

Texas Influenza Surveillance Report 2014–2015 Season/2015 MMWR Week 01

(January 4, 2015 – January 10, 2015)

Report produced on 1/16/2015

Summary

High level of influenza activity continues to be seen across the state of Texas. However, there seems to be some indication that influenza activity may be decreasing. The percentage of specimens positive for influenza and ILI activity slightly decreased 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 has peaked 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	▼ 3.64%	20.39%	24.03% [†]	1
Percentage of visits due to ILI (ILINet)	▼ 1.72%	11.14%	12.86% [†]	3
Number of regions reporting increased flu/ILI activity	▼ 1	3	4	5
Number of regions reporting decreased flu/ILI activity	▲ 1	2	1	5
Number of variant/novel influenza infections	No change	0	0	5
Number of ILI/influenza outbreaks	▲ 1	3	2	5
Number of pediatric influenza deaths	No New Cases Reported	0	1	6

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

Laboratory Results

Influenza

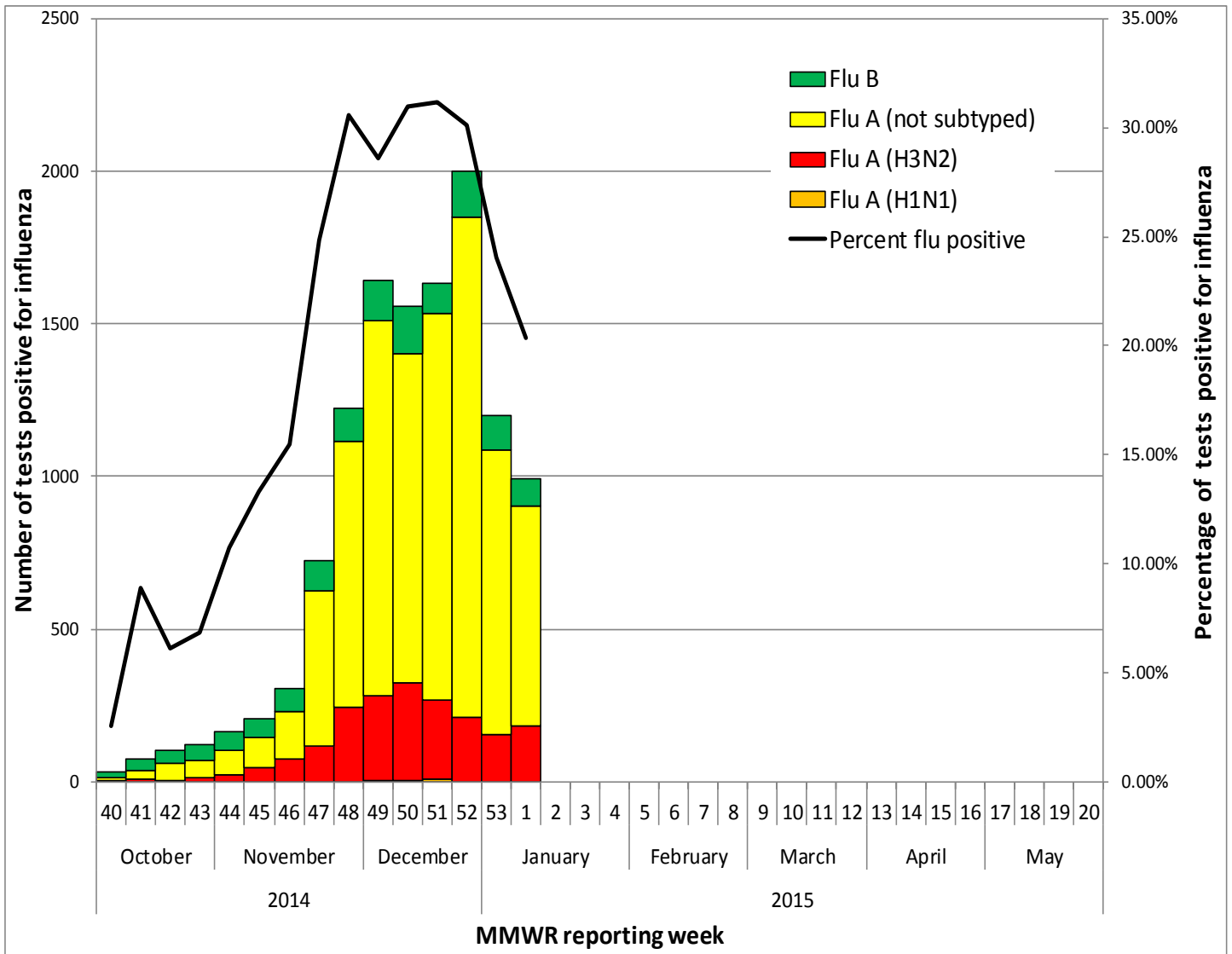
Hospital laboratories across Texas voluntarily report influenza tests (antigen, culture, and PCR) to the National Respiratory and Enteric Virus Surveillance System (NREVSS). Providers throughout Texas also submit specimens for influenza testing (PCR) to Texas public health laboratories, including the 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 01
Number of labs reporting flu tests	21
Number of specimens tested	4871
Number of positive specimens (%) [†]	993 (20.39%)
Percentage of total tests that were antigen detection tests	74.40%
Positive specimens by type/subtype [n (%)]	
Influenza A	905 (91.14%)
Subtyping performed	183 (20.22%)
A (H1N1)	0 (0.0%)
A (H3N2)	183 (100.0%)
Subtyping not performed	722 (79.78%)
Influenza B	88 (8.86%)

