

Texas Influenza Surveillance Report 2019-2020 Season/2020 MMWR Week 04

(January 19, 2020 – January 25, 2020)
Report produced on 01/31/2020

Summary

Influenza activity remains 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 increased. Two influenza-associated pediatric deaths were reported. Thirteen 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	▼4.21%	31.60%	35.81%	1
Percentage of visits due to ILI (ILINet)	▲0.57%	7.63%	7.06%	4
Number of regions reporting increased flu/ILI activity	▲3	5	2	7
Number of regions reporting decreased flu/ILI activity	▼2	0	2	7
Number of variant/novel influenza infections	No cases reported	0	0	7
Number of ILI/influenza outbreaks	▲9	13	4	7
Number of pediatric influenza deaths	▼2	2	4	9

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 04	Season to Date Week Ending: Jan. 25, 2020
Number of labs reporting flu tests	27	
Number of specimens tested	5519	119996
Number of positive specimens (%) [†]	1744 (31.60%)	30543 (25.45%)
Percentage of total tests that were antigen detection tests	38.85%	
Positive specimens by type/subtype [n (%)]		
Influenza A	1053 (60.38%)	10937 (35.81%)
Subtyping performed	117 (11.11%)	858 (7.84%)
A (H1N1)	101 (86.32%)	772 (89.98%)
A (H3N2)	16 (13.68%)	86 (10.02%)
Subtyping not performed	936 (88.89%)	10079 (92.16%)
Influenza B	691 (39.62%)	19606 (64.19%)

