

Texas Influenza Surveillance Report 2014–2015 Season/2015 MMWR Week 02

(January 11, 2015 – January 17, 2015)

Report produced on 1/23/2015

Summary

High level of influenza activity continues to be seen across the state of Texas. The percentage of specimens positive for influenza and ILI activity slightly 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 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	▲ 3.36%	23.75%	20.39% [†]	1
Percentage of visits due to ILI (ILINet)	▲ 0.40%	11.97%	11.57% [†]	3
Number of regions reporting increased flu/ILI activity	▼ 1	2	3	5
Number of regions reporting decreased flu/ILI activity	No change	2	2	5
Number of variant/novel influenza infections	No change	0	0	5
Number of ILI/influenza outbreaks	▲ 4	7	3	5
Number of pediatric influenza deaths	New Case Reported	1	0	6

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

Laboratory Results

Influenza

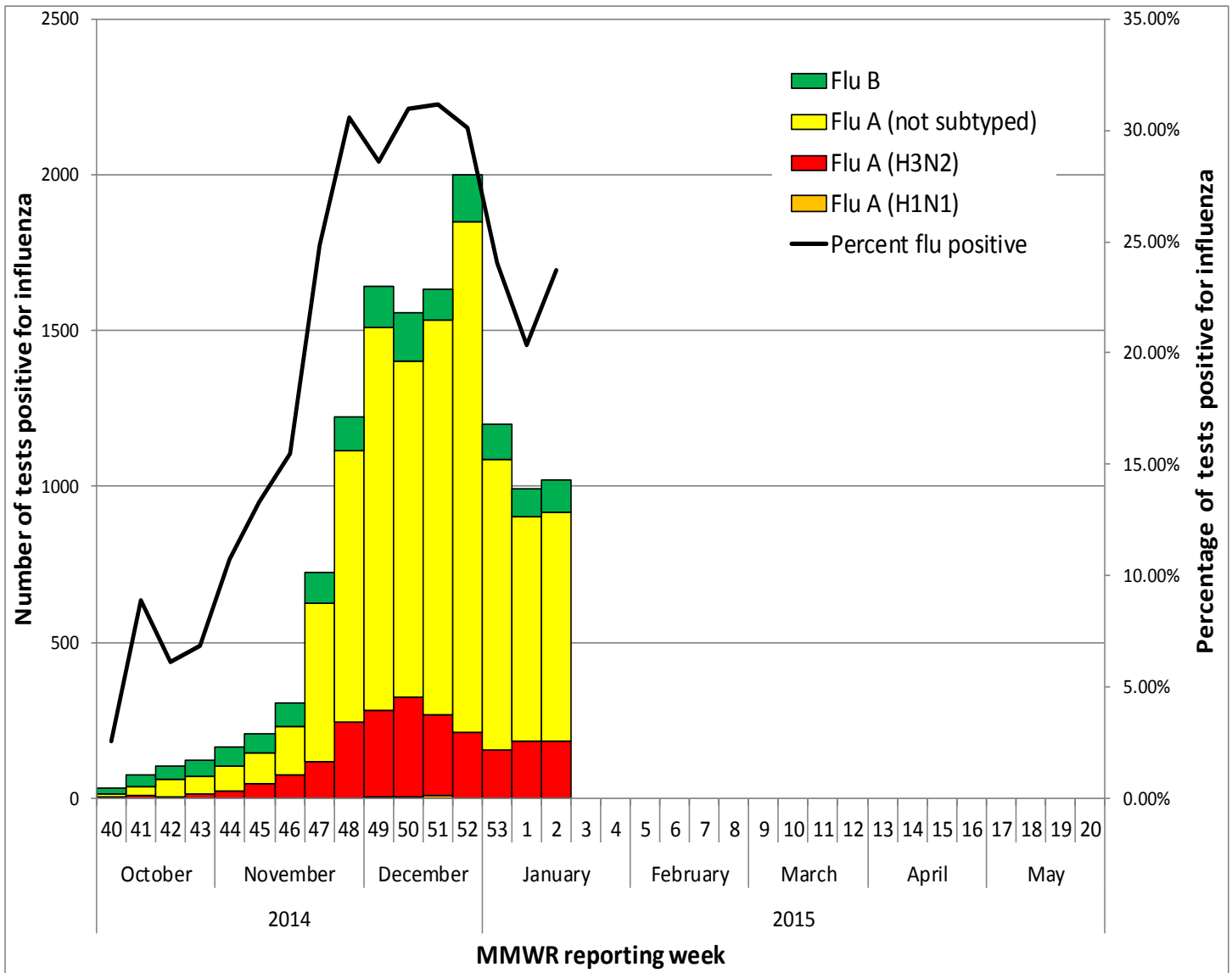
Hospital laboratories across Texas voluntarily report influenza tests (antigen, culture, and PCR) to the National Respiratory and Enteric Virus Surveillance System (NREVSS). Providers throughout Texas also submit specimens for influenza testing (PCR) to Texas public health laboratories, including the 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 02
Number of labs reporting flu tests	19
Number of specimens tested	4308
Number of positive specimens (%) [†]	1023 (23.75%)
Percentage of total tests that were antigen detection tests	74.40%
Positive specimens by type/subtype [n (%)]	
Influenza A	917 (89.64%)
Subtyping performed	181 (19.74%)
A (H1N1)	0 (0.0%)
A (H3N2)	181 (100.0%)
Subtyping not performed	736 (80.26%)
Influenza B	106 (10.36%)

