

Texas Influenza Surveillance Report 2014–2015 Season/2014 MMWR Week 53

(December 28, 2014 – January 3, 2015)

Report produced on 1/9/2015

Summary

High influenza activity continues to be seen across the state of Texas. The percentage of specimens positive for influenza decreased compared to last week and ILI activity increased compared to last week. ILI activity remains above the 2014–2015 state ILINet baseline of 5.42%. It is still too early to tell if influenza activity has peaked in Texas for this season.

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	▼6.08%	24.03%	30.11% [†]	1
Percentage of visits due to ILI (ILINet)	▲4.34%	12.83%	8.49% [†]	3
Number of regions reporting increased flu/ILI activity	▲1	4	3	5
Number of regions reporting decreased flu/ILI activity	▲1	1	0	5
Number of variant/novel influenza infections	No change	0	0	5
Number of ILI/influenza outbreaks	▼1	2	3	5
Number of pediatric influenza deaths	New Case Reported	1	2	5

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

Laboratory Results

Influenza

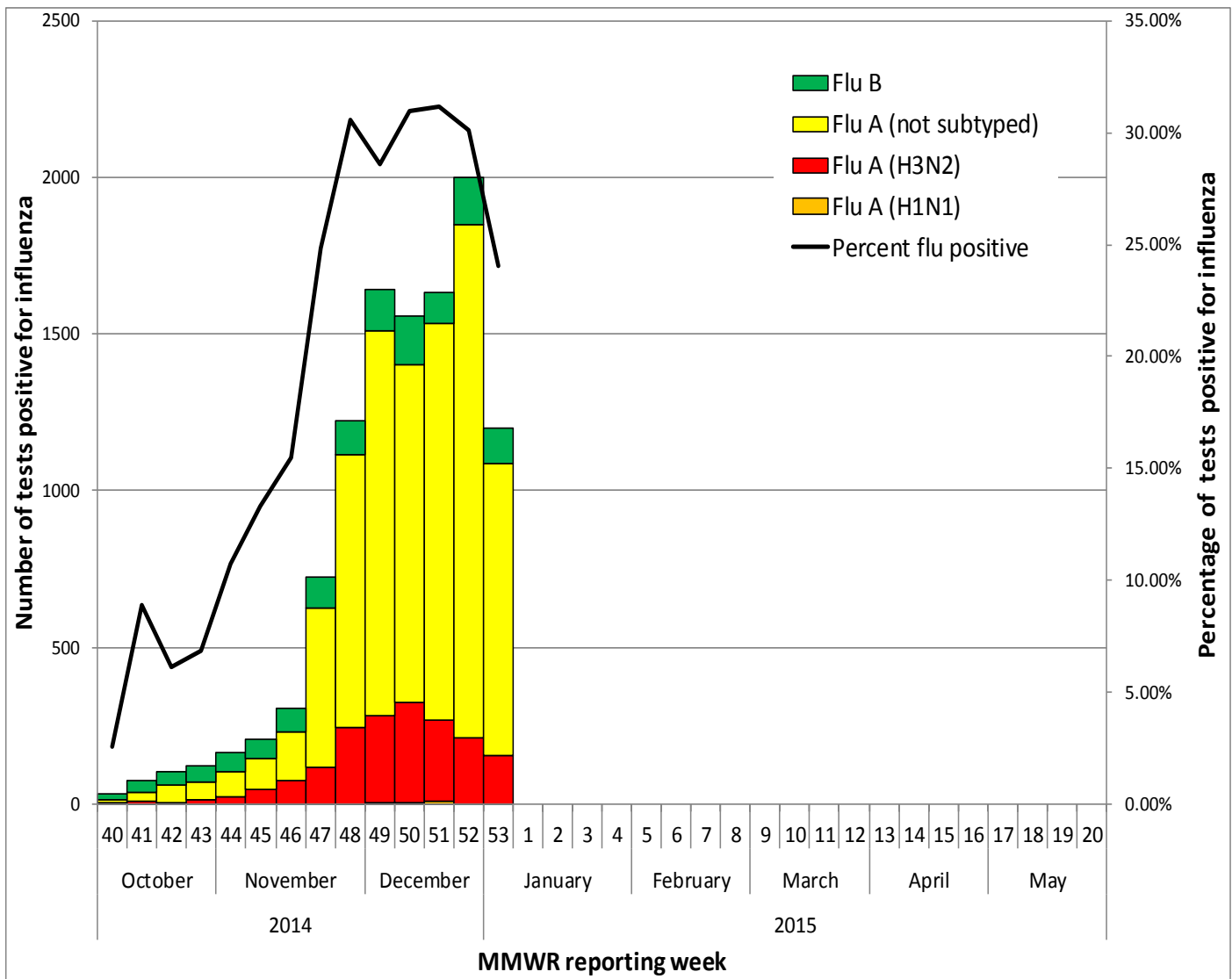
Hospital laboratories across Texas voluntarily report influenza tests (antigen, culture, and PCR) to the National Respiratory and Enteric Virus Surveillance System (NREVSS). Providers throughout Texas also submit specimens for influenza testing (PCR) to Texas public health laboratories, including the 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 53
Number of labs reporting flu tests	19
Number of specimens tested	5003
Number of positive specimens (%) [†]	1202 (24.03%)
Percentage of total tests that were antigen detection tests	72.06%
Positive specimens by type/subtype [n (%)]	
Influenza A	1085 (90.27%)
Subtyping performed	153 (14.1%)
A (H1N1)	0 (0.0%)
A (H3N2)	153 (100.0%)
Subtyping not performed	932 (85.9%)
Influenza B	117 (9.73%)

