

Texas Influenza Surveillance Report 2014–2015 Season/2014 MMWR Week 49

(November 30, 2014 – December 06, 2014)

Report produced on 12/12/2014

Summary

Influenza activity continues to increase across Texas. According to Texas influenza laboratory data, the percentage of specimens positive for influenza slightly decreased compared to last week. ILI activity increased compared to last week and is above the 2014-2015 state ILINet baseline of 5.42%.

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)	Increased	Widespread	Regional	--
Statewide ILINet Activity Indicator assigned by CDC (intensity of influenza-like illness)	No change	High	High	--
Percentage of specimens positive for influenza	▼ 1.97%	28.62%	30.59% [†]	1
Percentage of visits due to ILI (ILINet)	▲ 1.11%	8.12%	7.01% [†]	3
Number of regions reporting increased flu/ILI activity	No change	6	6	5
Number of regions reporting decreased flu/ILI activity	No change	0	0	5
Number of variant/novel influenza infections	No change	0	0	5
Number of ILI/influenza outbreaks	▲ 1	2	1	5
Number of pediatric influenza deaths	New Cases Reported	2	0	5

[†]Data displayed have been updated since last week's flu report with any new reports received.

Laboratory Results

Influenza

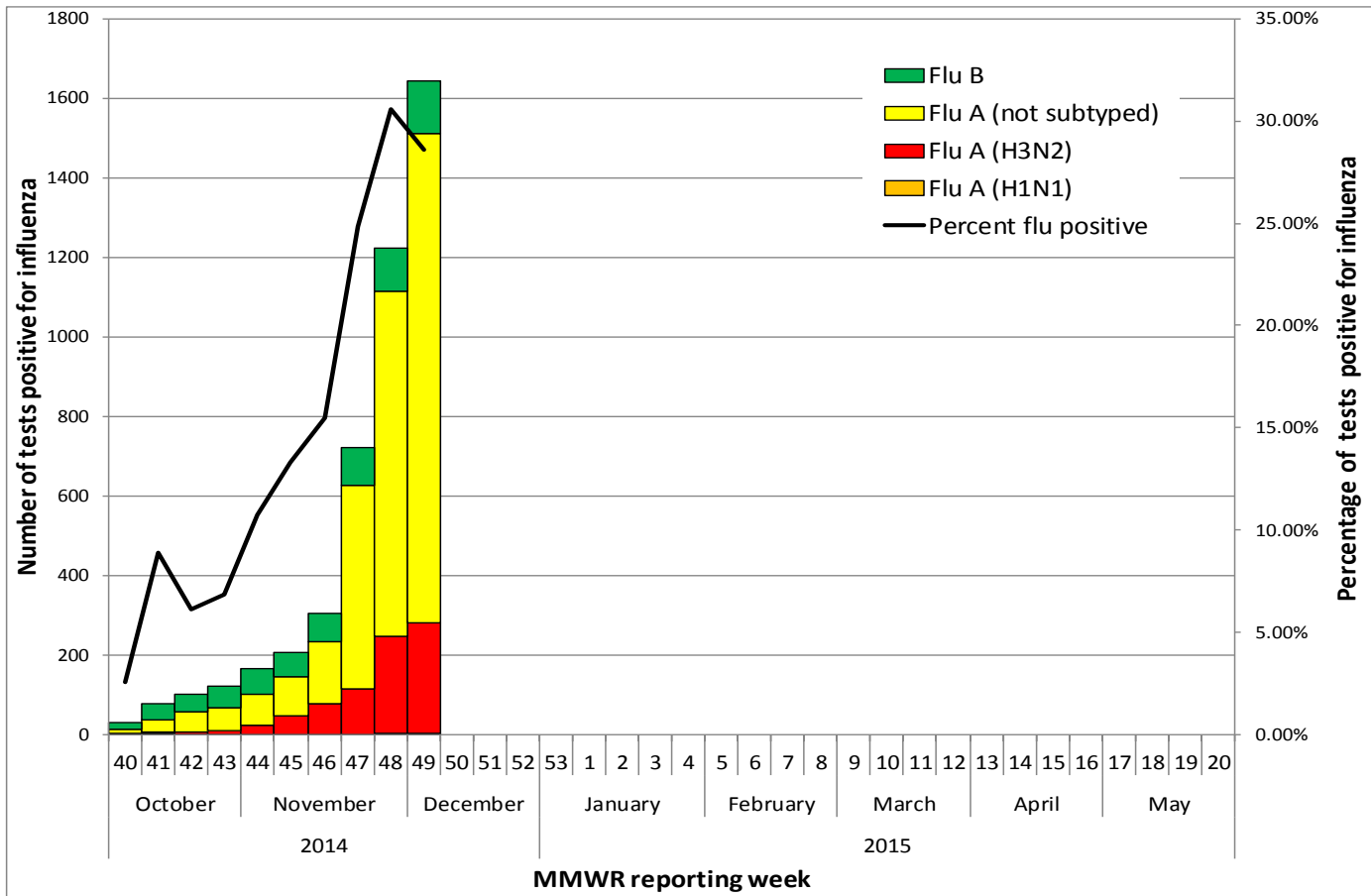
Hospital laboratories across Texas voluntarily report influenza tests (antigen, culture, and PCR) to the National Respiratory and Enteric Virus Surveillance System (NREVSS). Providers throughout Texas also submit specimens for influenza testing (PCR) to Texas public health laboratories, including the 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 is summarized in the table 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 Laboratories for the Current Week