[†]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

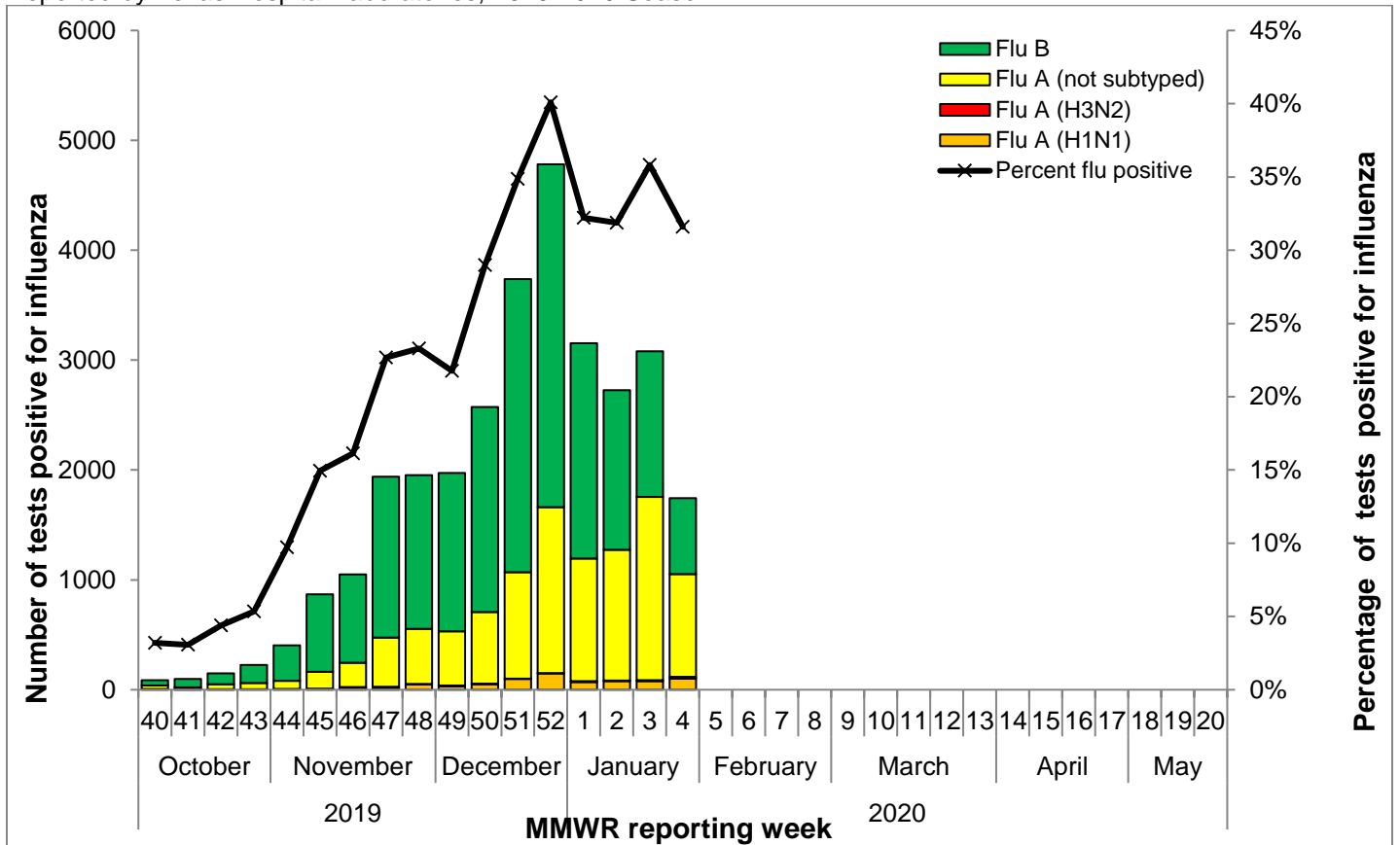


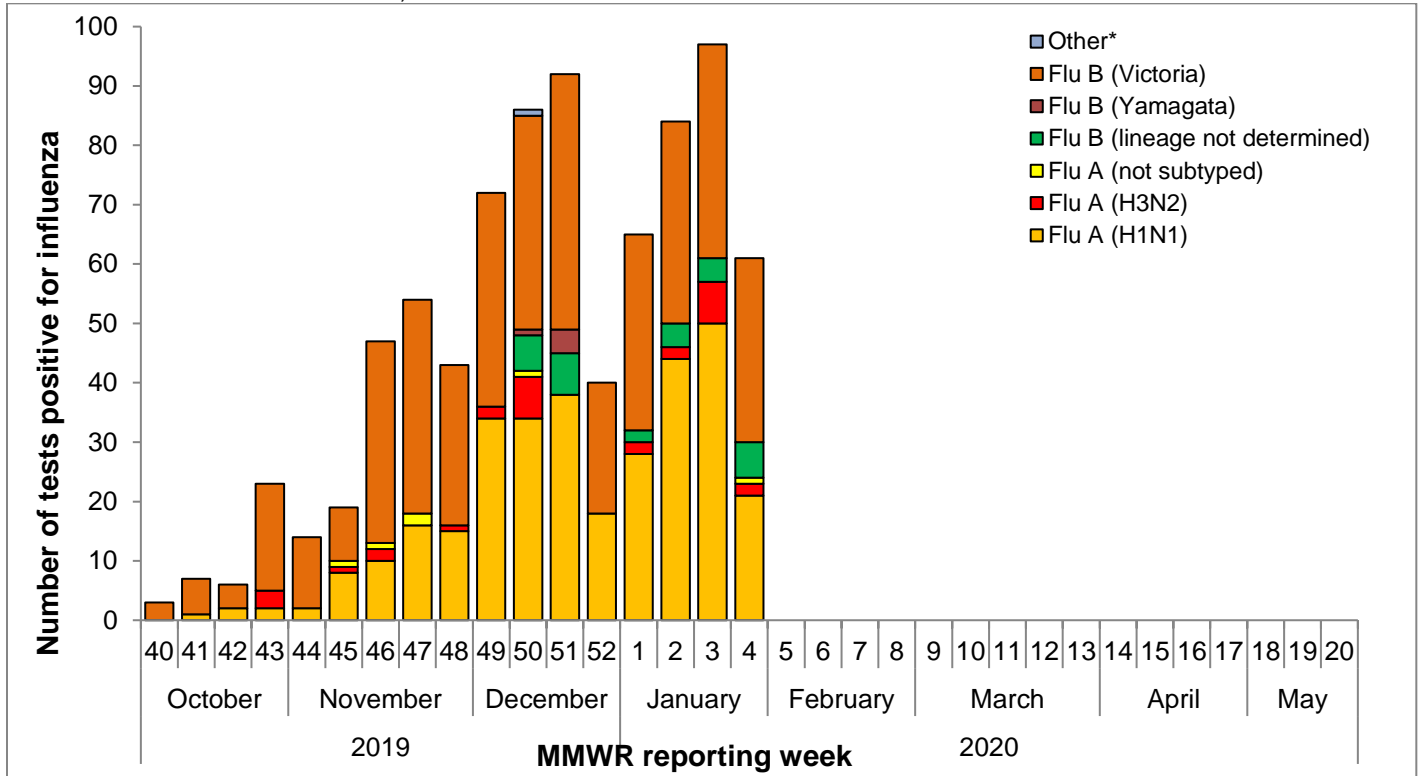
Table 3: Influenza Testing Performed by Texas Public Health Laboratories for the Current Week