[†]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)	7	777	22	2.83%
HMPV	6	749	14	1.87%
Parainfluenza virus	7	761	13	1.71%
Rhinovirus	5	523	60	11.47%
RSV†	13	1810	483	26.69%

†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 13 influenza A (H3N2) viruses and 12 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) [13]

- Three (23.1%) viruses were related to A/Texas/50/2012, the influenza A (H3N2) component of the 2014-2015 Northern Hemisphere influenza vaccine.
- Ten (76.9%) 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 [12]

- Yamagata lineage [1]: One (8.3%) 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 [11]: Eleven (91.7%) 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 01
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	11.14%
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 1/15/2015 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	111	160	384	313	112	93	1062	28914	3.67%
201441	111	181	390	312	139	93	1115	30310	3.68%
201442	111	237	430	297	133	94	1191	29421	4.05%
201443	115	210	466	367	136	103	1282	30049	4.27%
201444	111	193	482	346	107	116	1244	28523	4.36%
201445	113	190	514	333	117	88	1242	28839	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	80	231	364	92	32	22	741	21801	3.40%
201447	107	272	843	415	108	29	1667	25462	6.55%
201448	107	232	679	456	104	44	1515	20803	7.28%
201449	113	349	977	663	285	218	2492	30214	8.25%
201450	115	438	1547	659	268	207	3119	30253	10.31%
201451	95	527	1560	700	276	204	3267	22915	14.26%
201452	80	368	626	231	127	127	1479	17357	8.52%
201453	89	351	526	721	325	213	2136	16606	12.86%
201501	84	277	676	705	344	272	2274	20422	11.14%