[†]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	929	32	3.44%
HMPV	7	903	32	3.54%
Parainfluenza virus	8	919	31	3.37%
Rhinovirus	6	688	108	15.70%
RSV [†]	14	2357	686	29.10%

[†]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 10 influenza A (H3N2) viruses and 8 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) [10]

- Three (30%) viruses were related to A/Texas/50/2012, the influenza A (H3N2) component of the 2014-2015 Northern Hemisphere influenza vaccine.
- Seven (70%) viruses tested showed reduced titers with antiserum produced against A/Texas/50/2012 and were antigenically similar to A/Switzerland/9715293/2013, the H3N2 virus selected for the 2015 Southern Hemisphere influenza vaccine. A/Switzerland/9715293/2013 is related to, but antigenically and genetically distinguishable, from the A/Texas/50/2012 vaccine virus. A/Switzerland-like H3N2 viruses were first detected in the United States in small numbers in March of 2014 and began to increase through the spring and summer.

Influenza B [8]

- Yamagata lineage [1]: One (12.5%) 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 [7]: Seven (87.5%) 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

Table 4 displays the number of influenza viruses from Texas that have been tested for antiviral resistance since September 28, 2014. No influenza viruses have tested positive for mutations that confers resistance to oseltamivir or zanamivir.

Table 4: Cumulative Antiviral Resistance Results from Texas Influenza Viruses, 2014-2015 Season[†]

	Oseltamivir		Zanamivir	
	Virus samples tested (n)	Resistant viruses, number (%)	Virus samples tested (n)	Resistant viruses, number (%)
Influenza A (H1N1)	0	0 (0%)	0	0 (0%)
Influenza A (H3N2)	5	0 (0%)	5	0 (0%)
Influenza B	0	0 (0%)	0	0 (0%)

[†]This table includes specimens submitted as part of routine surveillance and not for diagnostic purposes.

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

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

	Week 53
Number of providers reporting [†]	84
Number of providers reporting patient visits	81
Number (%) of providers with at least one ILI case	69 (85.19%)
Percentage of all visits due to ILI	12.83%
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 1/08/2015 11:30 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	110	158	378	310	111	92	1049	28901	3.63%
201441	110	173	382	307	135	93	1090	30285	3.60%
201442	110	231	428	292	131	92	1174	29404	3.99%
201443	113	205	461	363	133	100	1262	29970	4.21%
201444	110	192	482	346	107	116	1243	28488	4.36%
201445	112	190	514	333	117	88	1242	28796	4.31%

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+			
201446	79	231	364	92	32	22	741	21755	3.41%
201447	106	272	843	415	108	28	1666	25418	6.55%
201448	106	232	679	456	104	44	1515	20768	7.29%
201449	112	348	977	663	285	217	2490	30168	8.25%
201450	114	438	1547	659	268	207	3119	30202	10.33%
201451	93	506	1527	698	275	202	3208	22347	14.36%
201452	75	342	596	222	122	126	1408	16590	8.49%
201453	84	330	499	719	321	212	2081	16217	12.83%