	Week 04	Season to Date Week Ending: Jan. 25, 2020
Number of labs reporting flu tests	7	
Number of specimens tested	83	1459
Number of positive specimens (%) [†]	61 (73.49%)	814 (55.79%)
Positive specimens by type/subtype/lineage [n (%)]		
Influenza A	24 (39.34%)	358 (43.98%)
Subtyping performed	23 (95.83%)	352 (98.32%)
A (H1N1)	21 (91.30%)	323 (91.76%)
A (H3N2)	2 (8.70%)	29 (8.24%)
Subtyping not performed	1 (4.17%)	6 (1.68%)
Influenza B	37 (60.66%)	455 (55.90%)
Lineage testing performed	31 (83.78%)	425 (93.41%)
B/Victoria	31 (100.00%)	420 (98.82%)
B/Yamagata	0 (0.00%)	5 (1.18%)
Lineage testing not performed	6 (16.22%)	29 (6.37%)
Other	0 (0.00%)	1 (0.12%)

[†]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	719	20	2.78%
HMPV	11	812	20	2.46%
Parainfluenza virus	11	1091	19	1.74%
Rhino/enterovirus	10	719	108	15.02%
RSV ^{†^}	25	2476	187	7.55%
Seasonal coronavirus (does not include MERS-CoV or 2019-nCoV)	8	633	36	5.69%

[†]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 one influenza A (H3N2) viruses, two influenza A (H1N1) viruses and four 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) [1]

- One (100.00%) virus was related to A/Kansas/14/2017-like. This virus strain was included in the 2019-2020 influenza vaccine for the Northern Hemisphere.

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 [4]

- Victoria lineage [4]
Four (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 04
Number of providers reporting [†]	67
Number of providers reporting patient visits	67
Number (%) of providers with at least one ILI case	65 (97.01%)
Percentage of all visits due to ILI	7.63%
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 1/30/2020 10:35 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	114	156	249	149	60	23	637	29515	2.16%
201941	116	213	314	149	53	30	759	29847	2.54%
201942	119	162	341	191	49	25	768	30084	2.55%
201943	117	218	442	226	52	49	987	30475	3.24%
201944	121	229	506	252	98	39	1124	30361	3.70%
201945	116	320	696	347	93	45	1501	31701	4.73%
201946	111	263	710	352	88	43	1456	30398	4.79%
201947	114	359	1123	442	126	64	2114	32525	6.50%
201948	117	316	780	473	147	67	1783	24299	7.34%
201949	110	303	762	592	165	72	1894	31090	6.09%
201950	97	329	1050	526	143	63	2111	24401	8.65%
201951	90	382	1228	634	192	71	2507	21688	11.56%
201952	88	274	1013	739	198	118	2342	15194	15.41%
202001	74	257	441	559	230	126	1613	17804	9.06%
202002	76	239	504	486	177	83	1489	21182	7.03%
202003	71	226	651	371	134	63	1445	20461	7.06%
202004	67	269	808	444	116	63	1700	22275	7.63%