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

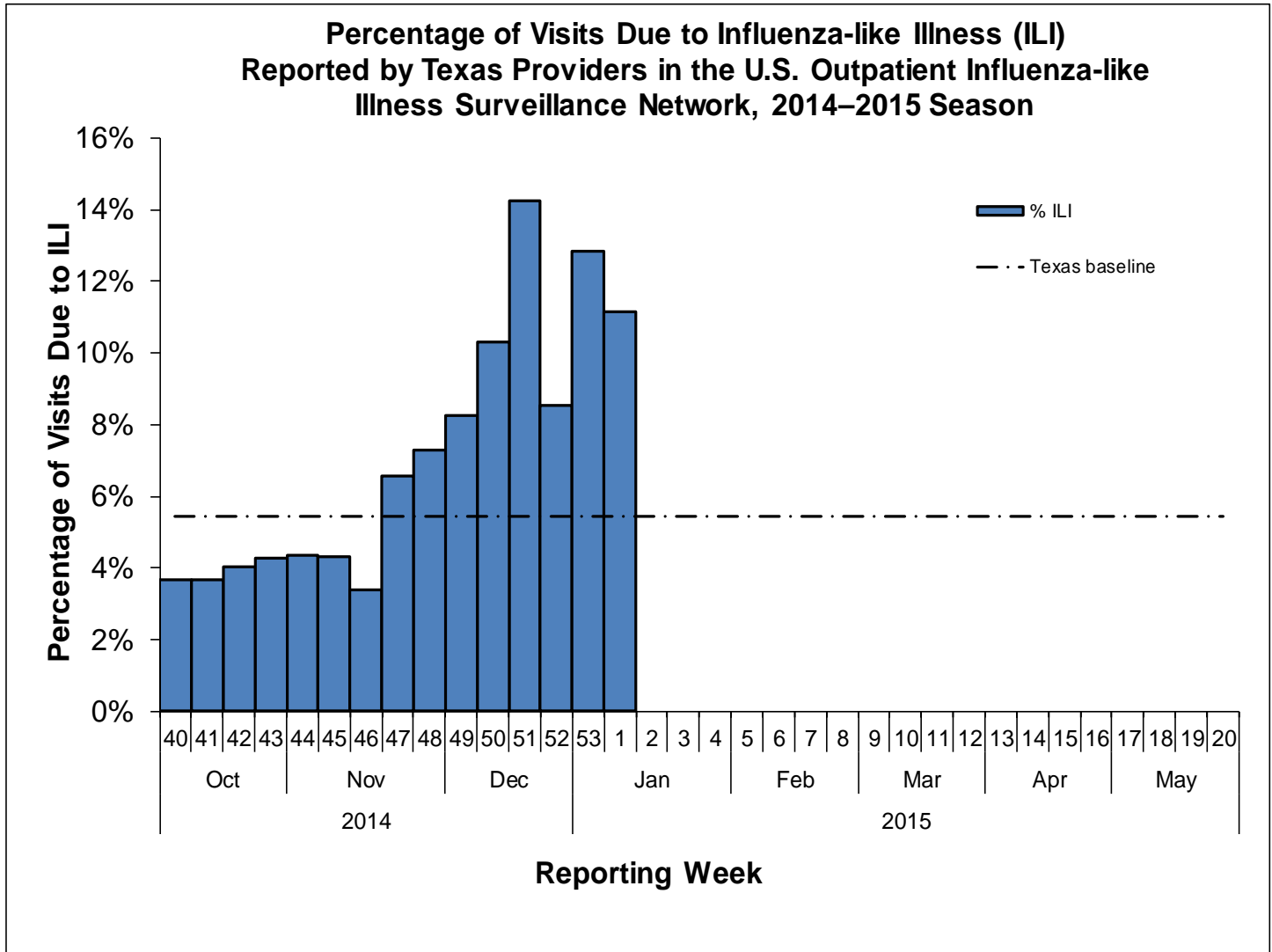
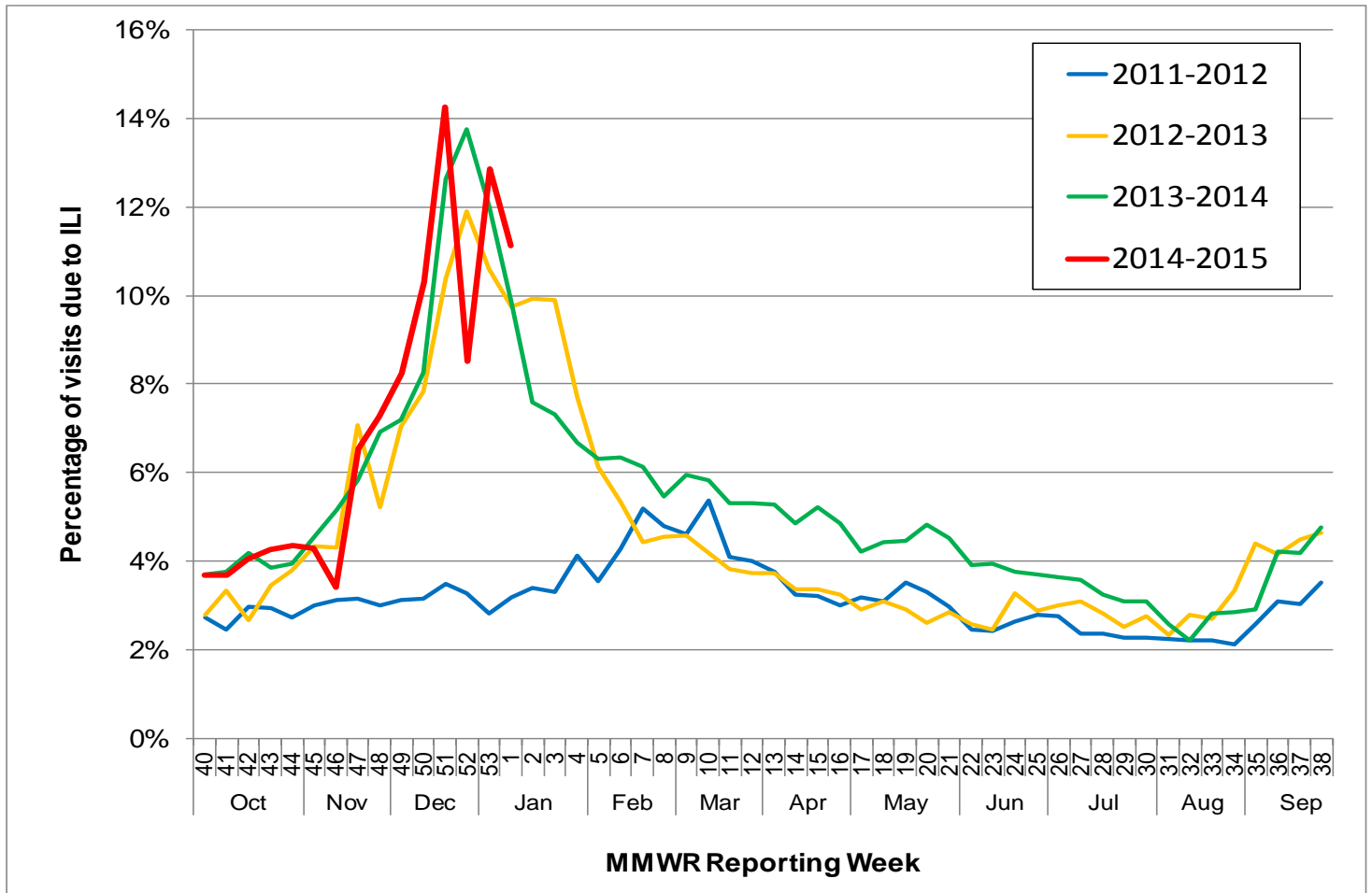


