

Texas Influenza Surveillance Report 2019-2020 Season/2020 MMWR Week 01

(December 29, 2019 – January 4, 2020)

Report produced on 01/10/2020

Summary

Influenza activity is high across the state and is above the Texas-specific ILI baseline. Compared to the previous week, the percentage of specimens testing positive for influenza reported by hospital laboratories has decreased. The percentage of patient visits due to influenza-like illness (ILI) has decreased. No influenza-associated pediatric deaths were reported. No influenza-associated institutional outbreaks or school closures were reported. In Texas, rhino/enterovirus was the most frequently detected non-flu respiratory virus.

Table 1: Summary of Texas Influenza (Flu) and Influenza-like Illness (ILI) Activity for the Current Week

Texas Surveillance Component	Change from Previous Week	Current Week	Previous Week [†]	Page of Report
Statewide influenza activity level reported to CDC (geographic spread of influenza)	No change	Widespread	Widespread	--
Statewide ILINet Activity Indicator assigned by CDC (intensity of influenza-like illness)	No change	High	High	--
Percentage of specimens positive for influenza by hospital laboratories	▼ 7.05%	32.51%	39.56%	1
Percentage of visits due to ILI (ILINet)	▼ 6.24%	9.06%	15.30%	4
Number of regions reporting increased flu/ILI activity	▼ 3	1	4	6
Number of regions reporting decreased flu/ILI activity	▲ 1	3	2	6
Number of variant/novel influenza infections	No cases reported	0	0	6
Number of ILI/influenza outbreaks	No change	0	0	6
Number of pediatric influenza deaths	No change	0	0	8

Laboratory Results

Influenza

Hospital laboratories across Texas voluntarily report influenza tests (antigen, culture, and PCR) to the National Respiratory and Enteric Virus Surveillance System (NREVSS). Providers throughout Texas also submit specimens for influenza testing (PCR) to Texas public health laboratories, including the Texas Department of State Health Services (DSHS) state laboratory in Austin and the nine Texas Laboratory Response Network (LRN) laboratories. The results reported by Texas NREVSS participants and public health laboratories for the current week are summarized in the two tables below. Additional influenza test results (rapid tests, culture, PCR) and ILI activity were reported from providers and public health departments throughout the state (see county map at the end of this report).

Table 2: Influenza Testing Performed by Texas Hospital Laboratories for the Current Week

	Week 01	Season to Date Week Ending: Jan. 4, 2020
Number of labs reporting flu tests	24	
Number of specimens tested	5353	91523
Number of positive specimens (%) [†]	1740 (32.51%)	20981 (22.92%)
Percentage of total tests that were antigen detection tests	44.41%	
Positive specimens by type/subtype [n (%)]		
Influenza A	609 (35.00%)	6054 (28.85%)
Subtyping performed	74 (12.15%)	535 (8.84%)
A (H1N1)	68 (91.89%)	482 (90.09%)
A (H3N2)	6 (8.11%)	53 (9.91%)
Subtyping not performed	535 (87.85%)	5519 (91.16%)
Influenza B	1131 (65.00%)	14927 (71.15%)

[†]Laboratory data in 2016-2017 and 2017-2018 season reports may not be comparable to reports from seasons prior to 2016-2017 because the data only includes hospital laboratories data for the current season.

Figure 1: Number and Percentage of Tests (Antigen, Culture, PCR) Positive for Influenza by Type and Subtype Reported by Texas Hospital Laboratories, 2019-2020 Season