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

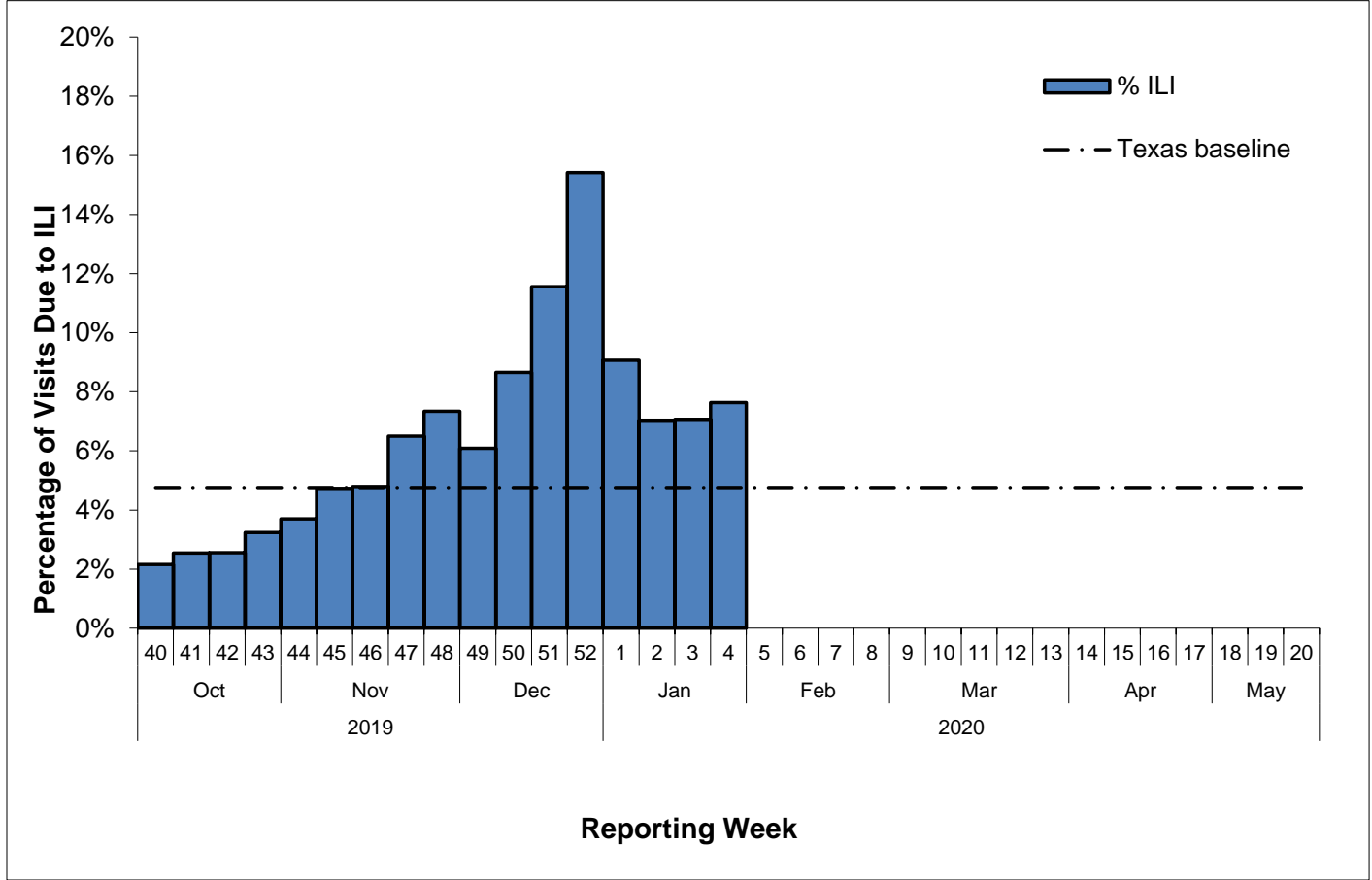
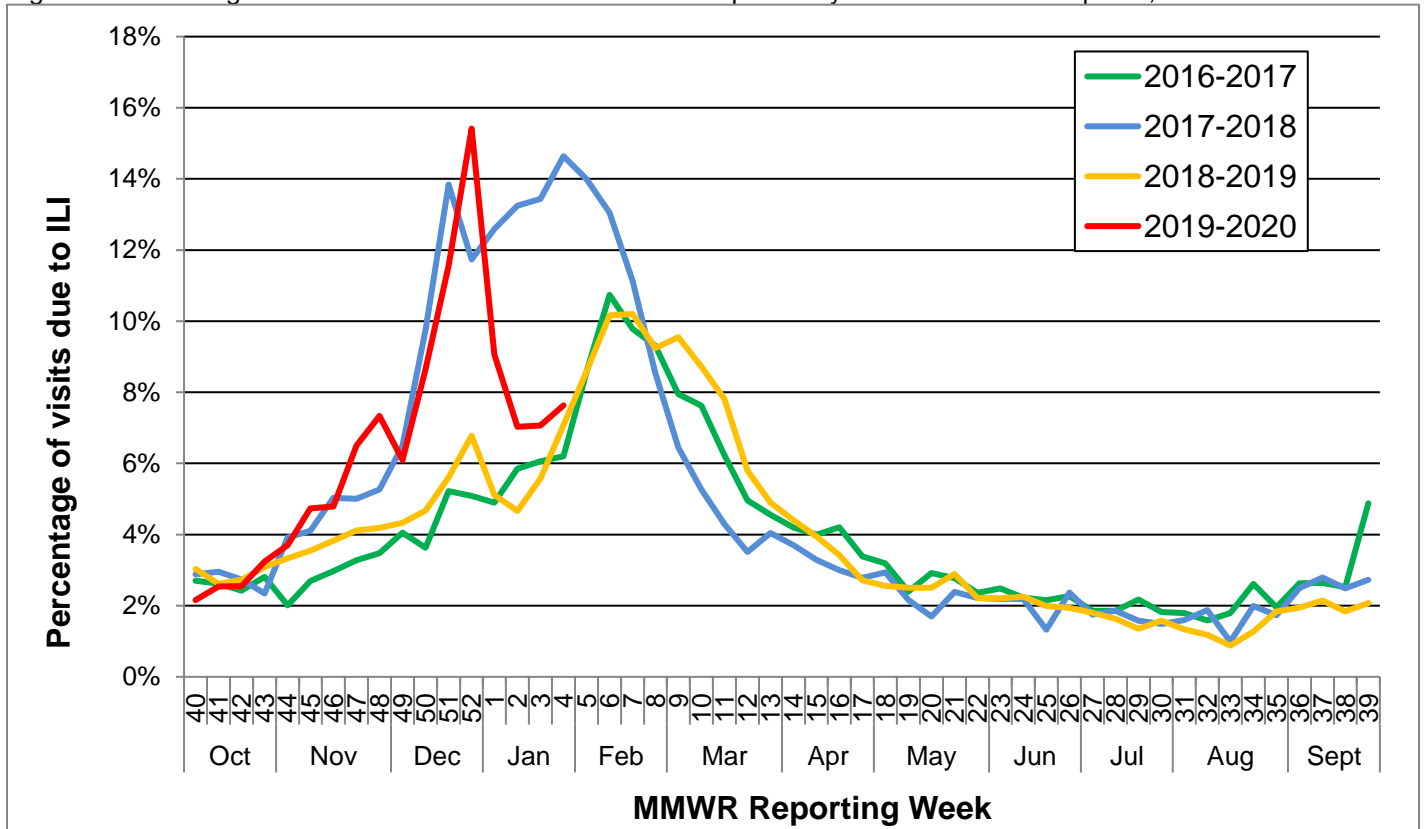