Figure 3: Percentage of Visits Due to Influenza-like Illness Reported by Texas ILINet Participants, 2011–2015 Seasons



Reports from Health Service Regions

Reports were received from all Health Service Regions (HSRs) during week 01. HSRs 4/5N, 7, and 9/10 reported an increased level of flu activity compared to week 53. HSR 6/5S, 8, and 11 reported the same level of flu activity compared to week 53. HSR 1 and 2/3 reported a decreased level of flu activity compared to week 53.

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 01, three influenza outbreaks were reported in long-term care facilities. One influenza outbreak occurred in a long-term care facility located in HSR 6/5S. Three residents of the facility were positive for influenza A via rapid test. The facility implemented various control measures such as the isolation of ill and Tamiflu prophylaxis. The second reported influenza outbreak occurred in a long-term care facility located in HSR 7. Four staff members at the long-term care facility were positive for influenza (unknown type and subtype) via rapid test. The week before, there was a resident that had influenza and passed away. All residents of the facility were put on Tamiflu prophylaxis when this resident was confirmed with influenza. Two specimens were collected from residents and sent to the DSHS Lab for influenza testing. Both specimens came back negative for influenza. The third reported influenza outbreak occurred in a long-term care facility in HSR 8. There were fourteen residents and two staff members that tested positive for influenza A via rapid test. There were also seven hospitalizations. Specimens were collected and sent to the DSHS Lab for influenza testing.

No school closures were reported during week 1.