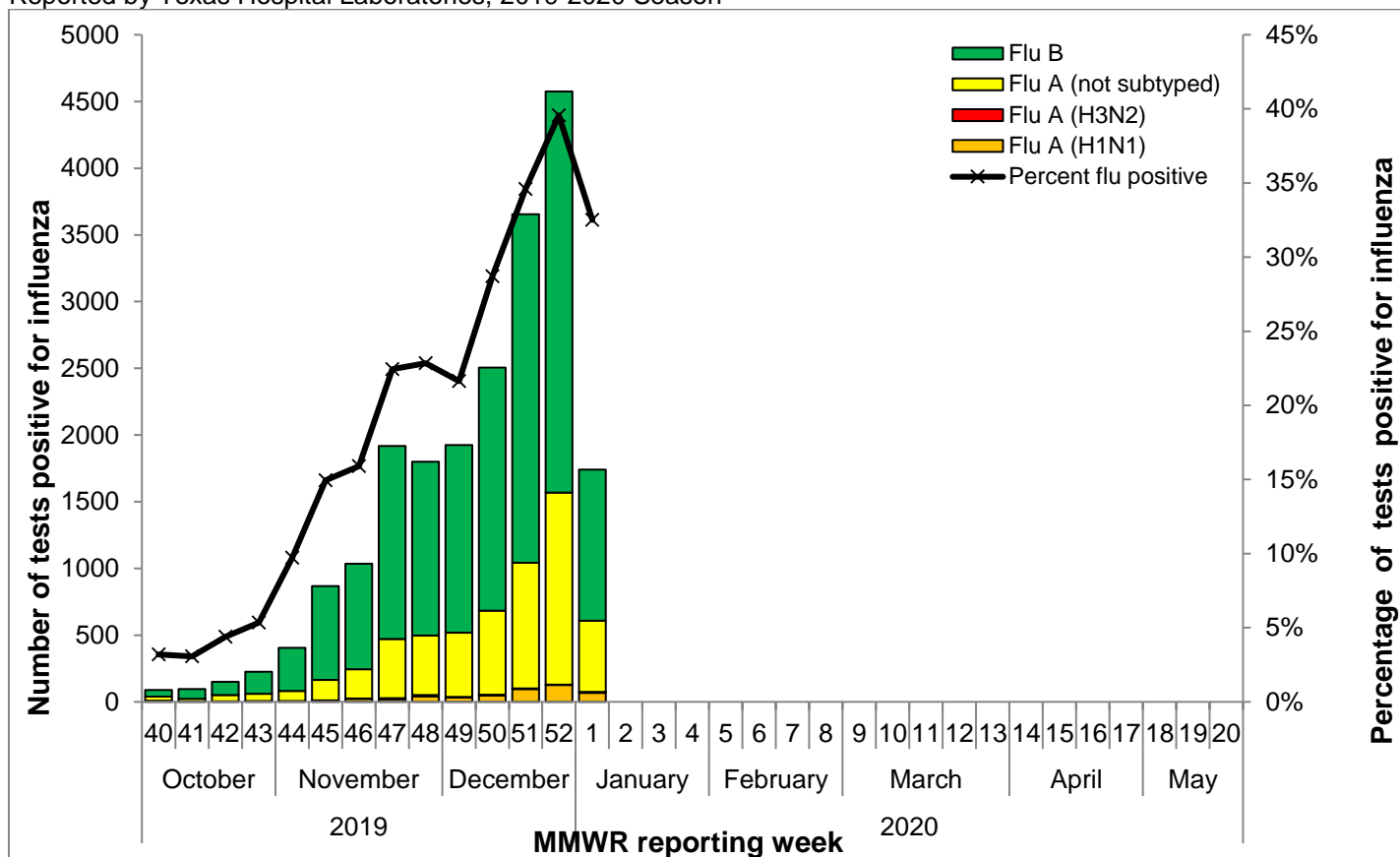


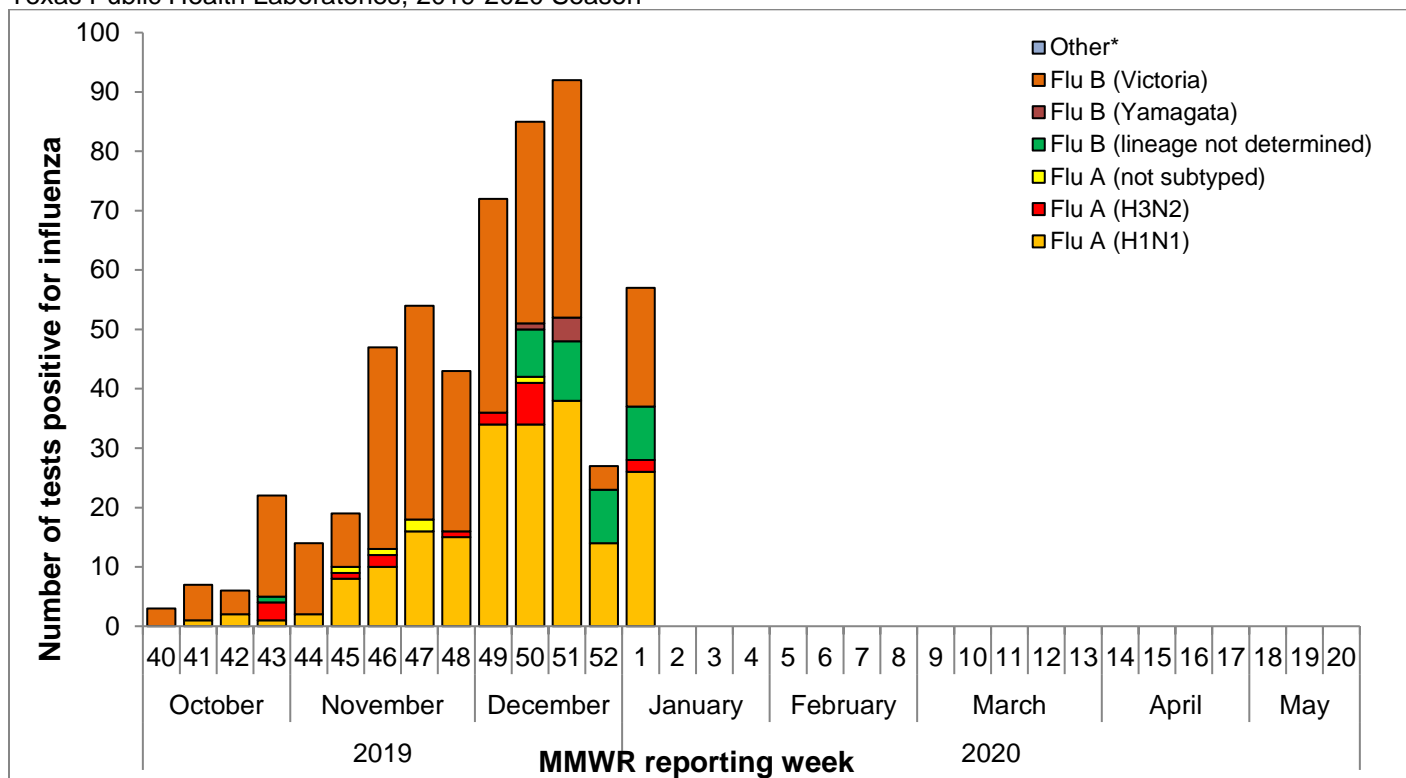
Table 3: Influenza Testing Performed by Texas Public Health Laboratories for the Current Week

	Week 01	Season to Date Week Ending: Jan. 4, 2020
Number of labs reporting flu tests	7	
Number of specimens tested	94	1073
Number of positive specimens (%) [†]	57 (60.64%)	548 (51.07%)
Positive specimens by type/subtype/lineage [n (%)]		
Influenza A	28 (49.12%)	224 (40.88%)
Subtyping performed	28 (100.00%)	219 (97.77%)
A (H1N1)	26 (92.86%)	201 (91.78%)
A (H3N2)	2 (7.14%)	18 (8.22%)
Subtyping not performed	0 (0.00%)	5 (2.23%)
Influenza B	29 (50.88%)	324 (59.12%)
Lineage testing performed	20 (68.97%)	287 (88.58%)
B/Victoria	20 (100.00%)	282 (98.26%)
B/Yamagata	0 (0.00%)	5 (1.74%)
Lineage testing not performed	9 (31.03%)	37 (11.42%)
Other	0 (0.00%)	0 (0.00%)

[†]Laboratory data in 2016-2017 and 2017-2018 season reports may not be comparable to reports from seasons previous to 2016-2017 because the data only includes hospital laboratories data for the current season

*Other denotes specimens with coinfections (i.e. one specimen was positive for both influenza A (H1N1) and influenza A (H3N2))