[†]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)	6	946	30	3.17%
HMPV	7	976	20	2.05%
Parainfluenza virus	7	1138	19	1.67%
Rhinovirus	5	701	97	13.84%
RSV†	11	1818	388	21.34%

†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 02
Number of providers reporting [†]	93
Number of providers reporting patient visits	92
Number (%) of providers with at least one ILI case	80 (86.96%)
Percentage of all visits due to ILI	11.97%
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 1/22/2015 12:30 PM)

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	113	207	494	363	109	116	1289	28649	4.50%

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+			
201445	115	211	525	346	119	90	1291	28987	4.45%
201446	82	249	382	103	32	22	788	21946	3.59%
201447	109	294	857	426	109	31	1717	25612	6.70%
201448	109	260	702	472	108	45	1587	20975	7.57%
201449	115	376	999	676	288	221	2560	30430	8.41%
201450	117	459	1560	676	268	209	3172	30443	10.42%
201451	98	551	1601	711	280	208	3351	23278	14.40%
201452	83	415	665	254	133	135	1602	17697	9.05%
201453	93	415	565	749	329	219	2277	17357	13.12%
201501	92	340	730	745	365	290	2470	21353	11.57%
201502	93	420	1278	885	268	86	2937	24535	11.97%

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

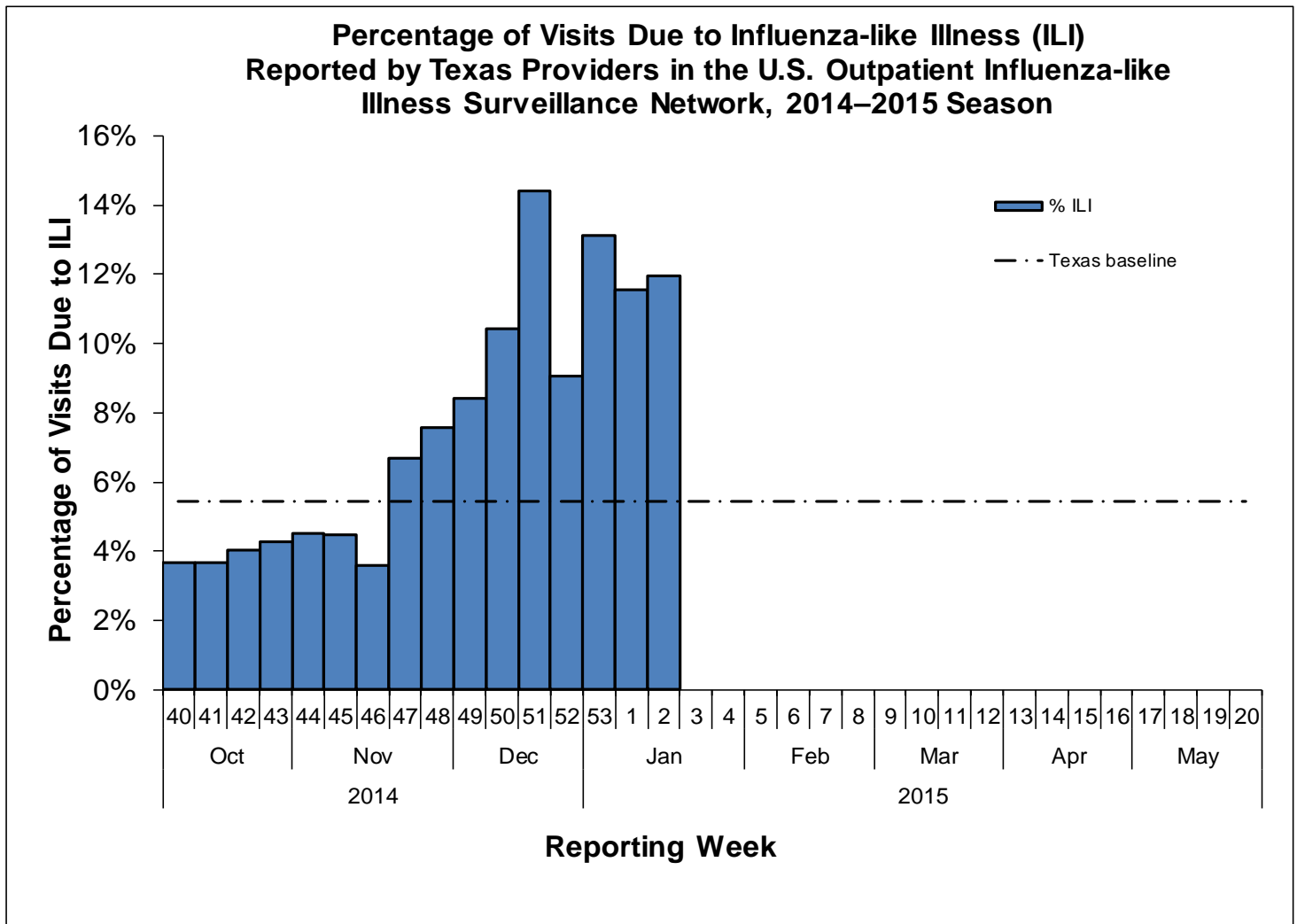
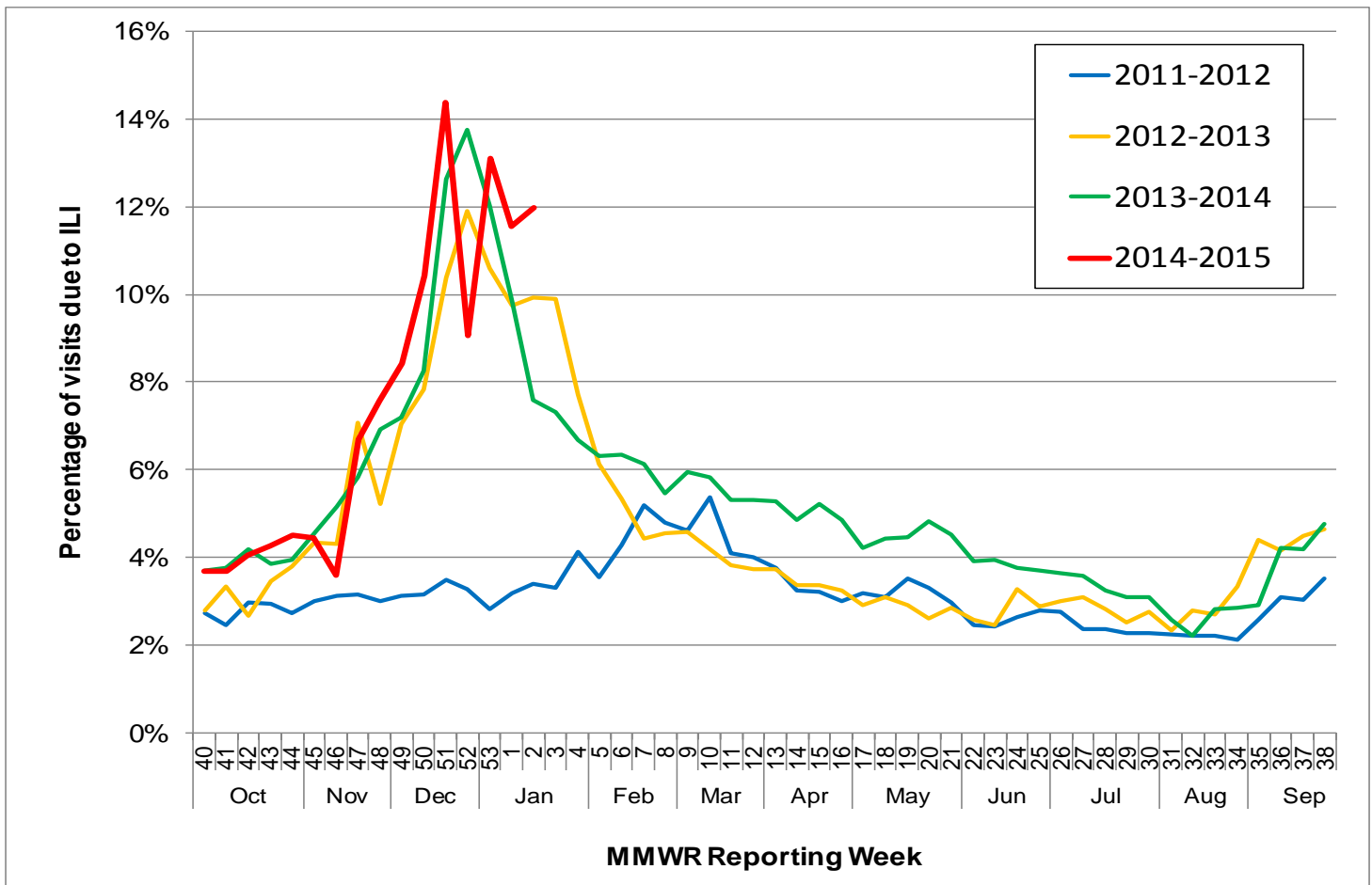