	Week 49
Number of labs reporting flu tests	22
Number of specimens tested	5740
Number of positive specimens (%) [†]	1643 (28.62%)
Percentage of total tests that were antigen detection tests	76.72%
Positive specimens by type/subtype [n (%)]	
Influenza A	1510 (91.91%)
Subtyping performed	280 (18.54%)
A (H1N1)	2 (0.71%)
A (H3N2)	278 (99.29%)
Subtyping not performed	1230 (81.46%)
Influenza B	133 (8.09%)

[†]Laboratory data in 2014-2015 season reports may not be comparable to reports from previous seasons because of the inclusion of DSHS and LRN laboratory 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 Laboratories, 2014–2015 Season



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), and respiratory adenovirus. The results for the current week are summarized below.

Table 3: 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)	8	882	34	3.85%
HMPV	7	857	9	1.05%
Parainfluenza virus	8	962	31	3.22%
Rhinovirus	5	614	102	16.61%
RSV [†]	14	1972	365	18.51%

[†]RSV tests displayed in the table are antigen detection tests only. Some non-NREVSS reporters also contribute to the RSV data.

Antigenic Characterization

Since September 28, 2014, CDC has reported antigenic characterization results from 5 influenza A (H3N2) viruses and 4 influenza B viruses received from the Texas Department of State Health Services (DSHS) Laboratory. The DSHS Laboratory sends a representative sample of influenza viruses to the CDC throughout the flu season.

Influenza A (H3N2) [5]

- Five (100%) viruses were related to A/Texas/50/2012, the influenza A (H3N2) component of the 2014-2015 Northern Hemisphere influenza vaccine.

Influenza B [4]

- Yamagata lineage [1]: One (25%) influenza B/Yamagata-lineage virus has been characterized from Texas. A B/ Massachusetts/2/2012-like virus is included as an influenza B component of the 2014-2015 Northern Hemisphere trivalent and quadrivalent influenza vaccines.
- Victoria lineage [3]: Three (75%) influenza B/Victoria-lineage viruses were characterized as B/Brisbane/60/2008-like, which is included as an influenza B component of the 2014-2015 Northern Hemisphere quadrivalent influenza vaccine.