Figure 2: Number of Tests (Antigen, Culture, PCR) Positive for Influenza by Type, Subtype, and Lineage Reported by Texas Public Health Laboratories, 2019-2020 Season



*Other denotes specimens with coinfections (i.e. one specimen was positive for both influenza A (H1N1) and influenza A (H3N2))

Other Respiratory Viruses

The NREVSS system collects information on a variety of respiratory viruses in addition to influenza including parainfluenza virus, respiratory syncytial virus (RSV), rhinovirus, human metapneumovirus (HMPV), seasonal coronavirus, and respiratory adenovirus. The results for the current week are summarized below.

Table 4: Non-Influenza Respiratory Virus Testing Performed by Texas NREVSS Laboratories for the Current Week

Virus	Number of Laboratories Testing	Tests Performed	Positive Tests	Percentage of Tests Positive
Adenovirus (respiratory)	10	1042	23	2.21%
HMPV	12	1139	28	2.46%
Parainfluenza virus	12	1420	40	2.82%
Rhino/enterovirus	11	1044	166	15.90%
RSV†^	21	2954	453	15.34%
Seasonal coronavirus (does not include MERS-CoV)	9	979	76	7.76%

†RSV tests displayed in the table are a combination of antigen detection, PCR, and culture tests. Some non-NREVSS reporters also contribute to the RSV data.