Figure 3: Percentage of Visits Due to Influenza-like Illness Reported by Texas ILINet Participants, 2011–2015 Seasons



Reports from Health Service Regions

Reports were received from all Health Service Regions (HSRs) during week 02. HSRs 4/5N and 8 reported an increased level of flu activity compared to week 01. HSR 6/5S, 7, and 11 reported the same level of flu activity compared to week 01. HSR 1 and 2/3 reported a decreased level of flu activity compared to week 01. HSR 9/10 was unable to determine the level of flu activity compared to week 01.

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 02, six influenza outbreaks were reported in long-term care facilities.

Three influenza outbreaks occurred in long-term care facilities located in HSR 2/3. One of the outbreaks started at the end of December, 2014, and had six people positive for influenza A by rapid test. The last case onset date for this facility was 01/01/2015. Another influenza outbreak of unknown type involved at least 8 residents and 7 staff members. Onset dates of the people associated with this outbreak ranged from 01/05/2015 to 01/12/2015. The third reported long-term care facility influenza outbreak in HSR 2/3 involved thirteen residents and one staff member being positive for influenza A via rapid test. The facility implemented various control measures to control the outbreak. Some of the control measures implemented were isolation of ill, movement of staff limited, and Tamiflu prophylaxis was given to residents.

Two influenza outbreaks occurred in long-term care facilities located in HSR 7. One of the outbreaks involved 20 people having ILI or being positive for influenza A via rapid test. Two specimens were collected and tested at the DSHS Lab for influenza testing. Both specimens came back positive for influenza A H3. The second outbreak reported in HSR 7

involved residents that were positive for influenza A via rapid test. Three specimens have been collected and sent to the DSHS Lab for influenza testing. The facility is providing prophylaxis to residents.

One influenza outbreak occurred in a long-term care facility in HSR 8. At least two people, a resident and staff member, were positive for influenza (unknown type) by rapid test.

A school located in HSR 8 was closed due to influenza during week 02. The school reported having at least 34 students and 6 staff members being confirmed with influenza A via rapid test. The school was closed for a couple of days.

Influenza-Associated Pediatric Mortality

An influenza-associated pediatric death was reported in week 02 that occurred during week 01. The child was a less than one year of age resident of HSR 7 with multiple underlying health conditions. A specimen from the child was positive for influenza A (not subtyped) by rapid test. The child was not vaccinated for the current season due to being too young to be vaccinated.