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

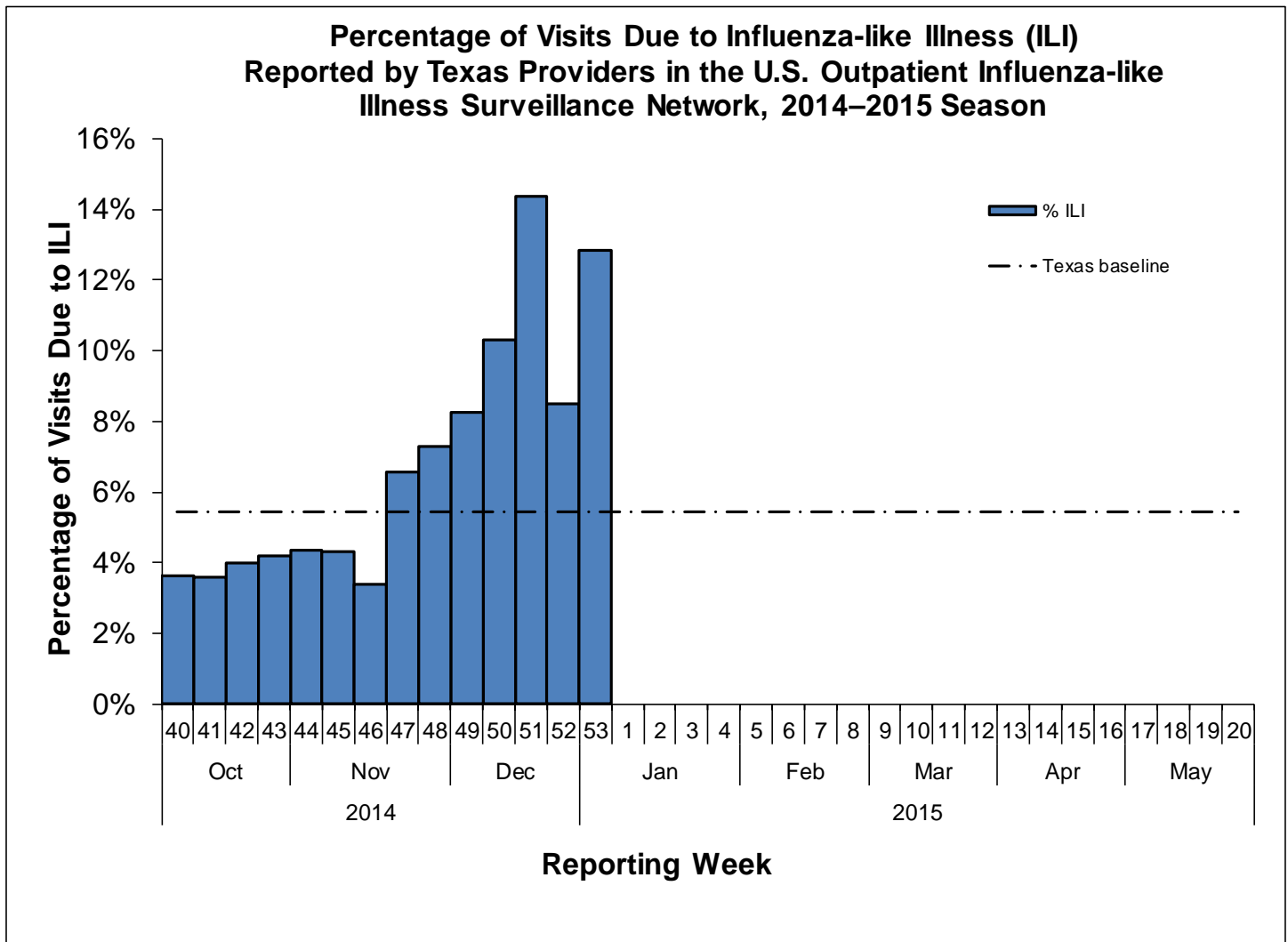
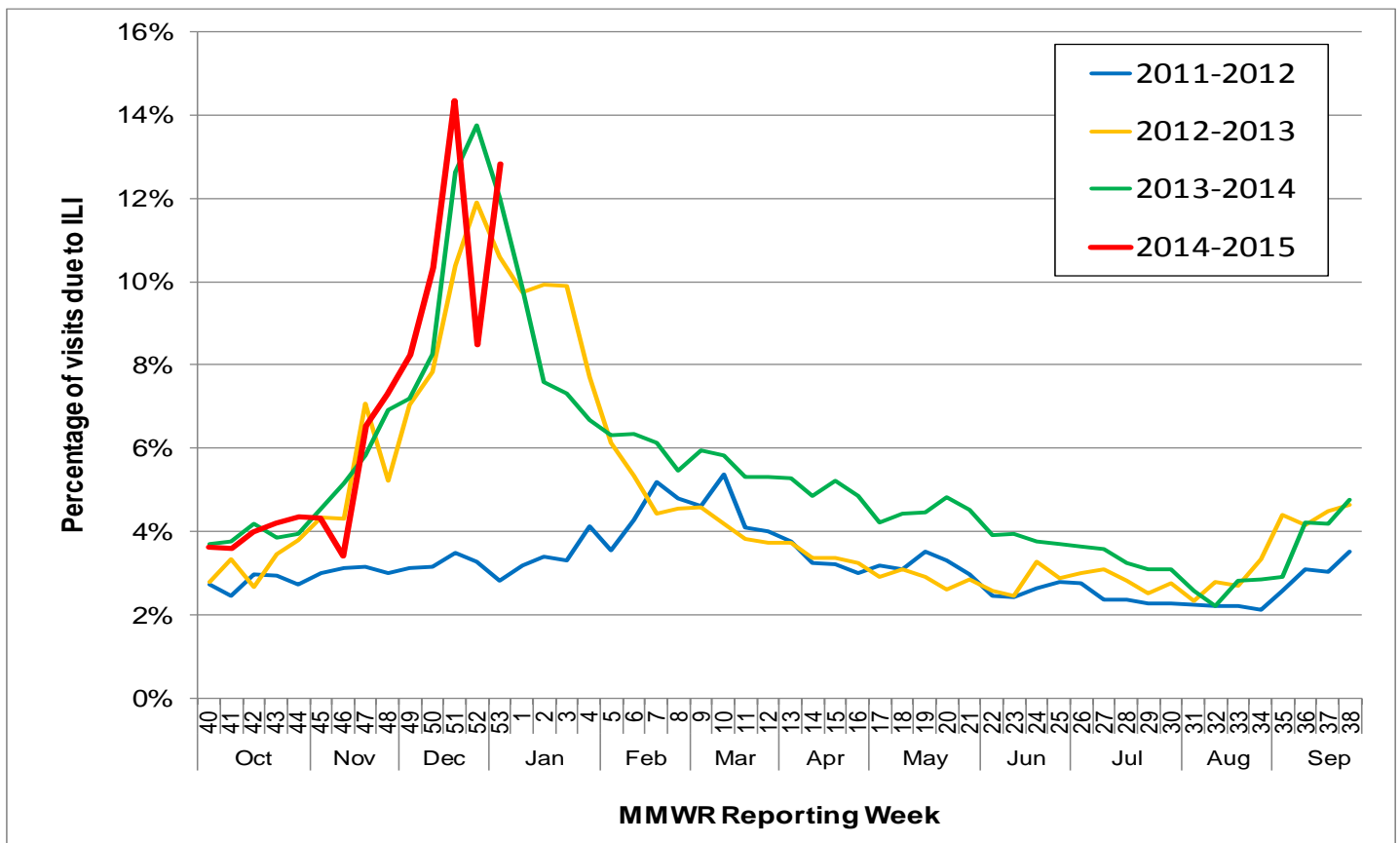