^Numbers and percentage may differ from the weekly RSV report. The weekly RSV report may be accessed at <https://www.dshs.state.tx.us/RSV/disease/rsv-Data.aspx>.

Antigenic Characterization

Since September 29, 2019, CDC has reported antigenic characterization results from no influenza A (H3N2) viruses, two influenza A (H1N1) viruses and three influenza B viruses received from the Texas Department of State Health Services (DSHS) Laboratory, the Dallas County Health and Human Services Laboratory Response Network (LRN) Laboratory, and the Houston LRN Laboratory. The DSHS Laboratory and the two LRN laboratories send a representative sample of influenza viruses to the CDC throughout the flu season.

Influenza A (H3N2) [0]

Influenza A (H1N1) [2]

- Two (100.00%) viruses were related to A/Brisbane/02/2018-like. This virus strain was included in the 2019-2020 influenza vaccine for the Northern Hemisphere.

Influenza B [0]

- Victoria lineage [3]
Three (100%) viruses were related to B/Colorado/06/2017-like. This virus strain was included in the 2019-2020 influenza vaccine for the Northern Hemisphere.
- Yamagata lineage [0]

Antiviral Resistance

No antiviral resistance testing data for Texas specimens are available at this time.

U.S. Outpatient Influenza-like Illness Surveillance Network (ILINet)

Table 6: Texas ILINet Reporting and Patient Visit Summary for the Current Week

	Week 01
Number of providers reporting [†]	62
Number of providers reporting patient visits	58
Number (%) of providers with at least one ILI case	50 (86.21%)
Percentage of all visits due to ILI	9.06%
Texas ILINet baseline [‡] , 2019-2020	4.76%

[†]Reporting providers include both ILINet and RVSP providers.

[‡]The baseline is the mean percentage of patient visits for ILI during non-influenza weeks for the previous three seasons plus two standard deviations. A "non-influenza week" is defined as a week that accounted for less than 2% of the season's total number of specimens that tested positive for influenza

Table 7: Percentage of Visits for Influenza-like Illness Reported by Texas ILINet Providers (as of 1/9/2020 9:45 AM)

Week	Providers Reporting	Number of ILI Cases by Age Group (Years)					Total ILI (all ages)	Total Patients	ILI
		0-4	5-24	25-49	50-64	65+			
201940	113	156	247	149	60	23	635	28504	2.23%
201941	115	213	306	149	53	30	751	28856	2.60%
201942	118	162	328	191	49	25	755	29075	2.60%
201943	116	218	423	226	52	49	968	29481	3.28%
201944	120	229	495	250	98	39	1111	29403	3.78%
201945	115	320	675	346	93	45	1479	30653	4.82%
201946	110	263	688	348	88	43	1430	29455	4.85%
201947	112	359	1075	435	126	64	2059	31435	6.55%
201948	114	316	753	471	147	67	1754	23617	7.43%
201949	107	302	724	586	164	69	1845	30076	6.13%
201950	95	329	991	523	143	63	2049	23479	8.73%
201951	83	379	1187	623	189	69	2447	20932	11.69%
201952	79	233	988	703	188	109	2221	14515	15.30%
202001	62	227	420	543	215	121	1526	16848	9.06%

Figure 3: Percentage of Visits Due to Influenza-like Illness Reported by Texas ILINet Participants, 2019-2020 Season

