Texas Influenza Surveillance Report
2013–2014 Season/2014 MMWR Week 33

(August 10, 2014 – August 16, 2014)
Report produced on 8/22/2014

Summary

According to Texas influenza laboratory data and influenza-like illness (ILI) indicators there is low influenza activity occurring around the state. ILI activity decreased compared to last week and remains below the 2013-2014 state ILINet baseline of 4.35%.

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	Sporadic	Sporadic	--
Statewide ILINet Activity Indicator assigned by CDC (intensity of influenza-like illness)	N/A	Not Reported	Not Reported	--
Percentage of specimens positive for influenza	▼0.29%	0.46%	0.75%	1
Percentage of visits due to ILI (ILINet)	▼0.19%	2.40%	2.59%	3
Number of regions reporting increased flu/ILI activity	No Change	0	0	5
Number of regions reporting decreased flu/ILI activity	▲1	2	1	5
Number of variant/novel influenza infections	No change	0	0	6
Number of ILI/influenza outbreaks	No change	0	0	6
Number of pediatric influenza deaths	No New Cases Reported	0	0	6

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

Laboratory Results

Influenza

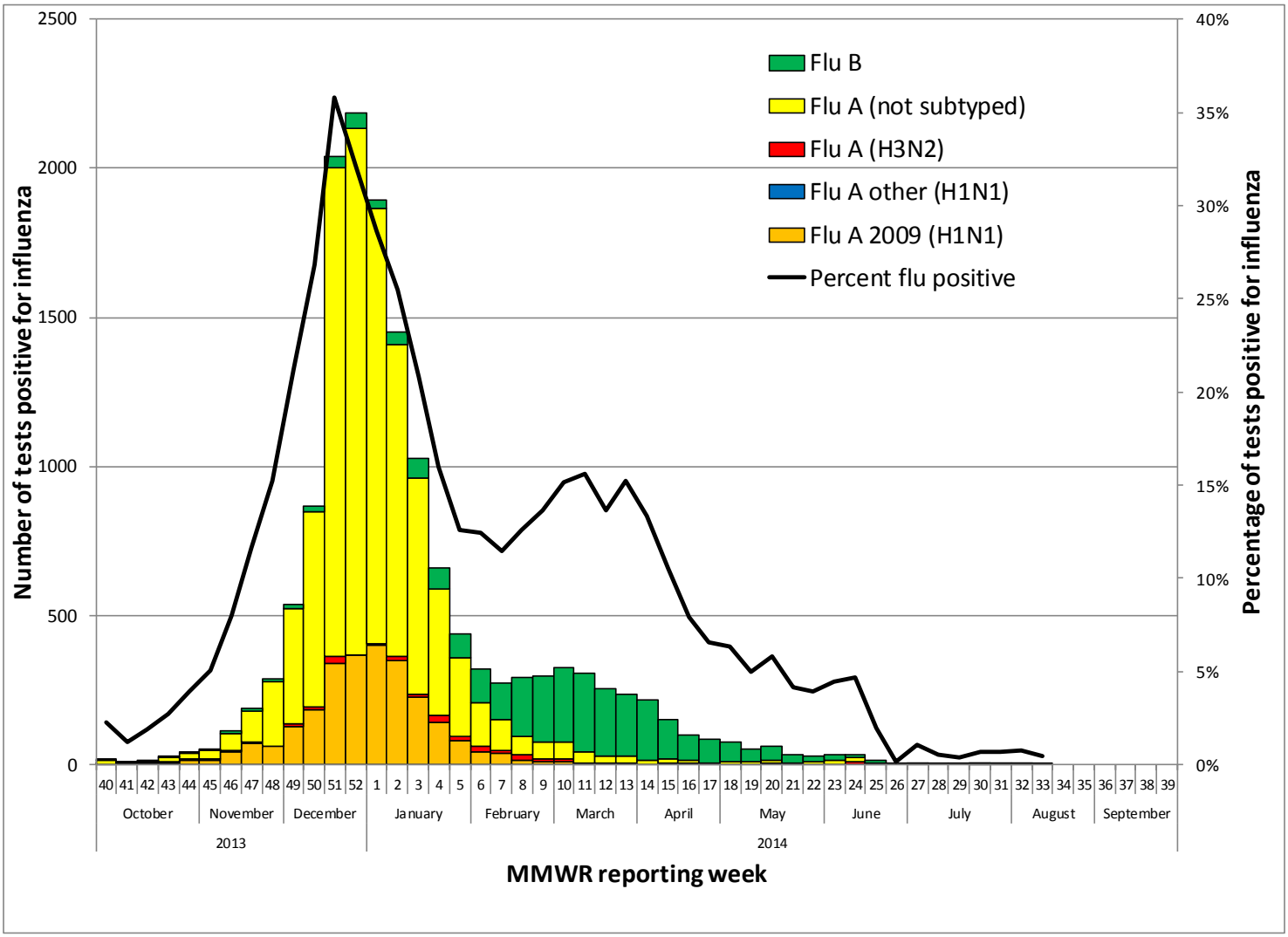
Hospital laboratories across Texas voluntarily report influenza tests (antigen, culture, and PCR) to the National Respiratory and Enteric Virus Surveillance System (NREVSS). Providers throughout Texas also submit specimens for influenza testing (PCR) to Texas public health laboratories, including the 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 33
Number of labs reporting flu tests	6
Number of specimens tested	216
Number of positive specimens (%)†	1 (0.46%)
Percentage of total tests that were antigen detection tests	14.81%
Positive specimens by type/subtype [n (%)]	
Influenza A	**1 (100.00%)**
Subtyping performed	1 (100.0%)
A (H1N1)	1 (100.0%)
A (H3N2)	0 (0.0%)
Subtyping not performed	0 (0.0%)
Influenza B	**0 (0.00%)**

†Laboratory data in 2013-2014 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, 2013–2014 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)	3	225	8	3.56%
HMPV	3	180	2	1.11%
Parainfluenza virus	3	219	3	1.37%
Rhinovirus	2	149	31	20.81%
RSV[†]	4	197	1	0.51%

[†]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 29, 2013, CDC has reported antigenic characterization results from 85 influenza A (H1N1) viruses, 27 influenza A (H3N2) viruses, and 48 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 (H1N1) [85]

- Eighty-five (100%) viruses were related to A/California/07/2009. This virus strain was included in the 2013-2014 influenza vaccine for the Northern Hemisphere.

