

Texas Influenza Surveillance Report 2019-2020 Season/2020 MMWR Week 10

(March 1, 2020 – March 7, 2020)
Report produced on 03/13/2020

Summary

Influenza activity remains elevated across the state and has been above the Texas-specific ILI baseline for 17-consecutive weeks. 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 slightly increased. No influenza-associated pediatric deaths were reported. Six influenza-associated institutional outbreaks or school closures were reported. In Texas, rhino/enterovirus continues to be 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	▼ 5.22%	17.97%	23.19%	1
Percentage of visits due to ILI (ILINet)	▲ 0.33%	8.91%	8.58%	4
Number of regions reporting increased flu/ILI activity	No change	0	0	7
Number of regions reporting decreased flu/ILI activity	▼ 4	2	6	7
Number of variant/novel influenza infections	No cases reported	0	0	7
Number of ILI/influenza outbreaks	▲ 3	6	3	7
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 10	Season to Date Week Ending: Mar. 7, 2020
Number of labs reporting flu tests	17	
Number of specimens tested	4430	181985
Number of positive specimens (%) [†]	796 (17.97%)	48559 (26.68%)
Percentage of total tests that were antigen detection tests	45.91%	
Positive specimens by type/subtype [n (%)]		
Influenza A	616 (77.39%)	24231 (49.90%)
Subtyping performed	93 (15.10%)	1941 (8.01%)
A (H1N1)	84 (90.32%)	1782 (91.81%)
A (H3N2)	9 (9.68%)	159 (8.19%)
Subtyping not performed	523 (84.90%)	22290 (91.99%)
Influenza B	180 (22.61%)	24328 (50.10%)