Figure 3: Percentage of Visits Due to Influenza-like Illness Reported by Texas ILINet Participants, 2011–2015 Seasons



Reports from Health Service Regions

Reports were received from all Health Service Regions (HSRs) during week 53. HSRs 1, 4/5N, 8, and 9/10 reported an increased level of flu activity compared to week 52. HSR 6/5S, 7, and 11 reported the same level of flu activity compared to week 52. HSR 2/3 reported a decreased level of flu activity compared to week 52.

Variant Influenza Viruses

No variant or novel influenza viruses have been detected in Texas in 2014 or 2015.

Institutional Outbreaks and School Closures

During week 53, two influenza outbreaks were reported in long-term care facilities. One influenza outbreak occurred in a long-term care facility located in HSR 7. Five residents had influenza-like symptoms with two of the residents being positive for influenza A via rapid test. The long-term care facility implemented control measures which included giving residents Tamiflu. The other influenza outbreak occurred in a long-term care facility in HSR 6/5S. It was reported that four residents, all in the same location of the facility, were sick with influenza (unknown type). All residents in the same location as the four ill residents were receiving Tamiflu for 7 days and being isolated from other residents in the facility.

No school closures were reported during week 53.

Influenza-Associated Pediatric Mortality

One influenza-associated pediatric death occurred in week 53. This child was a 5 year old resident of HSR 6/5S with multiple underlying health conditions. A specimen from the child was positive for influenza A H3 via PCR; a sputum specimen collected from the child was positive for *Pseudomonas aeruginosa*. The child was vaccinated for influenza for the current season.