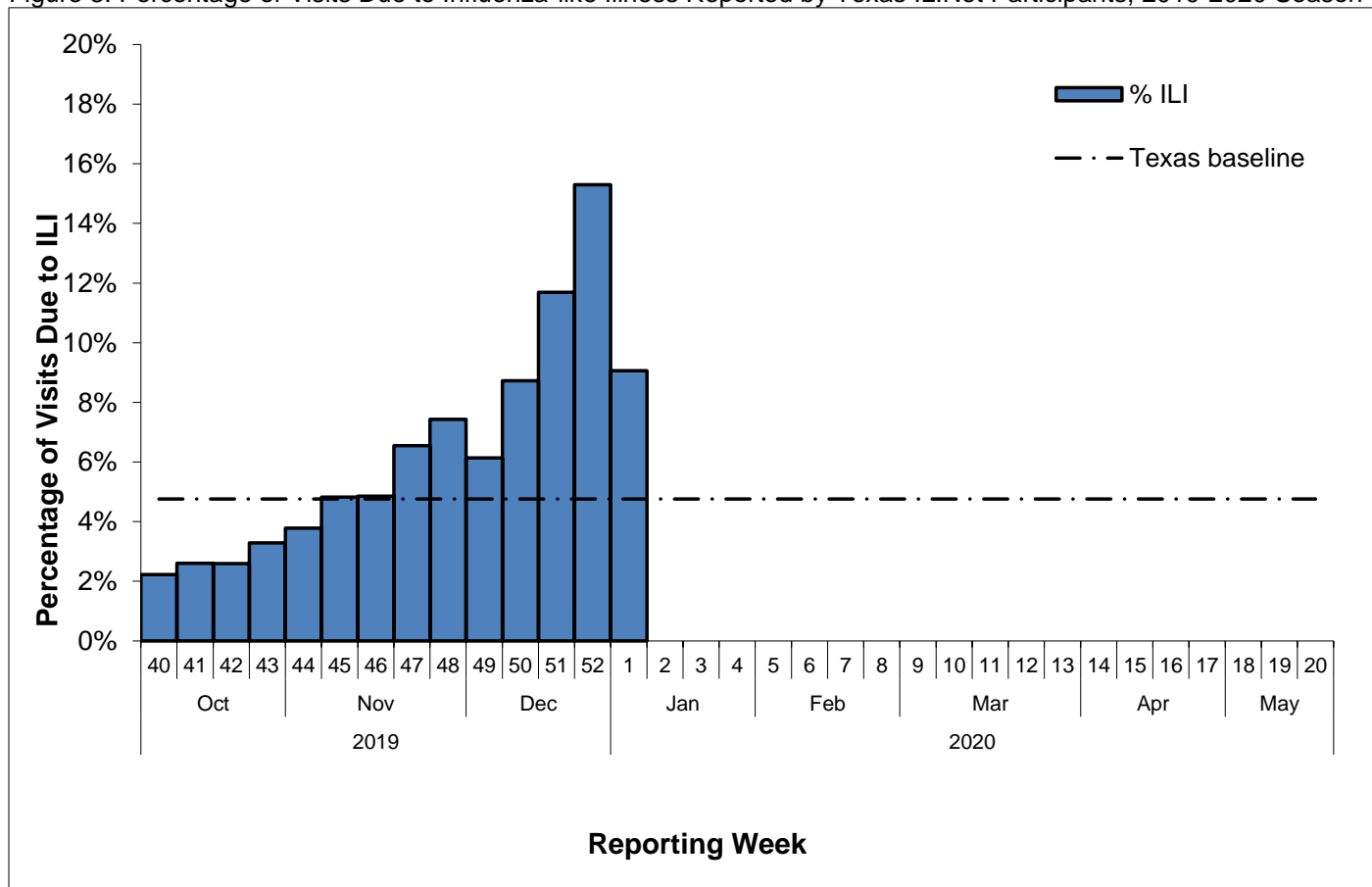
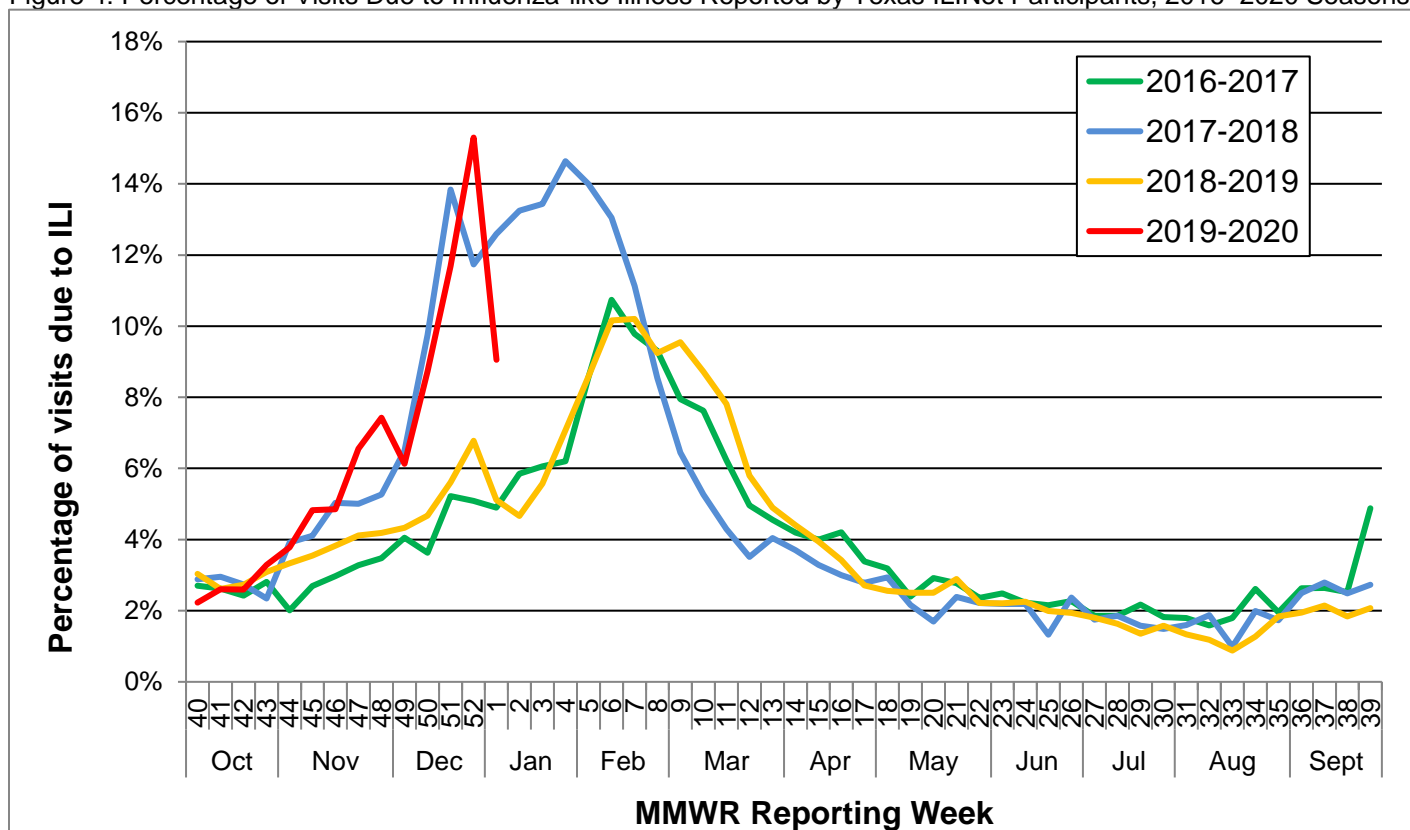