[†]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

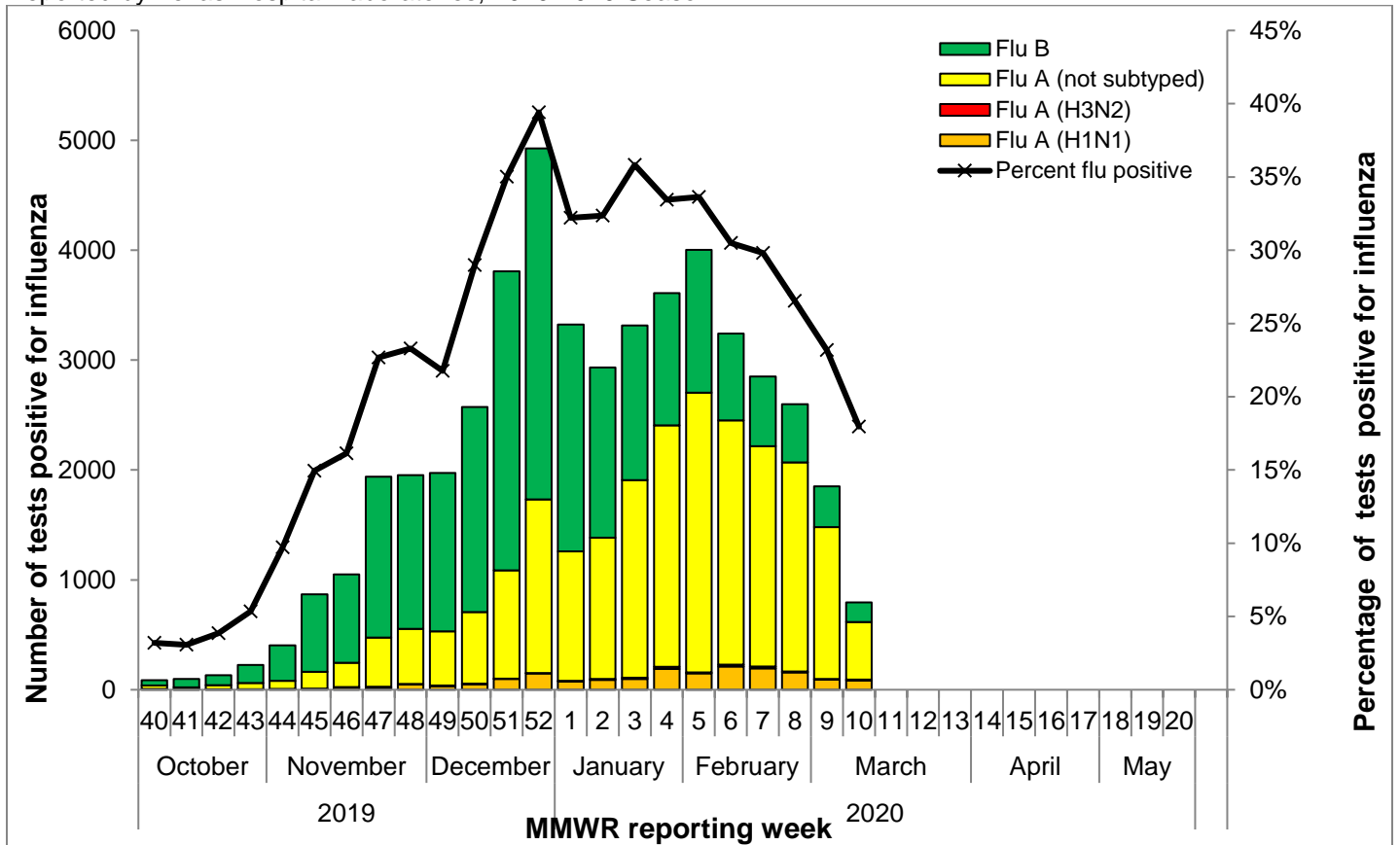


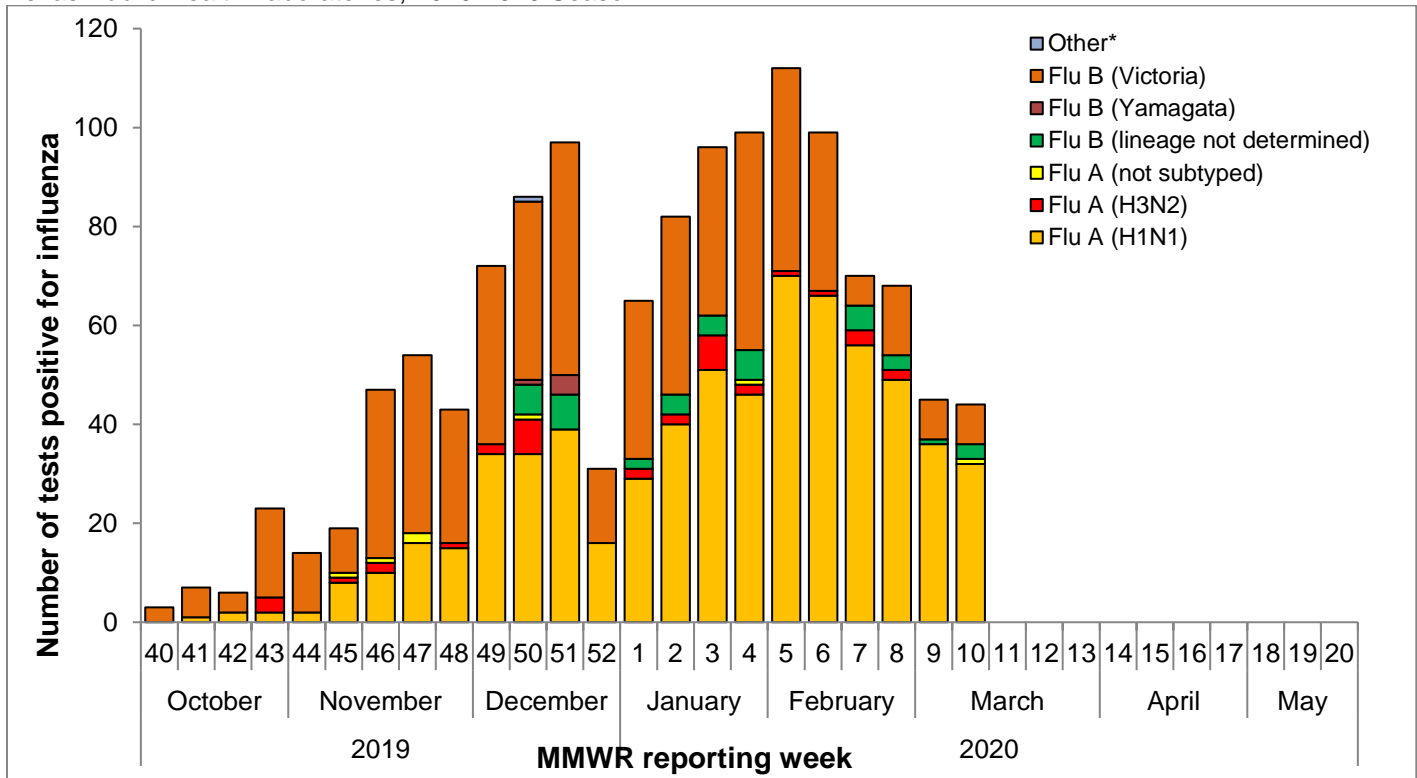
Table 3: Influenza Testing Performed by Texas Public Health Laboratories for the Current Week