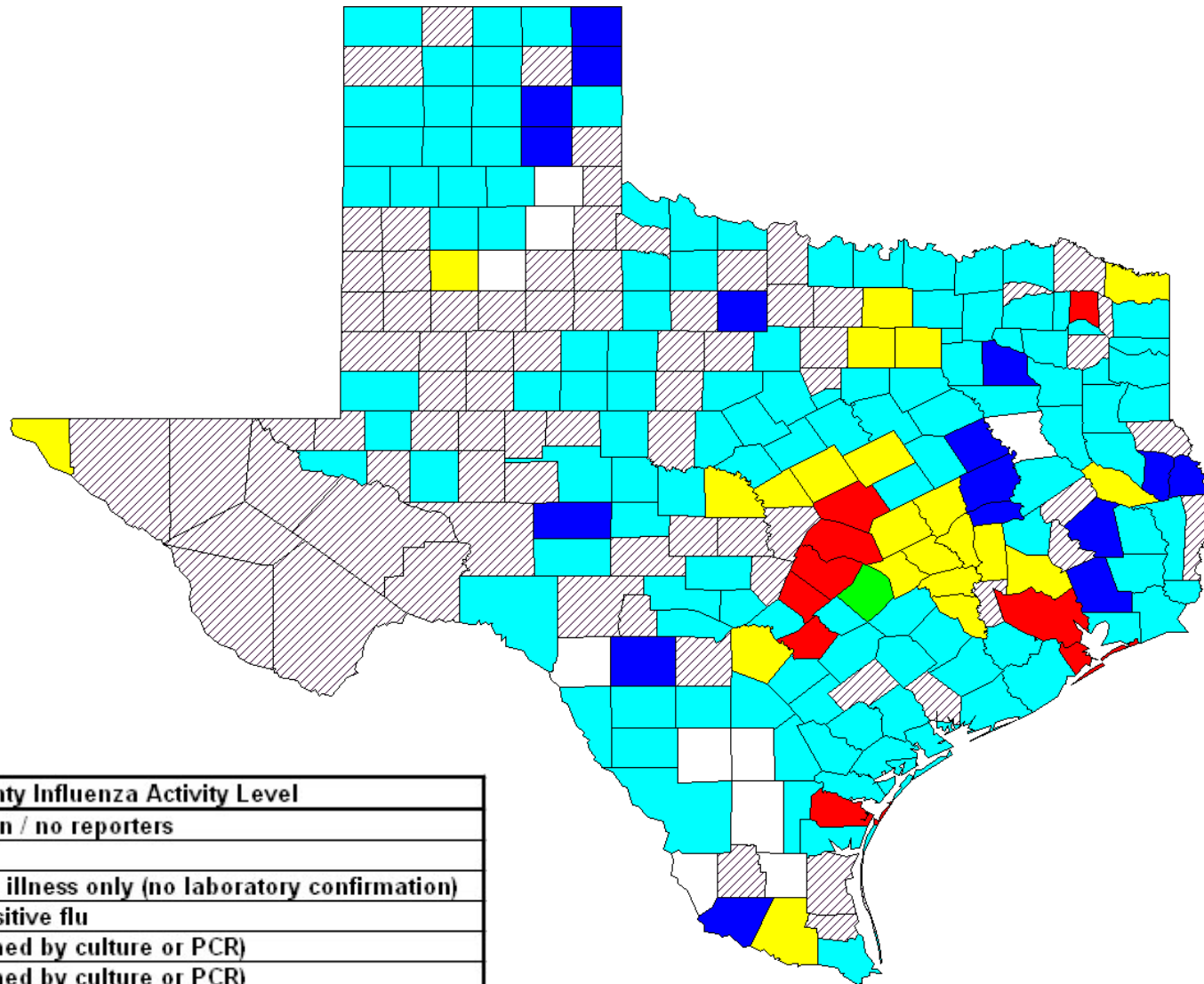
Six influenza-associated pediatric deaths have been reported in Texas during the 2014-2015 influenza season. Cases of influenza-associated pediatric mortality (children <18 years of age) are reportable year-round and by law in Texas.








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	2	2	0	0	5
2015							
January	0	1	0	0	0	0	1
Total	0	2	2	2	0	0	6

Statewide Influenza Activity Map

Figure 4: Texas Map Displaying the Highest Level of Influenza or ILI Activity Reported by County for the Week Ending January 3, 2015 (MMWR Week 53)



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/>