Figure 4: Percentage of Visits Due to Influenza-like Illness Reported by Texas ILINet Participants, 2016–2020 Seasons



Reports from Health Service Regions

Reports were received from all Health Service Regions (HSRs) during week 01.

Table 8: Influenza Activity Compared to week 52 by Health Service Region (HSR)

Influenza Activity Comparison	Health Service Region (HSR)
Increased	9/10
Same	1, 4/5N, 8, and 11
Decreased	2/3, 6/5S and 7
Unsure	

Variant Influenza Viruses

No variant or novel influenza viruses have been detected in Texas during the 2019-2020 season.

Institutional Outbreaks and School Closures

There were no institutional outbreaks or school closures reported in week 01 during the 2019-2020 season.

P&I Mortality Surveillance Data

Pneumonia and influenza (P&I) death data are obtained from death certificates of Texas residents whose underlying or contributing cause(s) of death is reported as pneumonia or influenza. P&I deaths are identified based on ICD-10 multiple cause of death codes. P&I deaths are based on ICD-10 pneumonia and influenza mortality codes.

One thousand one hundred twenty-six P&I deaths have been reported in Texas during the 2019-2020 influenza season.

Table 8: Texas P&I Deaths Occurring Sept. 29, 2019 – Jan. 09, 2020* by Age

Age Category (years)	Number of P&I Deaths ⁺	Mortality Rate (per 100,000)
0 - 4	<10	4.67
5 - 17	<10	7.24
18 - 49	75	0.57
50 - 64	180	3.47
65 +	866	22.58
Overall	1126	3.76

*NOTE: Data are provisional and subject to change, errors, and duplicates

⁺ If the cell count is less than 10, the number of P&I deaths is suppressed and <10 is written in the cell.

Table 9: Texas P&I Deaths Occurring Sept. 29, 2019 – Jan. 09, 2020* by Health Service Region (HSR)

HSR	Number of P&I Deaths	Mortality Rate (per 100,000)
1	51	5.48
2/3	319	3.68
4/5N	84	5.13
6/5S	274	3.49
7	125	3.41
8	121	3.91
9/10	46	2.88
11	106	4.22
Overall	1126	3.76

*NOTE: Data are provisional and subject to change, errors, and duplicates

Influenza-Associated Pediatric Mortality

No influenza-associated pediatric deaths were reported during week 01.