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

	Week 49
Number of providers reporting [†]	104
Number of providers reporting patient visits	103
Number (%) of providers with at least one ILI case	89 (86.41%)
Percentage of all visits due to ILI	8.12%
Texas ILINet baseline [‡] , 2014–2015	5.42%

[†]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 6: Percentage of Visits for Influenza-like Illness Reported by Texas ILINet Providers (as of 12/11/2014 9:30 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+			
201440	109	158	378	310	111	92	1049	28734	3.65%
201441	109	173	382	307	135	93	1090	30076	3.62%
201442	109	231	428	292	131	92	1174	29266	4.01%
201443	112	205	461	363	133	100	1262	29822	4.23%
201444	109	192	482	346	107	116	1243	28350	4.38%
201445	111	190	514	333	117	88	1242	28605	4.34%
201446	78	231	364	91	32	22	740	21551	3.43%
201447	102	272	841	415	107	28	1663	24702	6.73%
201448	103	205	616	448	102	42	1413	20167	7.01%
201449	104	282	871	649	278	208	2288	28161	8.12%

Figure 2: Percentage of Visits Due to Influenza-like Illness Reported by Texas ILINet Participants, 2014–2015 Season

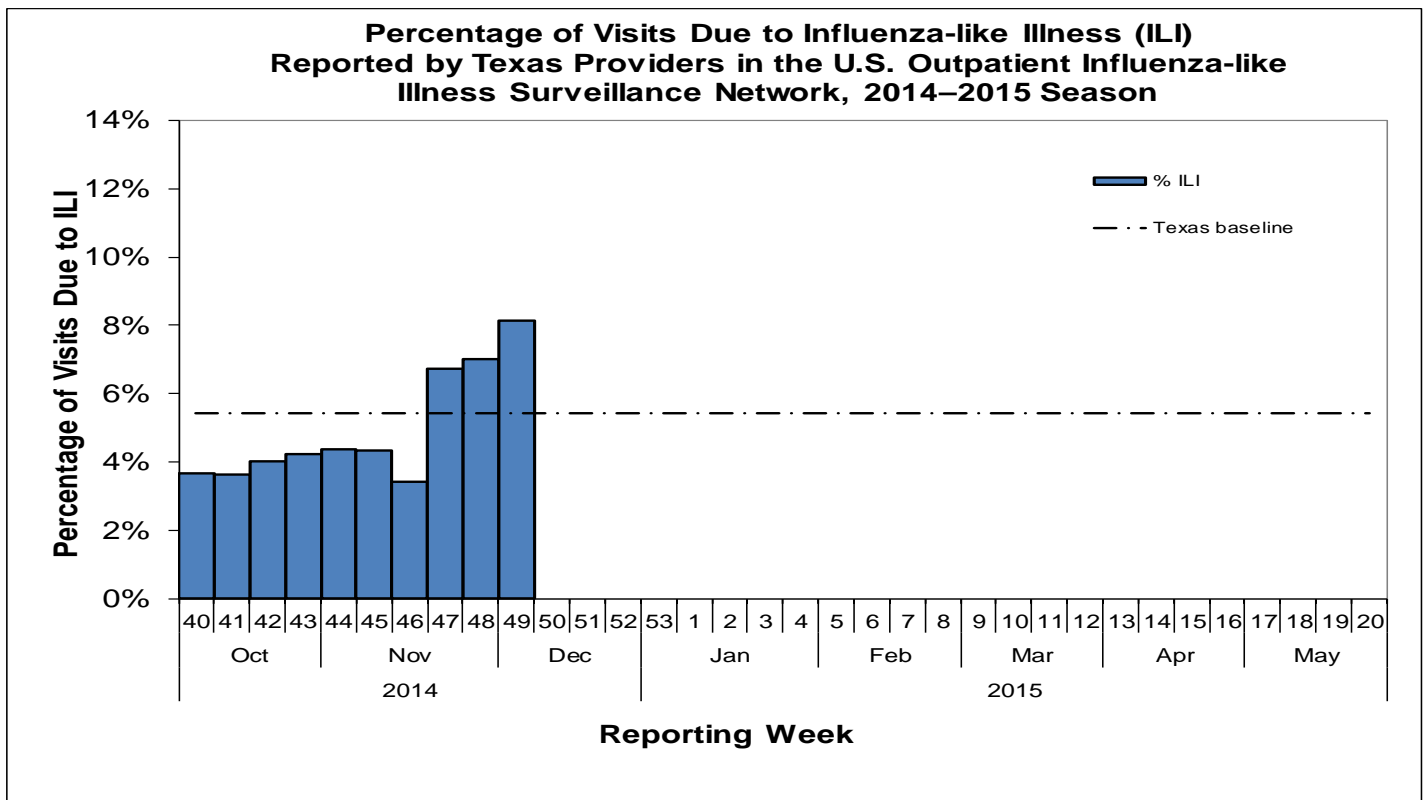
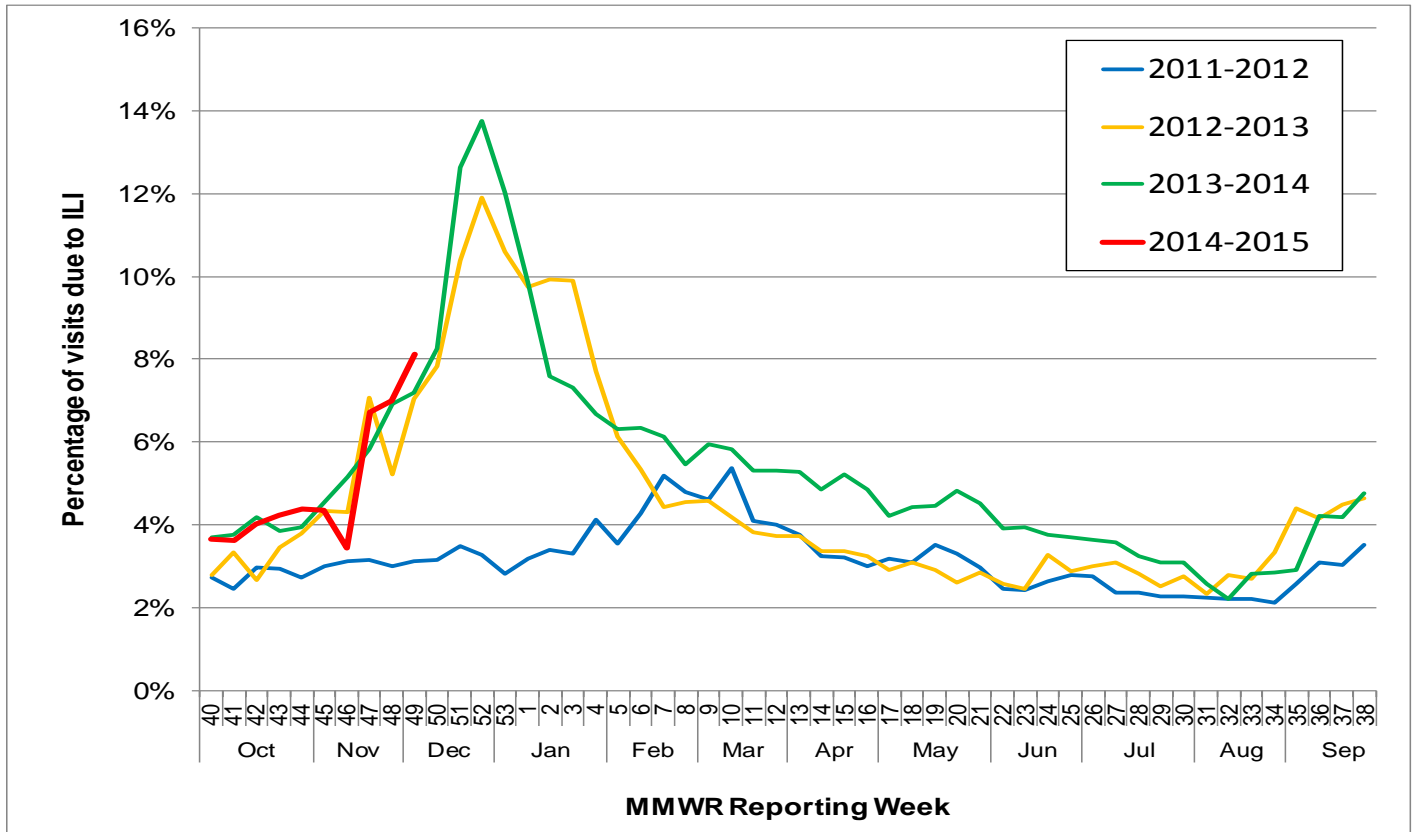