	Week 10	Season to Date Week Ending: Mar. 7, 2020
Number of labs reporting flu tests	6	
Number of specimens tested	74	2106
Number of positive specimens (%) [†]	44 (59.46%)	1283 (60.92%)
Positive specimens by type/subtype/lineage [n (%)]		
Influenza A	33 (75.00%)	697 (54.33%)
Subtyping performed	32 (96.97%)	690 (99.00%)
A (H1N1)	32 (100.00%)	654 (94.78%)
A (H3N2)	0 (0.00%)	36 (5.22%)
Subtyping not performed	1 (3.03%)	7 (1.00%)
Influenza B	11 (25.00%)	585 (45.60%)
Lineage testing performed	8 (72.73%)	543 (92.82%)
B/Victoria	8 (100.00%)	538 (99.08%)
B/Yamagata	0 (0.00%)	5 (0.92%)
Lineage testing not performed	3 (27.27%)	41 (7.01%)
Other	0 (0.00%)	1 (0.08%)

[†]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)	11	1133	36	3.18%
HMPV	10	1125	96	8.53%
Parainfluenza virus	11	1133	28	2.47%
Rhino/enterovirus	10	1125	247	21.96%
RSV [†]	18	2217	63	2.84%
Seasonal coronavirus (does not include MERS-CoV or COVID-19)	8	1033	58	5.61%

[†]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, three influenza A (H1N1) viruses and seven 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) [3]

- Three (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 [7]

- Victoria lineage [7]
Seven (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 present.

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

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

	Week 10
Number of providers reporting [†]	92
Number of providers reporting patient visits	92
Number (%) of providers with at least one ILI case	89 (96.74%)
Percentage of all visits due to ILI	8.91%
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 3/12/2020 10:35AM)

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	98	329	1063	526	143	63	2124	24503	8.67%
201951	93	415	1274	640	195	81	2605	22144	11.76%
201952	90	275	1013	739	198	118	2343	15230	15.38%
202001	114	292	794	1229	420	198	2933	26226	11.18%
202002	117	278	982	1248	375	126	3009	30060	10.01%
202003	114	287	1315	1063	341	94	3100	29245	10.60%
202004	113	363	1537	1124	291	114	3429	31899	10.75%
202005	115	372	1753	1175	373	125	3798	33941	11.19%
202006	114	263	1433	969	312	107	3084	28417	10.85%
202007	110	256	1299	1053	337	101	3046	31437	9.69%
202008	108	259	1220	972	307	106	2864	31354	9.13%
202009	103	259	986	790	247	90	2372	27643	8.58%
202010	92	204	900	778	193	121	2196	24644	8.91%