Figure 4: Percentage of Visits Due to Influenza-like Illness Reported by Texas ILINet Participants, 2016–2020 Seasons



Reports from Health Service Regions

Reports were received from all Health Service Regions (HSRs) during week 04.

Table 8: Influenza Activity Compared to week 03 by Health Service Region (HSR)

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

Variant Influenza Viruses

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

Institutional Outbreaks and School Closures

Thirteen institutional outbreaks or school closures were reported in week 04 during the 2019-2020 season.

Three school closures were reported in HSR 8. All outbreaks were attributed to influenza B.

Three outbreaks were reported in long-term care facilities (LTCF) in HSR 2/3. Two of the three outbreaks were attributed to influenza A and one outbreak was attributed to influenza B. Two outbreaks were reported in LTCFs in HSR 7 and both were attributed to influenza A. One outbreak was reported in a LTCF in HSR 8 and was attributed to influenza A. Four outbreaks were reported in LTCFs in HSR 11. Two of the four outbreaks were attributed to influenza A and two were attributed to influenza B.

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.

Two thousand six hundred fifty 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. 29, 2020* by Age

Age Category (years)	Number of P&I Deaths ⁺	Mortality Rate (per 100,000)
0 - 4	<10	0.37
5 - 17	13	0.24
18 - 49	180	1.36
50 - 64	439	8.46
65 +	2010	52.41
Overall	2650	8.85

*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. 29, 2020* by Health Service Region (HSR)

HSR	Number of P&I Deaths	Mortality Rate (per 100,000)
1	120	12.88
2/3	738	8.52
4/5N	205	12.51
6/5S	593	7.56
7	308	8.39
8	287	9.28
9/10	148	9.25
11	251	9.99
Overall	2650	8.85

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

Influenza-Associated Pediatric Mortality

Two influenza-associated pediatric deaths were reported during week 04.

The first death was reported for a 16-year-old resident of HSR 2/3 with underlying conditions. The child tested influenza B positive by PCR and was vaccinated for the current season.

The second death was reported for a 10-year-old resident of HSR 2/3 with no underlying conditions. The child tested influenza B positive by PCR and it is unknown if they were vaccinated for the current season.

