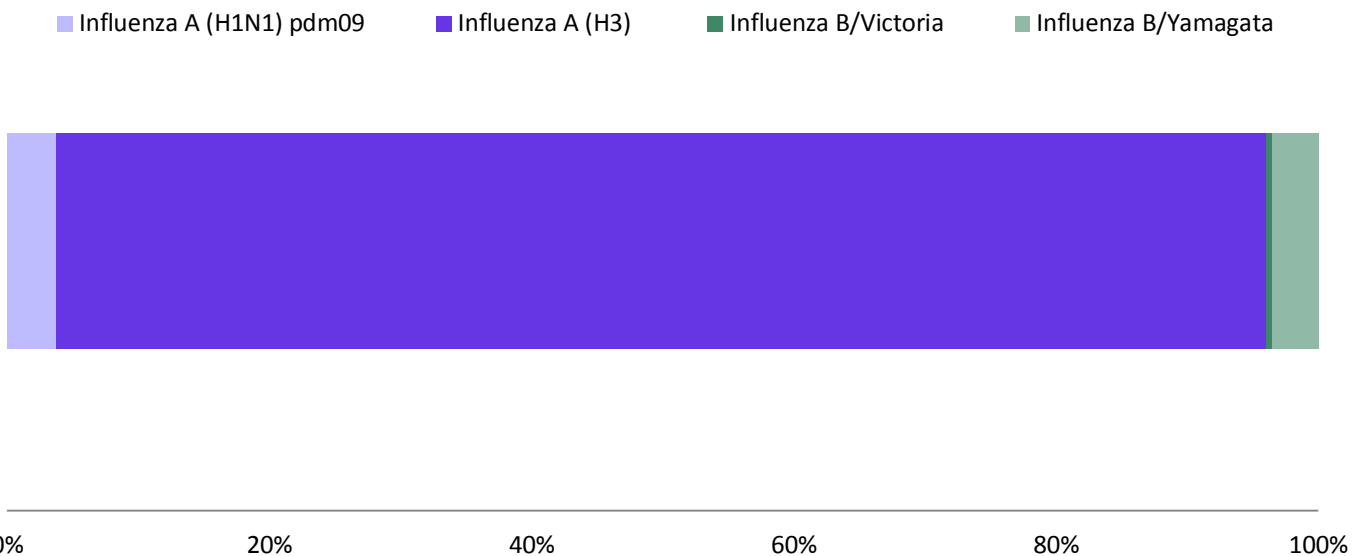
See [Table 6](#) in the appendix for additional information

100% of influenza tests at the Arizona State Public Health Laboratory were positive in the past week.



Culture/PCR Testing Conducted at the Arizona State Public Health Laboratory, 2017–2018

92% of subtyped cases this season were **influenza A (H3)**.

