

## Texas Influenza Surveillance Report 2014–2015 Season/2015 MMWR Week 03

(January 18, 2015 – January 24, 2015)

Report produced on 1/30/2015

### Summary

High level of influenza activity continues to be seen across the state of Texas. The percentage of specimens positive for influenza decreased slightly compared to last week. ILI activity slightly increased compared to last week. ILI activity remains above the 2014-2015 state ILINet baseline of 5.42%. It appears that influenza activity may have peaked in late December in Texas.

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 <sup>†</sup>	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	▼ 3.2%	20.55%	23.75% <sup>†</sup>	1
Percentage of visits due to ILI (ILINet)	▲ 0.36%	11.11%	10.75% <sup>†</sup>	3
Number of regions reporting increased flu/ILI activity	▲ 1	3	2	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	▲ 1	8	7	5
Number of pediatric influenza deaths	New Case Reported	1	1	6

<sup>†</sup>Data displayed have been updated since last week's flu report with any new reports received.

### Laboratory Results

#### Influenza

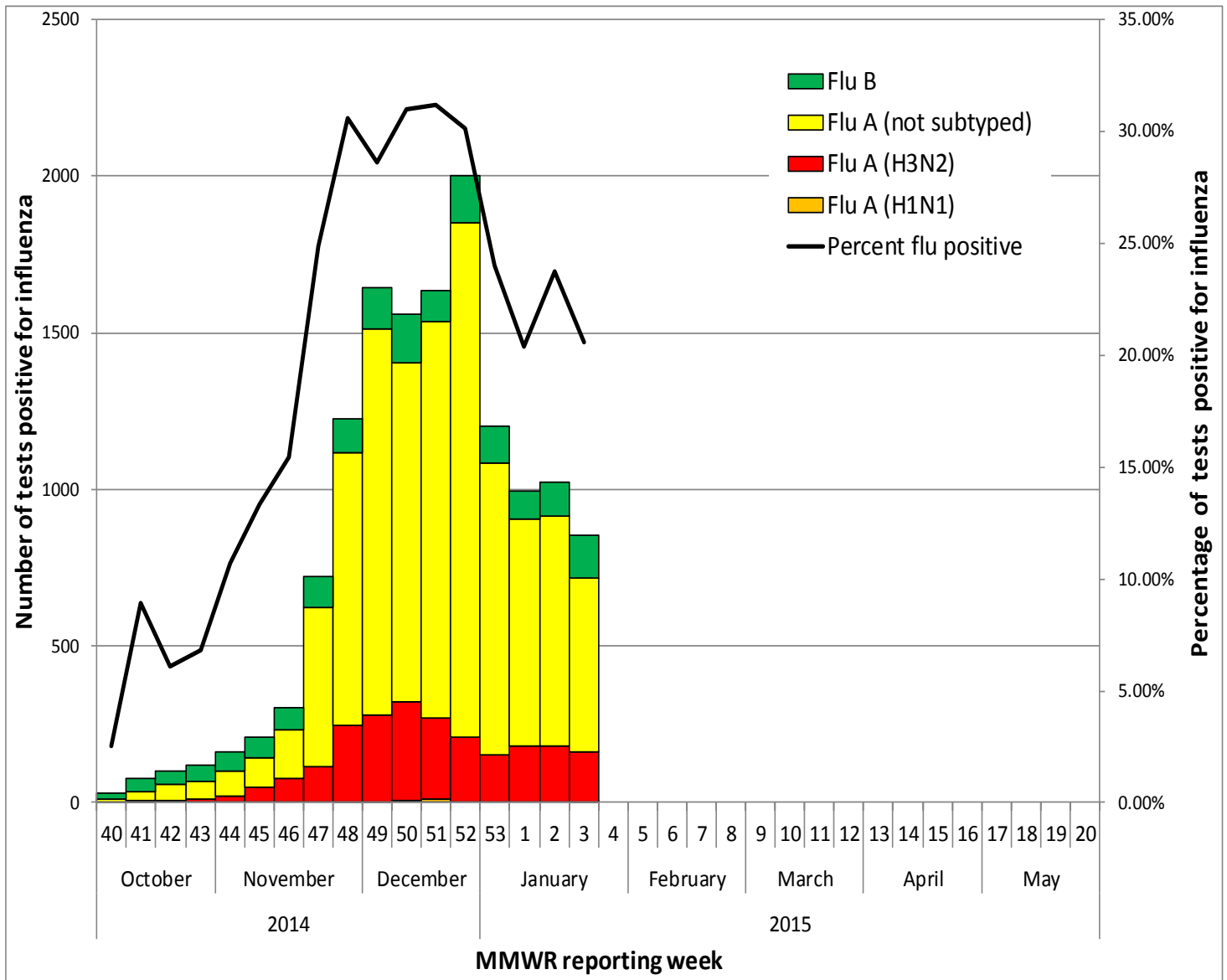
Hospital laboratories across Texas voluntarily report influenza tests (antigen, culture, and PCR) to the National Respiratory and Enteric Virus Surveillance System (NREVSS). Providers throughout Texas also submit specimens for influenza testing (PCR) to Texas public health laboratories, including the 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 03
Number of labs reporting flu tests	19
Number of specimens tested	4151
Number of positive specimens (%) <sup>†</sup>	853 (20.55%)
Percentage of total tests that were antigen detection tests	70.97%
<b>Positive specimens by type/subtype [n (%)]</b>	
<b>Influenza A</b>	<b>715 (83.82%)</b>
Subtyping performed	161 (22.52%)
A (H1N1)	1 (0.62%)
A (H3N2)	160 (99.38%)
Subtyping not performed	554 (77.48%)
<b>Influenza B</b>	<b>138 (16.18%)</b>