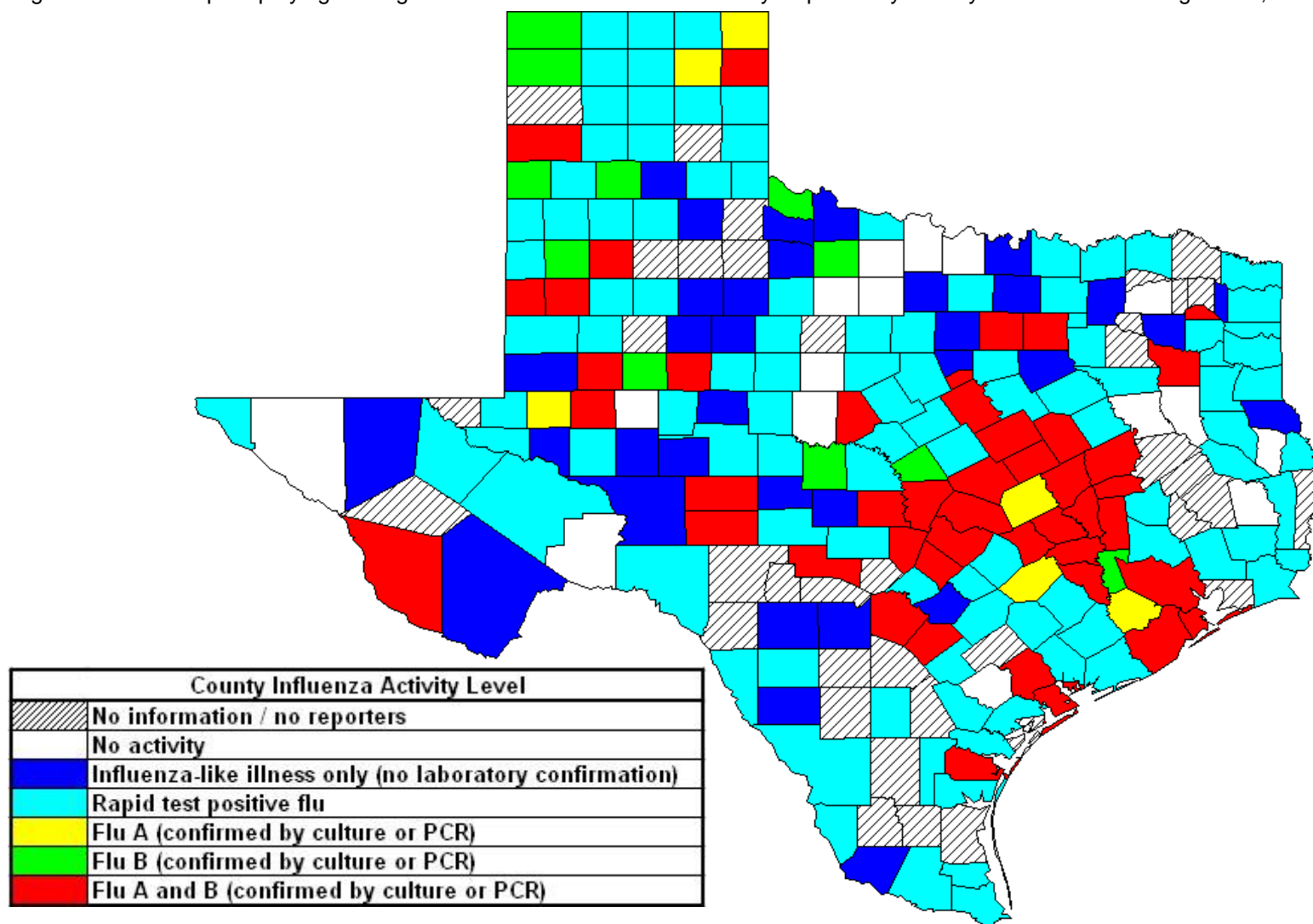
Eight influenza-associated pediatric mortalities have been reported in Texas during the 2019-2020 influenza season. Cases of influenza-associated pediatric mortality (children <18 years of age) are reportable year-round by law in Texas.

Table 10: Influenza-Associated Pediatric Deaths Reported in Texas during the 2019-2020 Season

Month of Pediatric Death	Influenza A (H1N1)	Influenza A (H3N2)	Influenza A (Not Subtyped)	Influenza B	Influenza, Not Typed / Not Differentiated	Influenza virus co-infection: A (not subtyped) and B	Total, All Influenza Types / Subtypes
2019							
October	0	0	0	0	0	0	0
November	2	0	1	2	0	0	5
December	0	0	1	2	0	0	3
2020							
January	0	0	0	0	0	0	0
Total	2	0	2	4	0	0	8

Statewide Influenza Activity Map

Figure 5: Texas Map Displaying the Highest Level of Influenza or ILI Activity Reported by County for the Week Ending Jan. 4, 2020 (MMWR Week 01)



Please note: The majority of influenza cases are not reportable by law in Texas. This map contains data from sentinel sites and only displays influenza and ILI cases that were reported to public health. Positive laboratory results are reported according to specimen collection date, or date received in the laboratory if the former is unknown.