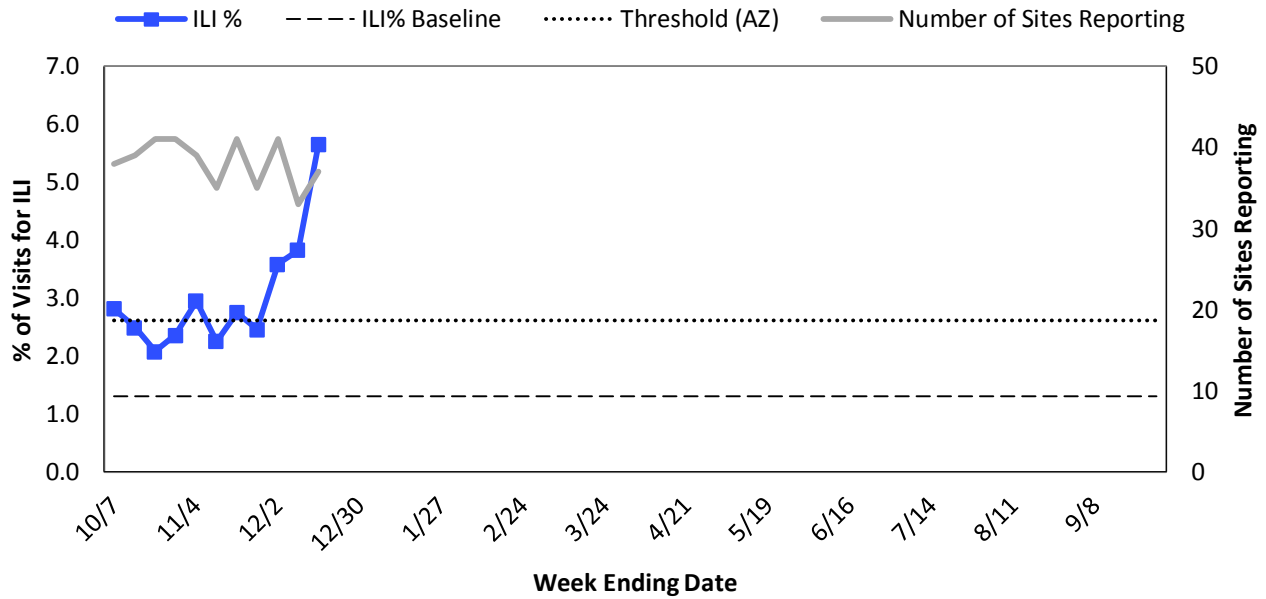


See [Tables 7 & 8](#) in the appendix for additional information

## Influenza-Like Illness (ILI) Surveillance from Sentinel Outpatient Providers

ILI is defined as a fever of at least 100°F plus either a cough or a sore throat. In weeks when a relatively low number of enrolled facilities report data, the ILI proportion may not be as representative of Arizona activity as for other weeks. The state ILI baseline is 1.3% and the epidemic threshold is 2.6%\*.

ILI percent was above threshold at **5.6%** in week 50.



Percentage of Visits for ILI at Sentinel Providers, 2016-2017, Arizona

\*Note: The baseline is defined as the mean of the state ILI% in weeks in the 2014–2017 influenza seasons in which two or more consecutive weeks each accounted for less than 2% of the season’s total number of specimens testing positive for influenza at the Arizona State Public Health Laboratory. The epidemic threshold is defined as the mean plus two standard deviations.

See [Table 10](#) in the appendix for additional information

## Appendix

**Table 1: Influenza Activity**

	2017–2018	2016–2017	2015–2016	2014–2015	2013–2014
<b>Date First Case Confirmed, no travel</b>	Oct. 16, 2017	Oct. 13, 2016	Oct. 4, 2015	Nov. 3, 2014	Oct. 4, 2013
<b>Weeks with Widespread Activity</b>	Weeks 50–51	Weeks 6–9	Weeks 5–14	Weeks 1–6	Weeks 3–8

Back to Report: [Arizona Influenza Activity Levels](#)

**Table 2: Reported Laboratory-Confirmed Influenza Cases Compared to Past Weeks and Seasons**

	Cumulative Season Total	Current Week Total
<b>2017–2018</b>	5,051	1,920
<b>2016–2017</b>	552	205
<b>5 season average</b>	518	193
<b>% increase, compared to 2016–2017 season</b>	815%	837%
<b>% increase, compared to a typical flu season</b>	875%	897%
<b>% increase, compared to last week</b>	61%	44%

Back to Report: [Laboratory-Confirmed Influenza Activity by Season](#)

**Table 3: Laboratory-Confirmed Influenza Cases Reported, by County, 2017–2018 Influenza Season**

(Includes ALL reported lab-confirmed influenza reports, regardless of subtype)

County	2017–2018 Season	Past Three Weeks	Last Week
Apache	39	27	19
Cochise	111	93	41
Coconino	104	63	27
Gila	93	82	33
Graham	36	33	28
Greenlee	3	1	1
La Paz	58	50	29
Maricopa	2,488	1,879	893
Mohave	155	121	76
Navajo	80	65	34
Pima	672	494	243
Pinal	435	375	188
Santa Cruz	103	92	76
Yavapai	321	233	104
Yuma	353	266	128
<b>Total</b>	<b>5,051</b>	<b>3,874</b>	<b>1,920</b>

Back to Report: [Counties with a Laboratory-Confirmed Case in the Past Three Weeks](#)

**Table 4: Age Group of Reported Influenza Cases, 2014–2015 through 2017–2018 Seasons**

Age Group	2017–2018 Season (N=5,051)	2016–2017 Season (N=13,588)	2015–2016 Season (N=23,657)	2014–2015 Season (N=12,594)
0 to 4 years	710 (14%)	1,859 (14%)	4,093 (17%)	2,152 (17%)
5 to 18 years	1,167 (23%)	3,510 (26%)	5,098 (22%)	3,366 (27%)
19 to 49 years	1,198 (24%)	3,447 (25%)	7,343 (31%)	3,044 (24%)
50 to 64 years	649 (13%)	1,685 (12%)	3,159 (13%)	1,222 (10%)
65 years or older	1,314 (26%)	2,998 (22%)	3,879 (16%)	2,669 (21%)
Unknown age	13 (<1%)	89 (1%)	85 (1%)	141 (1%)

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**Table 5: Age Group by Type, 2017–2018 Influenza Season**

Age Group	All Confirmed Cases (N=5,051)	Influenza A (N=4,578)	Influenza B (N=355)	Unknown Type (N=118)
0 to 4 years	710 (14%)	651 (14%)	38 (11%)	21 (18%)
5 to 18 years	1,167 (23%)	1,027 (22%)	96 (27%)	44 (37%)
19 to 49 years	1,198 (24%)	1,104 (24%)	73 (21%)	21 (18%)
50 to 64 years	649 (13%)	585 (13%)	54 (15%)	10 (8%)
65 years or older	1,314 (26%)	1,199 (26%)	94 (26%)	21 (18%)
Unknown age	13 (<1%)	12 (<1%)	0 (0%)	1 (1%)