<sup>†</sup>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	780	28	3.59%
HMPV	6	763	19	2.49%
Parainfluenza virus	6	763	12	1.57%
Rhinovirus	5	510	112	21.96%
RSV <sup>†^</sup>	14	1756	361	20.56%

<sup>†</sup>RSV tests displayed in the table are antigen detection tests only. Some non-NREVSS reporters also contribute to the RSV data.

<sup>^</sup>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 28, 2014, CDC has reported antigenic characterization results from 18 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) [18]

- Three (16.7%) viruses were related to A/Texas/50/2012, the influenza A (H3N2) component of the 2014-2015 Northern Hemisphere influenza vaccine.
- Fifteen (83.3%) 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<sup>†</sup>

	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%)

<sup>†</sup>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 03
Number of providers reporting <sup>†</sup>	97
Number of providers reporting patient visits	96
Number (%) of providers with at least one ILI case	84 (87.5%)
Percentage of all visits due to ILI	11.11%
Texas ILINet baseline <sup>‡</sup> , 2014–2015	5.42%

<sup>†</sup>Reporting providers include both ILINet and RVSP providers.

<sup>‡</sup>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 1/29/2015 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	112	160	384	313	112	93	1062	29000	3.66%
201441	112	181	390	312	139	93	1115	30402	3.67%
201442	112	237	430	297	133	94	1191	29507	4.04%
201443	116	210	466	367	136	103	1282	30132	4.25%
201444	114	207	494	363	109	116	1289	28754	4.48%
201445	116	211	525	346	119	90	1291	29063	4.44%

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	83	249	382	103	32	22	788	22018	3.58%
201447	110	294	857	426	109	31	1717	25715	6.68%
201448	110	260	702	472	108	45	1587	21018	7.55%
201449	116	376	999	676	288	221	2560	30530	8.39%
201450	118	459	1561	677	268	209	3174	30540	10.39%
201451	99	556	1607	713	280	210	3366	23395	14.39%
201452	85	416	666	256	133	137	1608	17869	9.00%
201453	95	415	565	750	329	220	2279	17396	13.10%
201501	96	360	744	757	365	303	2529	22389	11.30%
201502	101	434	1305	893	270	89	2991	27834	10.75%
201503	97	441	1316	902	271	91	3021	27193	11.11%