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

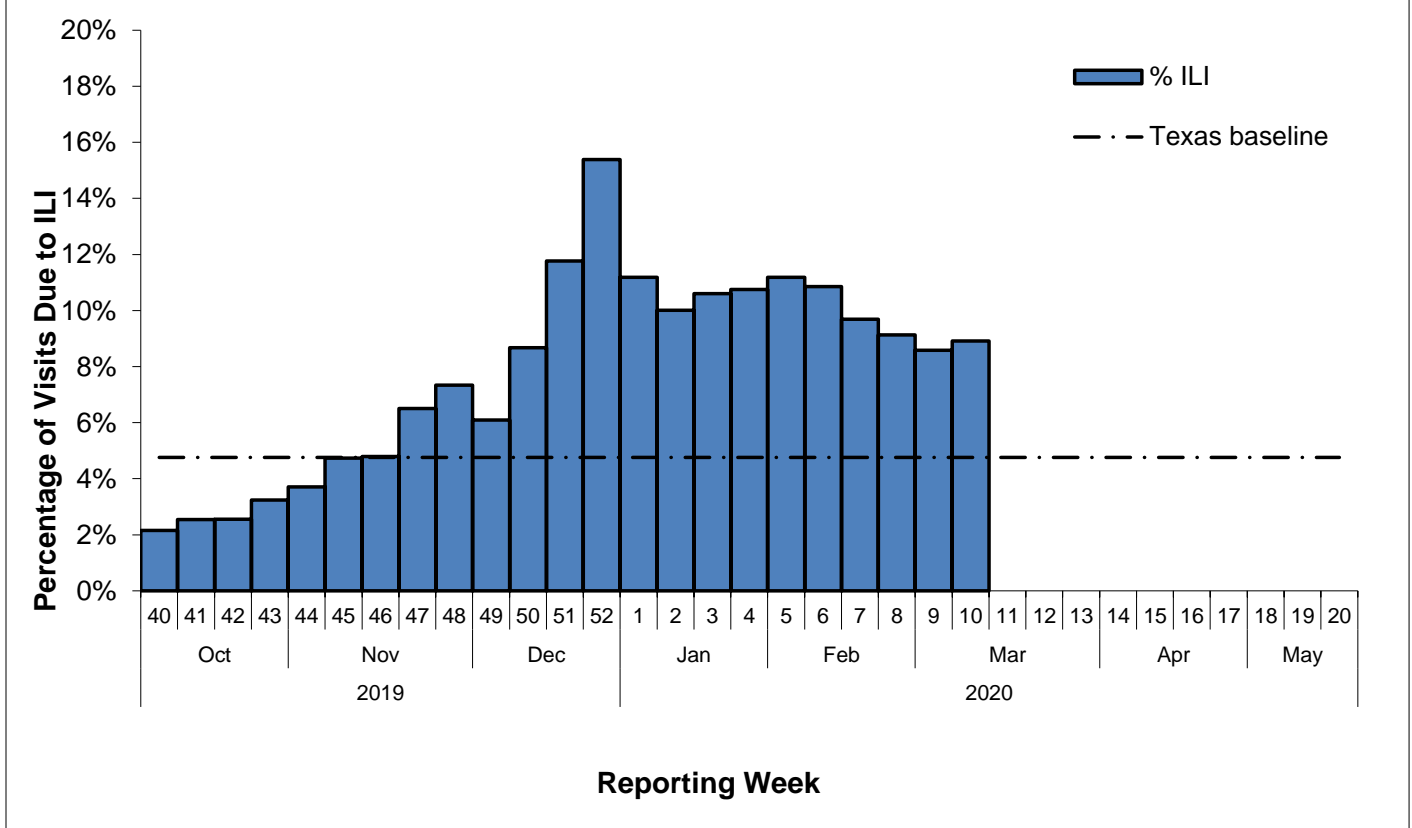
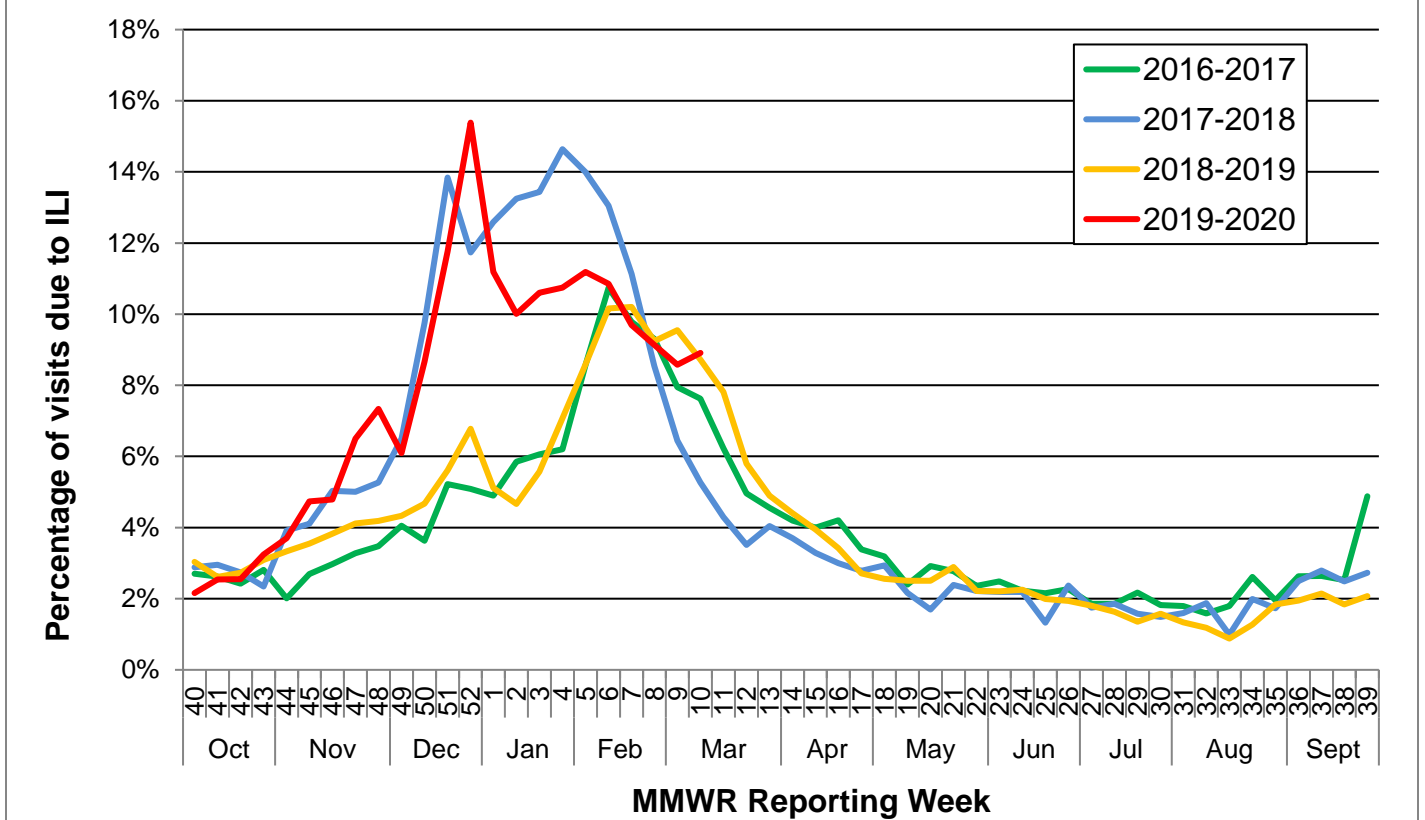