Texas Influenza Surveillance Components and Measures

Activity codes (see <http://www.cdc.gov/flu/weekly/overview.htm>)

Statewide influenza activity level

A code reported weekly by states and territories to CDC indicating the geographic spread of influenza in the state. Levels are no activity, sporadic, local, regional, and widespread.

ILINet Activity Indicator

A statewide level of influenza-like illness intensity (on a scale of 1-10, with 1 being the lowest level) assigned to each state weekly by CDC based on data reported through ILINet.

Morbidity

Novel/variant influenza

Thorough investigations are performed on all cases of novel/variant influenza. *This condition is reportable by law in Texas.*

Texas ILINet

Providers voluntarily report weekly to CDC's ILINet system on the number of outpatient visits for ILI and total outpatient visits. Providers may submit up to 5 specimens per month for influenza testing. See <http://www.dshs.state.tx.us/idcu/disease/influenza/surveillance/ILINet/> for information on how to become an ILINet provider.

ILI activity

Non-ILINet providers report ILI or influenza data weekly to local or regional health departments.

Outbreaks

Healthcare, schools, childcare, and correctional facilities report ILI and influenza outbreaks to health departments in Texas. *This condition is reportable by law in Texas.*

Mortality

Pneumonia and Influenza (P&I) Mortality Surveillance

The DSHS Vital Statistics Unit collects death certificate information for all deaths on Texas residents from various partners such as funeral homes and local registrars around the state. The death certificates are then sent to the National Center for Health Statistics (NCHS) where the cause of death and underlying causes of death on the death certificates are coded with ICD-10 mortality codes. Once death certificates are coded, the information is sent back to DSHS Center for Health Statistics (CHS). CHS produces a Weekly Pneumonia and Influenza (P&I) Death Report and sends it to the State Influenza Surveillance Coordinator for inclusion in the Texas Weekly Flu Report. P&I deaths are identified based on ICD-10 multiple cause of death codes, and in particular, pneumonia and influenza mortality codes. Delays inherent in death reporting and coding practices may cause the number of reported P&I deaths to vary considerably each week.

Influenza-associated pediatric deaths

Deaths that are associated with influenza in children < 18 years of age are reported to health departments in Texas. *This condition is reportable by law in Texas.* <http://www.dshs.state.tx.us/idcu/disease/IAPM/>

Laboratory

DSHS Austin laboratory

Providers voluntarily submit specimens to the DSHS Austin laboratory for influenza PCR testing throughout the season. Providers sign up for this program through their local health departments.

Laboratory Response Network (LRN) laboratories

Providers voluntarily submit specimens to one of the 9 Texas LRNs for influenza PCR testing throughout the season. Providers sign up for this program through their local health departments.

NREVSS

Laboratories voluntarily report influenza and other respiratory virus data weekly through the CDC's online NREVSS reporting system.

Laboratories sign up for this program by contacting DSHS. <http://www.cdc.gov/surveillance/nrevss/>

Recommended Resources

Texas Department of State Health Services

DSHS influenza page: <http://www.texasflu.org/>

Influenza surveillance data and reports: <http://www.dshs.state.tx.us/idcu/disease/influenza/surveillance/>

Map of Texas Health Service Regions: <http://www.dshs.state.tx.us/regions/state.shtm>

Centers for Disease Control and Prevention

National FluView weekly flu report: <http://www.cdc.gov/flu/weekly/>

Variant influenza viruses: <http://www.cdc.gov/flu/swineflu/variant.htm>

Avian influenza viruses: <http://www.cdc.gov/flu/avianflu/index.htm>

Swine influenza viruses: <http://www.cdc.gov/flu/swineflu/index.htm>

Infection Control in Healthcare Facilities: <http://www.cdc.gov/flu/professionals/infectioncontrol/>

Seasonal Flu Information for Schools and Childcare Providers: <http://www.cdc.gov/flu/school/index.htm>

World Health Organization

Influenza page: <http://www.who.int/topics/influenza/en/>

Disease Outbreak News: <http://www.who.int/csr/don/en/>