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**Table 6: Influenza Type, by Season**

	2017–2018 Number	2017–2018 Percent	2016–2017 Number (Percent)	2015–2016 Number (Percent)	2014–2015 Number (Percent)
Total	5,051	100%	13,850 (100%)	23,657 (100%)	12,594 (100%)
Influenza A	4,578	91%	8,397 (61%)	17,179 (73%)	11,013 (87%)
Influenza B	355	7%	5,238 (38%)	6,207 (26%)	1,428 (11%)
Unknown	118	2%	215 (1%)	271 (1%)	153 (2%)

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**Table 7: Influenza subtyping of culture or RT-PCR results, by season**

	2017–2018 Number	2017–2018 Percent	2016–2017 Number (Percent)	2015–2016 Number (Percent)	2014–2015 Number (Percent)
<b>Influenza Subtypes</b>	864	100%	2,844 (100%)	2,757 (100%)	2,202 (100%)
Influenza A (H1N1) pdm09	32	4%	74 (2%)	1,321 (48%)	5 (0.1%)
Influenza A (H3)	798	92%	1,987 (70%)	999 (36%)	2,127 (97%)
Influenza B/Victoria	4	<1%	222 (8%)	54 (2%)	20 (1%)
Influenza B/Yamagata	30	3%	561 (20%)	383 (14%)	50 (2%)

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**Table 8: Influenza subtyping of culture or RT-PCR results, by region**

Region*	Influenza A (H1N1) pdm09	Influenza A (H3)	Influenza B/Victoria	Influenza B/Yamagata	Total
Arizona	32 (4%)	798 (92%)	4 (<1%)	30 (3%)	864 (100%)
Central	21 (4%)	468 (91%)	4 (1%)	21 (4%)	514 (100%)
Northern	2 (3%)	73 (91%)	0 (0%)	5 (6%)	80 (100%)
Southern	9 (9%)	84 (88%)	0 (0%)	2 (2%)	95 (100%)
Western	0 (0%)	172 (99%)	0 (0%)	2 (1%)	174 (100%)

Back to Report: [Influenza Subtypes](#)

**Table 9: Influenza subtyping results of pediatric deaths, by season**

	2017–2018 Number (Percent)	2016–2017 Number (Percent)	2015–2016 Number (Percent)
Influenza A (H3)	1 (100%)	2 (100%)	0 (0%)
Influenza A (H1N1) pdm09	0 (0%)	0 (0%)	3 (75%)
Influenza A (subtype unknown)	0 (0%)	0 (0%)	1 (25%)
Influenza B/Victoria	0 (0%)	0 (0%)	0 (0%)
Influenza B/Yamagata	0 (0%)	0 (0%)	0 (0%)
Influenza B (lineage unknown)	0 (0%)	0 (0%)	0 (0%)
Unknown	0 (0%)	0 (0%)	0 (0%)
<b>Total</b>	<b>1 (100%)</b>	<b>2 (100%)</b>	<b>4 (100%)</b>

**Table 10: Influenza-Like Illness Surveillance**

	Week 50	Week 49
Proportion of patient visits to sentinel providers for ILI	5.6%	3.8%
Comparison to epidemic threshold*	Above threshold	Above threshold
Intensity level ( <i>see definitions at the end of report</i> )	High	Moderate

Back to Report: [Influenza-Like Illness \(ILI\) Surveillance from Sentinel Outpatient Providers](#)

## **Glossary of Key Terms:**

2017–2018 Influenza Season – The season is defined by surveillance weeks. The first day of the 2017–2018 influenza season was October 1<sup>st</sup>, 2017, or week 40 and the 2017–2018 surveillance season will continue through September 29<sup>th</sup>, 2018, or week 39.

Regions – Regions in Arizona are defined by county: Central (Gila, Maricopa, Pinal); Northern (Apache, Coconino, Navajo, Yavapai); Southern (Cochise, Graham, Greenlee, Pima, Santa Cruz); Western (La Paz, Mohave, Yuma).

Activity Levels: Indicator of the geographic spread of influenza activity, reported to CDC by all states each week.

Widespread: Increased influenza-like illness from sentinel providers (ILI) in three or more regions and large numbers of laboratory-confirmed influenza cases in those regions.

Regional: Increased ILI in two regions and elevated numbers of laboratory-confirmed influenza cases in those regions.

Local: Increased ILI in one region and elevated numbers of laboratory-confirmed influenza cases in that region.

Sporadic: No increase in ILI activity and only isolated laboratory-confirmed influenza cases.

No Activity: No increase in ILI activity and no laboratory-confirmed influenza cases.

Intensity Levels: Intensity levels are based on the percent of outpatient visits in a state due to ILI and are compared to the average percent of ILI visits that occur during spring and fall weeks with little or no influenza virus circulation. Intensity levels range from minimal, corresponding to ILI activity from outpatient clinics being below the average, to intense, which would correspond to ILI activity from outpatient clinics being much higher than average.