Figure 4: Percentage of Visits Due to Influenza-like Illness Reported by Texas ILINet Participants, 2016–2020 Seasons



Reports from Health Service Regions

Reports were received from six Health Service Regions (HSRs) during week 10.

Table 8: Influenza Activity Compared to week 09 by Health Service Region (HSR)

Influenza Activity Comparison	Health Service Region (HSR)
Increased	
Same	1, 2/3, and 7
Decreased	8 and 11
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

Six institutional outbreaks or school closures were reported in week 10 during the 2019-2020 season.

Six outbreaks were reported in long-term care facilities (LTCF). Five outbreaks were reported in HSR 2/3 and one was reported in HSR 7. All outbreaks were attributed to influenza A.

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

No influenza-associated pediatric deaths were reported during week 10.

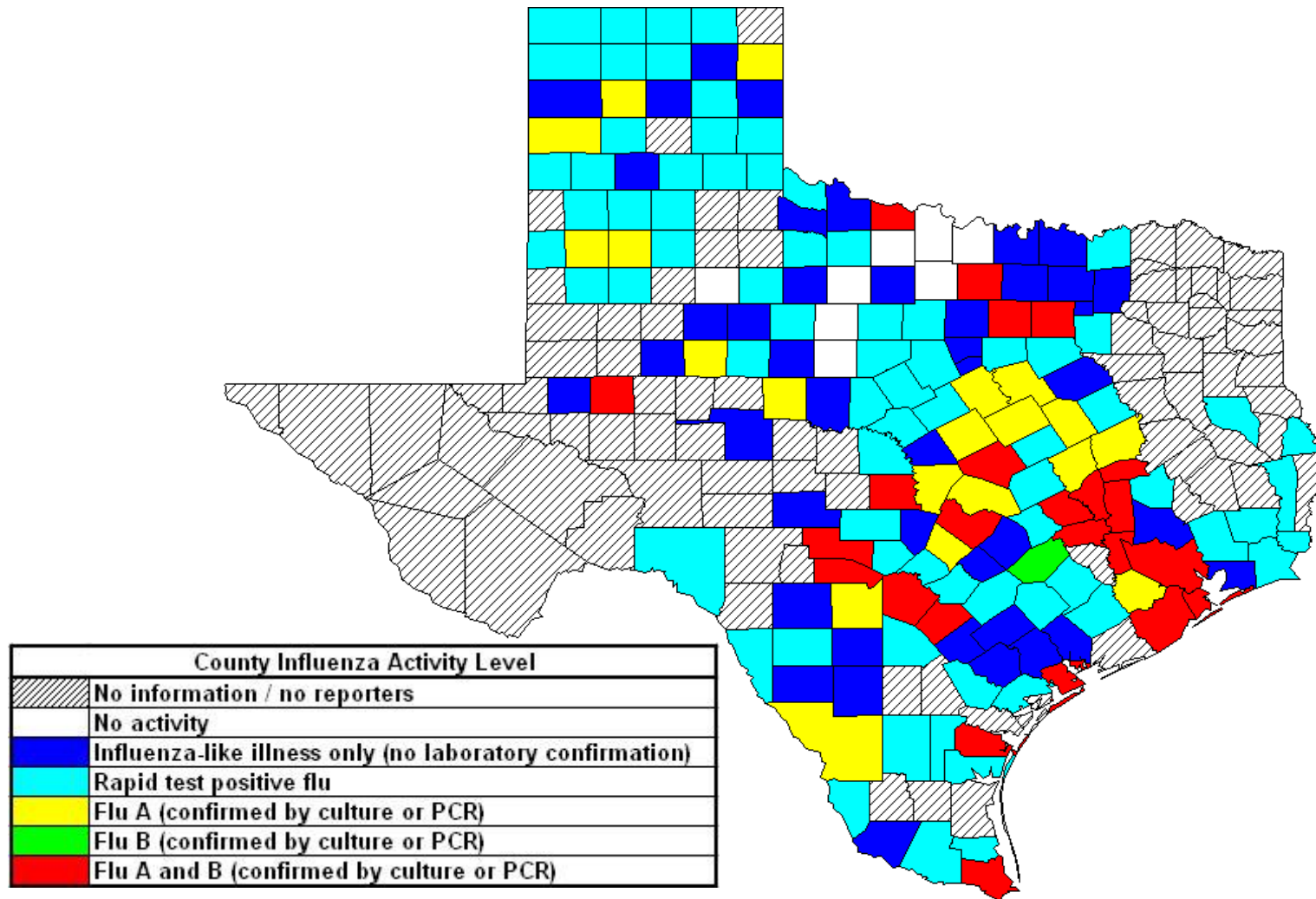
Fifteen influenza-associated pediatric mortalities have been reported in Texas during the 2019-2020 influenza season. Cases of influenza-associated pediatric mortality (children <18 years of age) are reportable year-round by law in Texas.

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
February	0	0	0	0	0	0	0
March	0	0	0	0	0	0	0
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 Mar. 7, 2020 (MMWR Week 10)



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/>