Figure 3: Percentage of Visits Due to Influenza-like Illness Reported by Texas ILINet Participants, 2011–2015 Seasons



Reports from Health Service Regions

Reports were received from all Health Service Regions (HSRs) during week 49. HSR 8 and 11 reported the same level of flu activity compared to week 48. The remaining HSRs reported an increased level of flu activity compared to week 48.

Variant Influenza Viruses

No variant or novel influenza viruses have been detected in Texas in 2014.

Institutional Outbreaks and School Closures

During week 49, an influenza outbreak was reported in a long-term care facility located in HSR 11. Three residents tested positive for influenza A via rapid test. All three individuals were treated with Tamiflu. All other residents and staff members of the facility received antiviral chemoprophylaxis. In addition, an influenza outbreak was reported in a long-term care facility located in HSR 1. Eight of thirteen residents were positive for influenza A via rapid flu test. Specimens will be sent to the TIEHH Bioterrorism Response Laboratory in Lubbock for influenza testing.

No school closures were reported during week 49.

Influenza-Associated Pediatric Mortality

Two influenza-associated pediatric deaths occurred during week 49. One influenza-associated pediatric death occurred in a 12-year-old resident of HSR 6/5S. The child had no underlying health conditions. A specimen from the child was positive for influenza A H3; a blood specimen collected from the child was also positive for Group A *Streptococcus*. The child was vaccinated with the live-attenuated influenza vaccine for the current season. Another influenza-associated pediatric death occurred in a 12-year-old resident of HSR 11. The child had no underlying health conditions. A specimen from the child was positive for influenza B; a blood specimen collected from the child was also positive for *Streptococcus mitis* and *Streptococcus parasanguinis*. The child was vaccinated for influenza for the current season. However, the child received the influenza vaccine less than two weeks prior to the onset of illness. It takes about two weeks for the body to build up immunity against influenza virus infection following influenza vaccination.