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

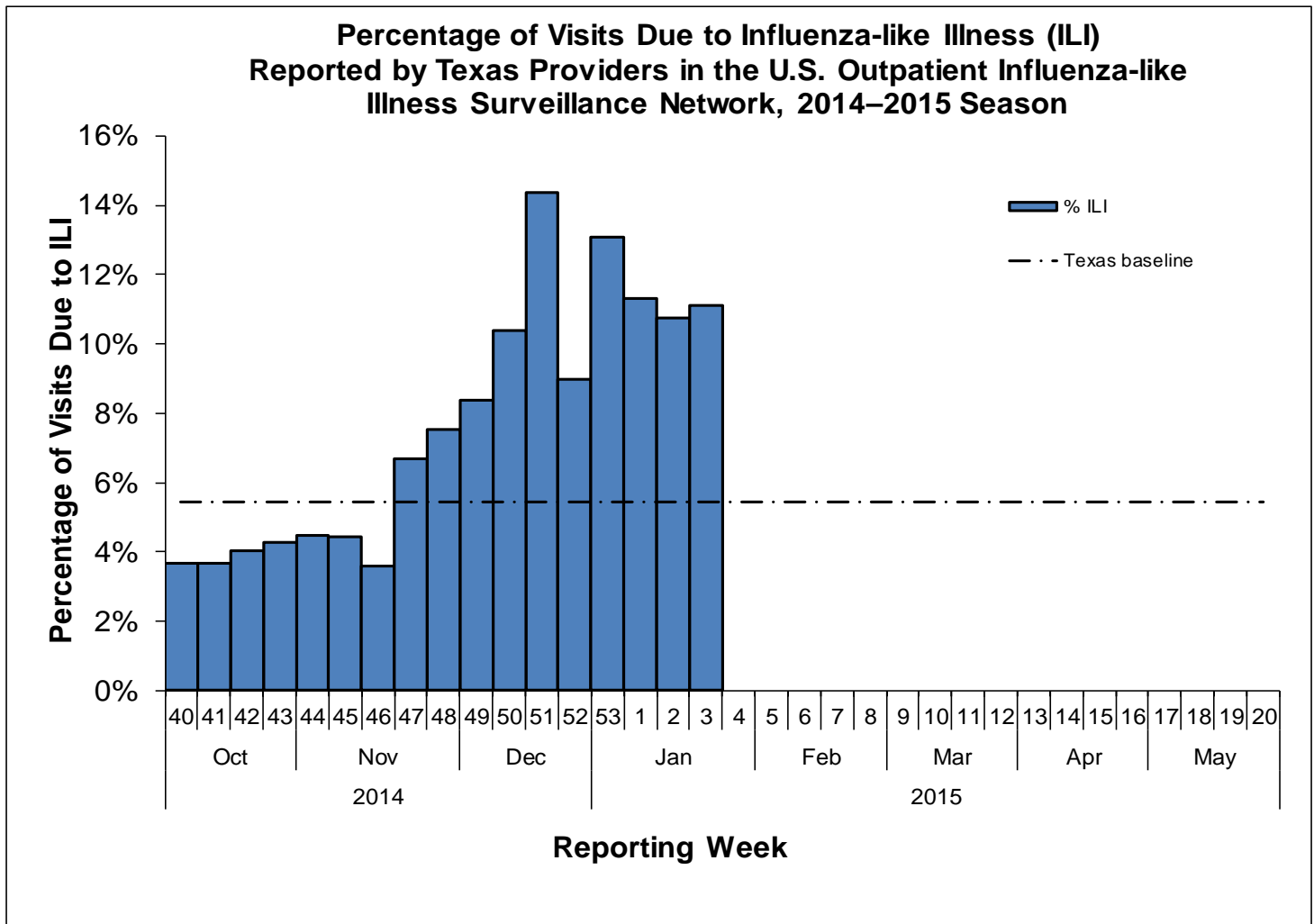
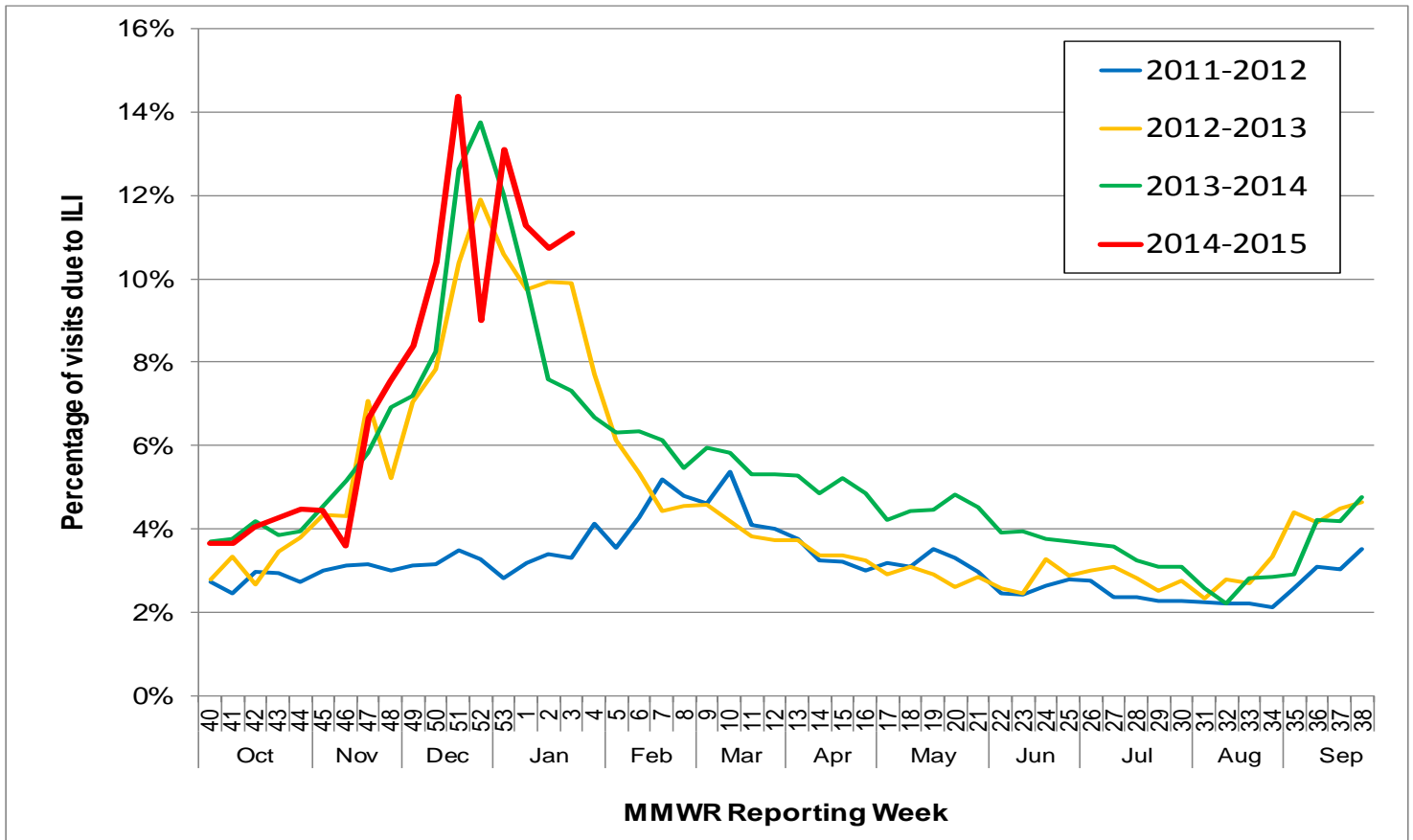