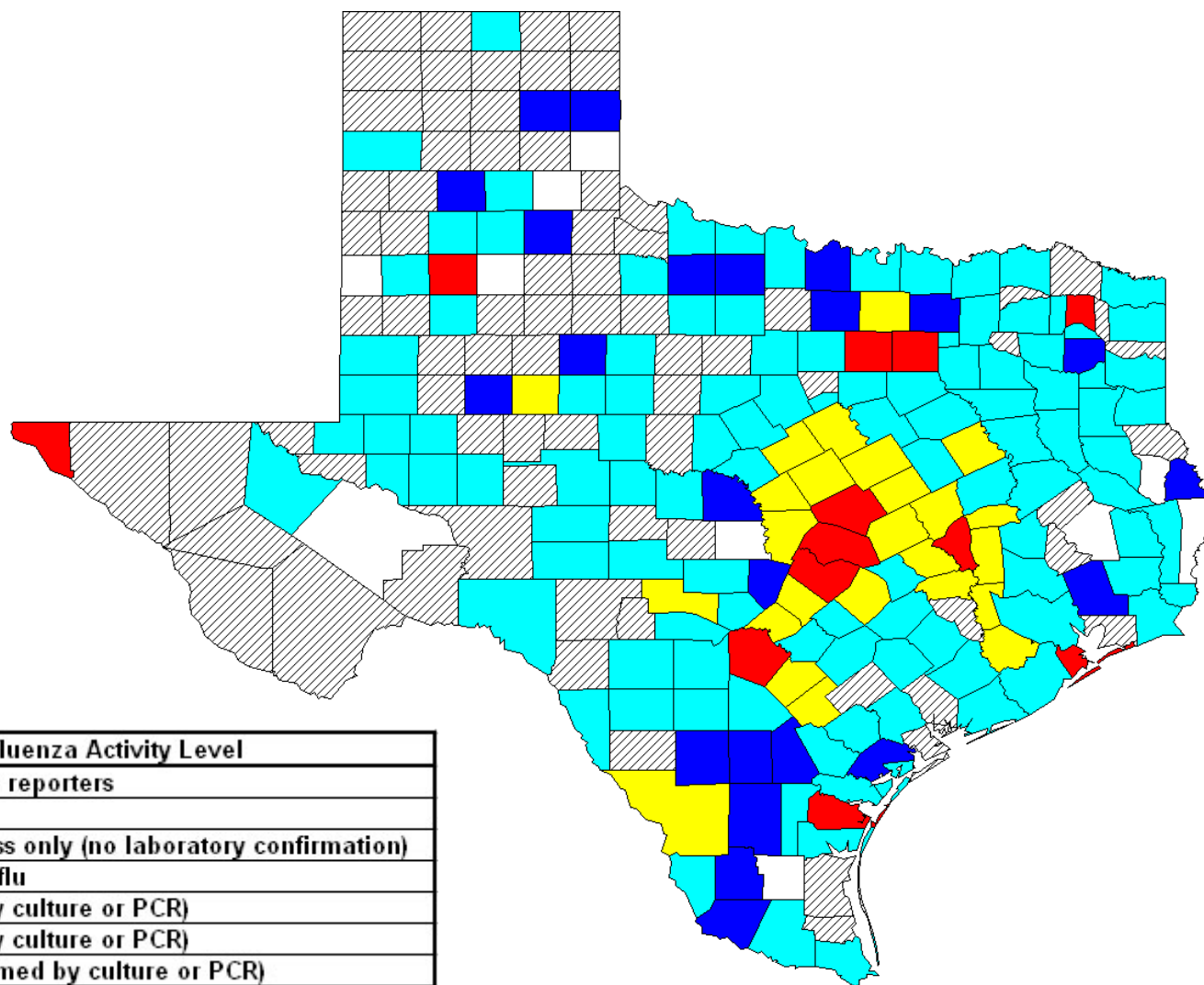
Seven influenza-associated pediatric deaths have been reported in Texas during the 2014-2015 influenza season. Cases of influenza-associated pediatric mortality (children <18 years of age) are reportable year-round and by law in Texas.

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	1	0	0	0	2
Total	0	2	3	2	0	0	7

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 17, 2015 (MMWR Week 02)



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/>