Influenza-Associated Pediatric Mortality

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

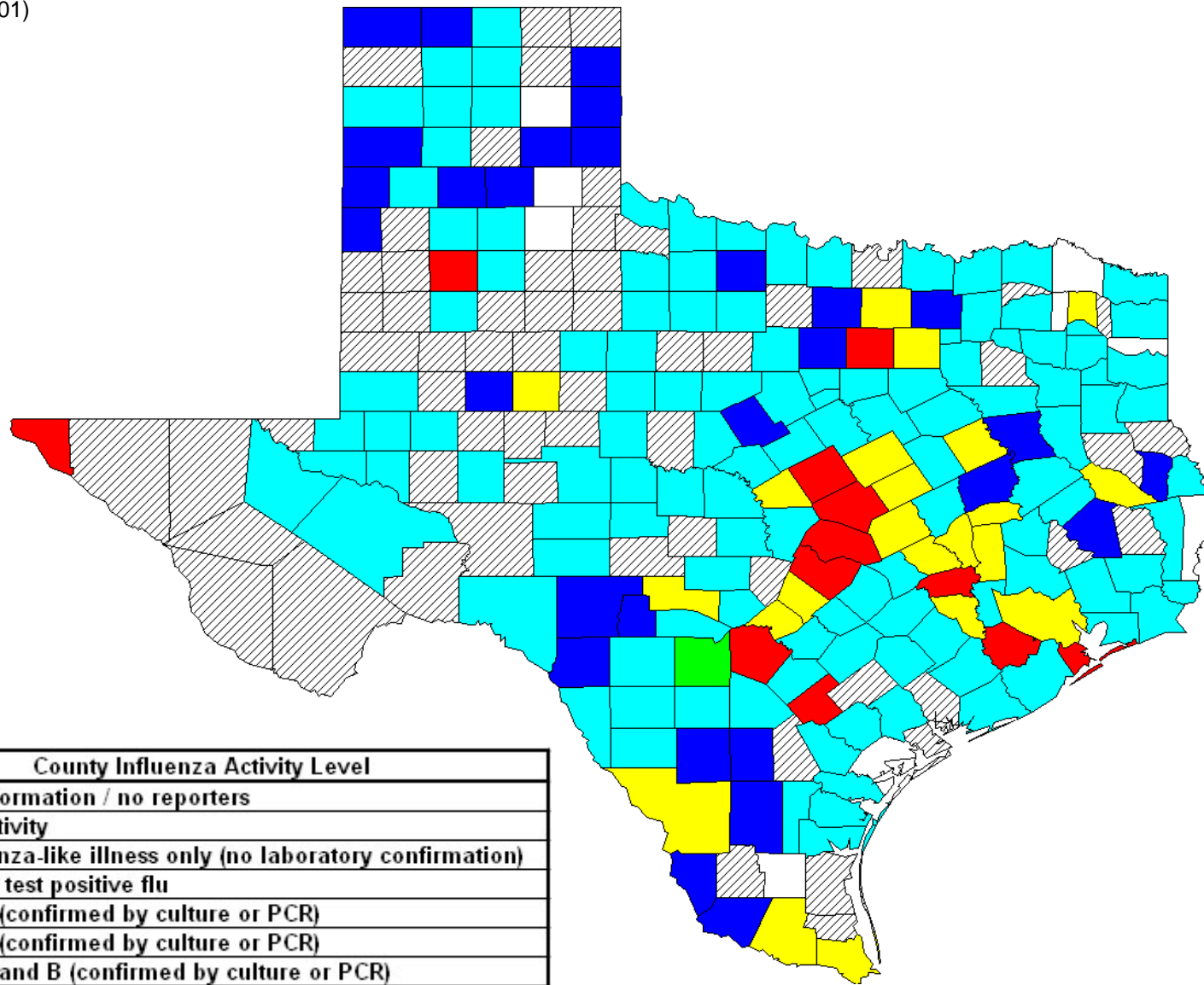
Six influenza-associated pediatric deaths have been reported in Texas during the 2014-2015 influenza season. Cases of influenza-associated pediatric mortality (children <18 years of age) are reportable year-round and by law in Texas.

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 10, 2015 (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.**

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/>