Figure 3: Percentage of Visits Due to Influenza-like Illness Reported by Texas ILINet Participants, 2011–2015 Seasons



### Reports from Health Service Regions

Reports were received from all Health Service Regions (HSRs) during week 03. HSRs 7, 9/10, and 11 reported an increased level of flu activity compared to week 02. HSRs 4/5N, 6/5S, and 8 reported the same level of flu activity compared to week 02. HSRs 1 and 2/3 reported a decreased level of flu activity compared to week 02.

### 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 03, one influenza outbreak was reported in a school located in HSR 2/3. The school nurse reported that five students in the same class had influenza (unknown type). There were seven influenza outbreaks in long-term care facilities that were reported during week 03.

One influenza outbreak occurred in a long-term care facility located in HSR 2/3. Three people associated with the long-term facility (two residents and one staff) were positive for influenza A H3 via PCR. Tamiflu is being administered to the residents.

Two influenza outbreaks occurred in long-term care facilities located in HSR 7. One of the outbreaks involved at least 10 residents who had influenza-like symptoms. Two of the ten residents were positive for influenza A by rapid test. Two residents were also hospitalized. The long-term care facility implemented various control measures including suspending all activities at the long-term care facility and serving meals to residents in their rooms on disposable plates. The second outbreak reported in HSR 7 involved at least two residents that were positive for influenza A via rapid test.

Three influenza outbreaks occurred in long-term care facilities in HSR 8. One of the outbreaks involved 16 people (14 residents and 2 staff). All sixteen people were positive for influenza A via rapid test. The majority of the residents and staff at this facility were vaccinated. The facility implemented various control measures including administration of Tamiflu to residents, isolating the ill, and movement of residents was limited. A second influenza outbreak reported in a long-term care facility located in HSR 8 involved 19 people (17 residents and 2 staff) who were positive for influenza A

via rapid test. Almost every resident was vaccinated with the 2014-2015 influenza vaccine. The facility implemented various control measures including masks being offered to nurses and visitors that are seeing ill patients, isolation of ill, and administering Tamiflu to residents. The third reported outbreak involved 11 people (6 residents and 5 staff). All eleven people were positive for influenza A via rapid test. There was one hospitalization and one death associated with this outbreak. The facility implemented various control measures including isolation of ill and giving Tamiflu prophylaxis to residents.

One influenza outbreak occurred in a long-term care facility in HSR 11. Three people (two residents and one staff member) were positive for influenza A by rapid test. There was one hospitalization and no deaths. The long-term care facility implemented various control measures such as administering Tamiflu prophylaxis for all residents.

No school closures were reported during week 03.

### Influenza-Associated Pediatric Mortality

An influenza-associated pediatric death was reported in week 03 that occurred during week 50. The child was a less than one year of age resident of HSR 7 with an underlying health condition. A specimen from the child was positive for influenza A (not subtyped) by rapid test; a blood specimen was collected and tested negative for bacterial pathogens. The child was not vaccinated for the current season due to being too young to be vaccinated.