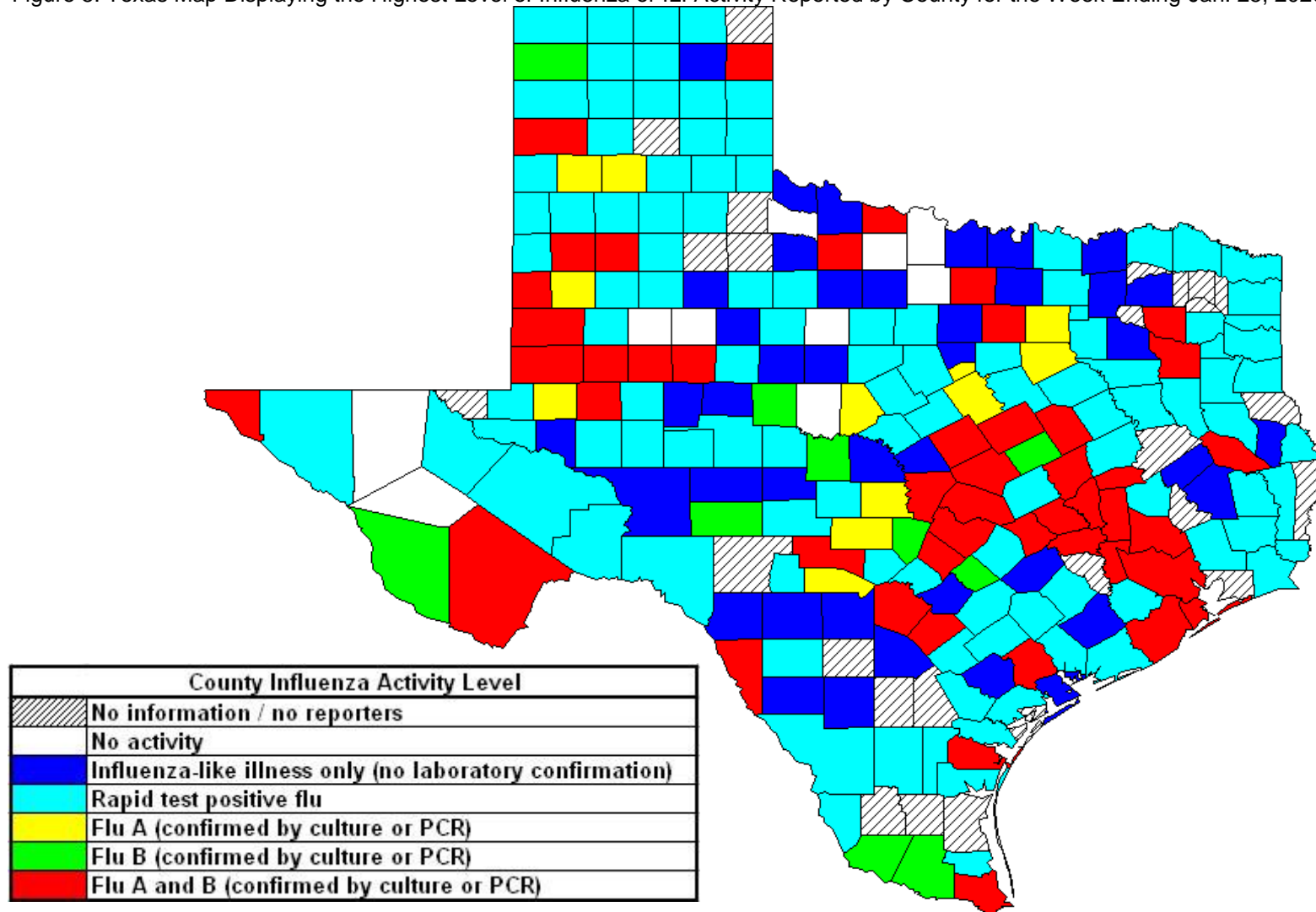
Fifteen influenza-associated pediatric mortalities have been reported in Texas during the 2019-2020 influenza season. Cases of influenza-associated pediatric mortality (children <18 years of age) are reportable year-round by law in Texas.

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	3	0	1	2	0	0	6
December	0	0	1	4	0	0	5
2020							
January	1	0	0	3	0	0	4
Total	4	0	2	9	0	0	15

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. 25, 2020 (MMWR Week 04)



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/>