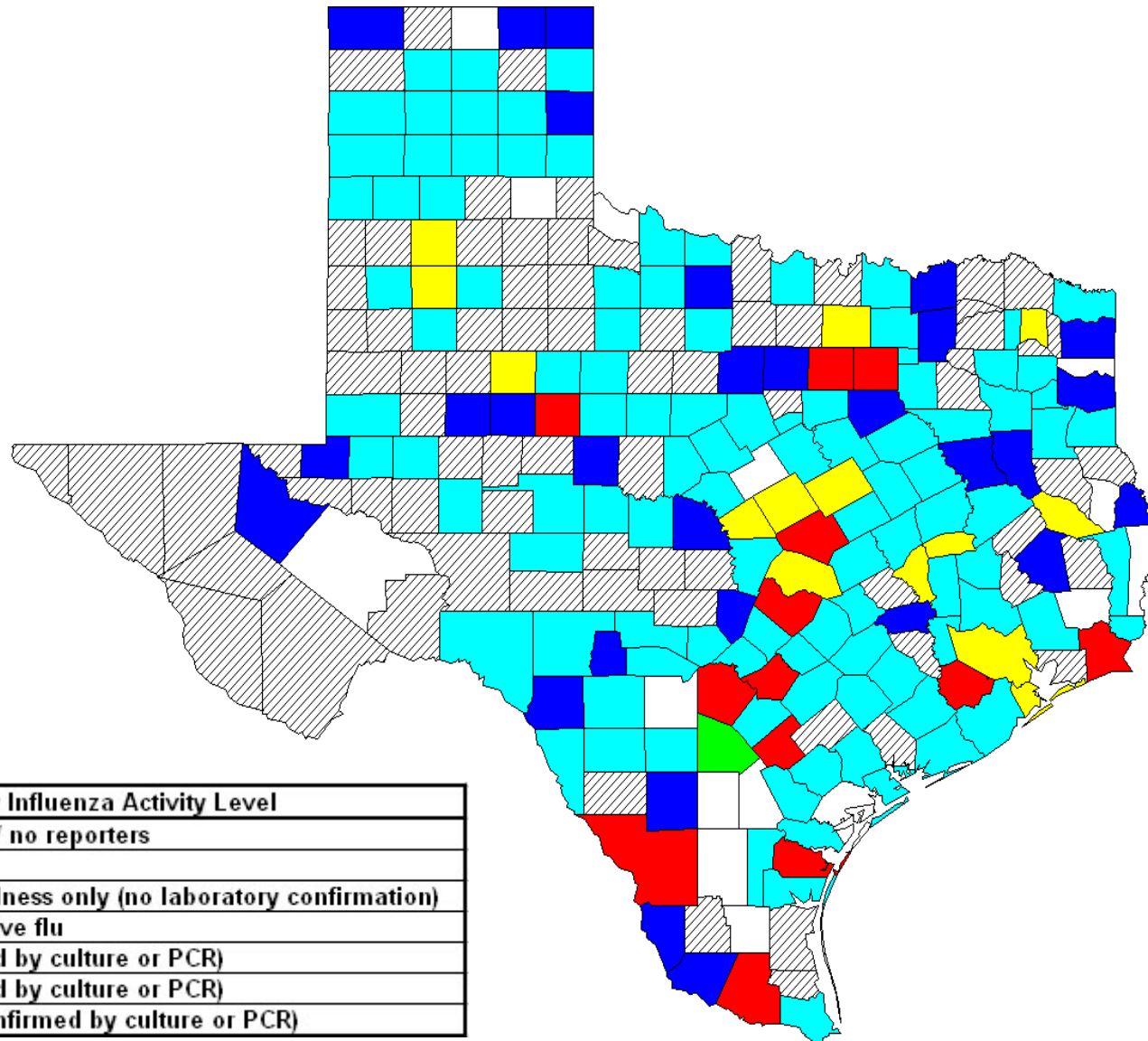
Two influenza-associated pediatric deaths have been reported in Texas during the 2014-2015 influenza season. Cases of influenza-associated pediatric mortality (children <18 years of age) are reportable year-round and by law in Texas.








Table 7: Influenza-Associated Pediatric Deaths Reported in Texas During the 2014–2015 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
2014							
October	0	0	0	0	0	0	0
November	0	0	0	0	0	0	0
December	0	1	0	1	0	0	2
Total	0	1	0	1	0	0	2

Statewide Influenza Activity Map

Figure 4: Texas Map Displaying the Highest Level of Influenza or ILI Activity Reported by County for the Week Ending December 06, 2014 (MMWR Week 49)



County Influenza Activity Level	
	No information / no reporters
	No activity
	Influenza-like illness only (no laboratory confirmation)
	Rapid test positive flu
	Flu A (confirmed by culture or PCR)
	Flu B (confirmed by culture or PCR)
	Flu A and B (confirmed by culture or PCR)

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.**

Respiratory Virus Surveillance Project (RVSP)

Providers report weekly to ILINet and submit specimens on the first 10 patients seen with ILI each week. Specimens are tested for a variety of respiratory viruses.

ILI activity

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

Outbreaks

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

Mortality

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 and novel influenza viruses: <http://www.cdc.gov/flu/avianflu/index.htm>; <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/>