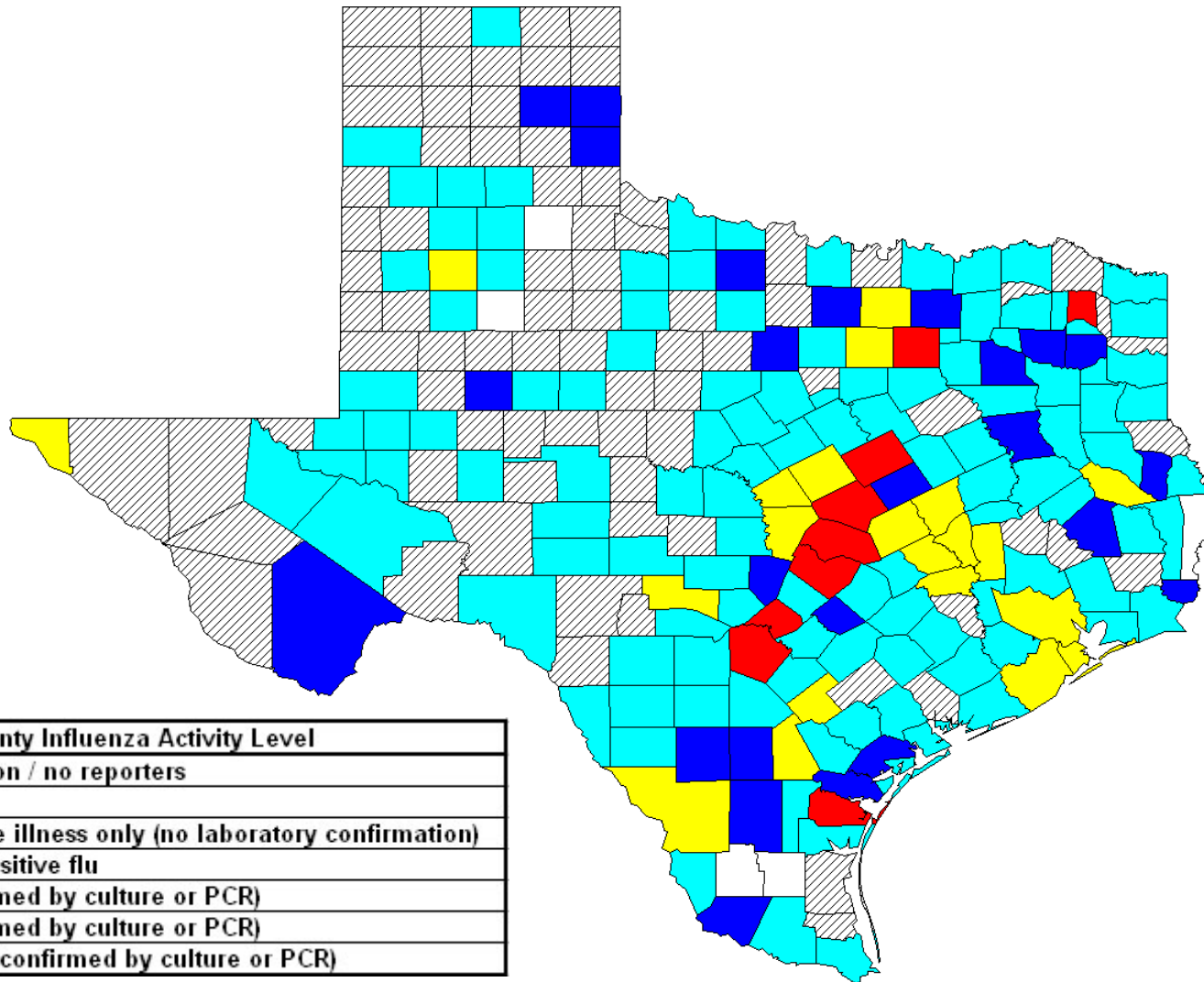
Eight influenza-associated pediatric deaths have been reported in Texas during the 2014-2015 influenza season. Cases of influenza-associated pediatric mortality (children <18 years of age) are reportable year-round and by law in Texas.








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
<b>2014</b>							
October	0	0	0	0	0	0	0
November	0	0	0	0	0	0	0
December	0	1	3	2	0	0	6
<b>2015</b>							
January	0	1	1	0	0	0	2
<b>Total</b>	<b>0</b>	<b>2</b>	<b>4</b>	<b>2</b>	<b>0</b>	<b>0</b>	<b>8</b>

### 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 24, 2015 (MMWR Week 03)



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/>