Influenza A (H3N2) [27]

- Twenty-seven (100%) viruses were related to A/Texas/50/2012, an A (H3N2) virus antigenically like the cell-propagated prototype virus A/Victoria/361/2011. This virus strain was included in the 2013-2014 influenza vaccine for the Northern Hemisphere.

Influenza B [48]

- Yamagata lineage [16]: Sixteen (33%) influenza B/Yamagata-lineage viruses have been characterized from Texas. B/ Massachusetts/2/2012-like is included as an influenza B component of the 2013-2014 Northern Hemisphere trivalent and quadrivalent influenza vaccines.
- Victoria lineage [32]: Thirty-two (67%) influenza B/Victoria-lineage viruses were characterized as B/Brisbane/60/2008-like, which is included as an influenza B component of the 2013-2014 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 October 1, 2013. Three 2009 influenza A (H1N1) viruses have tested positive for the mutation that confers resistance to oseltamivir.

Table 4: Cumulative Antiviral Resistance Results from Texas Influenza Viruses, 2013-2014 Season[†]

	Oseltamivir		Zanamivir	
	Virus samples tested (n)	**Resistant viruses, number (%)**	**Virus samples tested (n)**	**Resistant viruses, number (%)**
Influenza A (H1N1)	354	3 (0.85%)	75	0 (0%)
Influenza A (H3N2)	15	0 (0%)	15	0 (0%)
Influenza B	5	0 (0%)	5	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 33
Number of providers reporting[†]	80
Number of providers reporting patient visits	80
Number (%) of providers with at least one ILI case	55 (68.75%)
Percentage of all visits due to ILI	2.40%
Texas ILINet baseline[‡], 2013–2014	4.35%

[4†]Reporting providers include both ILINet and Enhanced ILINet/IISP 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 8/22/2014 8:00 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+			
201340	124	244	424	279	129	129	1205	32650	3.69%
201341	129	308	452	295	127	116	1298	34475	3.77%
201342	126	306	434	321	137	100	1298	30976	4.19%
201343	127	305	481	325	110	111	1332	34658	3.84%
201344	127	338	426	285	149	136	1334	33751	3.95%
201345	128	323	516	316	147	104	1406	30801	4.56%

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+			
201346	128	352	642	491	174	141	1800	34893	5.16%
201347	124	405	761	558	197	114	2035	34921	5.83%
201348	125	328	465	535	162	95	1585	22865	6.93%
201349	121	372	790	798	198	57	2215	30736	7.21%
201350	120	383	983	812	216	67	2461	29791	8.26%
201351	117	627	1536	1491	401	92	4147	32803	12.64%
201352	123	547	1016	1288	474	200	3525	25638	13.75%
201401	127	532	838	1366	505	281	3522	29284	12.03%
201402	126	519	922	1142	442	299	3324	33811	9.83%
201403	124	409	906	854	274	173	2616	34497	7.58%
201404	121	358	736	694	262	195	2245	30646	7.33%
201405	124	352	724	626	215	160	2077	31077	6.68%
201406	123	341	654	596	206	157	1954	30982	6.31%
201407	122	294	762	550	217	152	1975	31135	6.34%
201408	123	323	736	579	214	148	2000	32651	6.13%
201409	112	316	624	473	122	63	1598	29269	5.46%
201410	118	291	621	544	201	148	1805	30334	5.95%
201411	116	251	424	503	206	140	1524	26097	5.84%
201412	116	257	516	486	203	127	1589	29870	5.32%
201413	115	243	529	475	181	130	1558	29354	5.31%
201414	112	245	521	437	192	125	1520	28744	5.29%
201415	105	228	602	359	85	43	1317	27112	4.86%
201416	111	210	536	405	154	137	1442	27646	5.22%
201417	110	189	503	423	158	132	1405	28960	4.85%
201418	108	228	437	307	117	134	1223	28975	4.22%
201419	107	184	413	361	155	128	1241	27989	4.43%
201420	108	161	437	351	133	114	1196	26765	4.47%
201421	104	216	476	336	136	105	1269	26072	4.87%
201422	104	170	378	299	122	90	1059	23420	4.52%
201423	95	158	372	260	66	13	869	21970	3.96%
201424	99	174	309	281	105	99	968	24563	3.94%
201425	97	135	253	270	108	99	865	22941	3.77%
201426	95	126	280	221	96	86	809	21807	3.71%
201427	93	103	192	209	96	93	693	19309	3.59%
201428	94	117	245	237	90	109	798	22003	3.63%
201429	92	86	211	240	73	71	681	20860	3.26%
201430	88	75	201	214	66	82	638	20535	3.11%
201431	90	64	210	236	84	74	668	21113	3.16%
201432	90	64	181	178	71	64	558	21549	2.59%
201433	80	53	163	148	32	15	411	17154	2.40%

Figure 2: Percentage of Visits Due to Influenza-like Illness Reported by Texas ILINet Participants, 2013–2014 Season

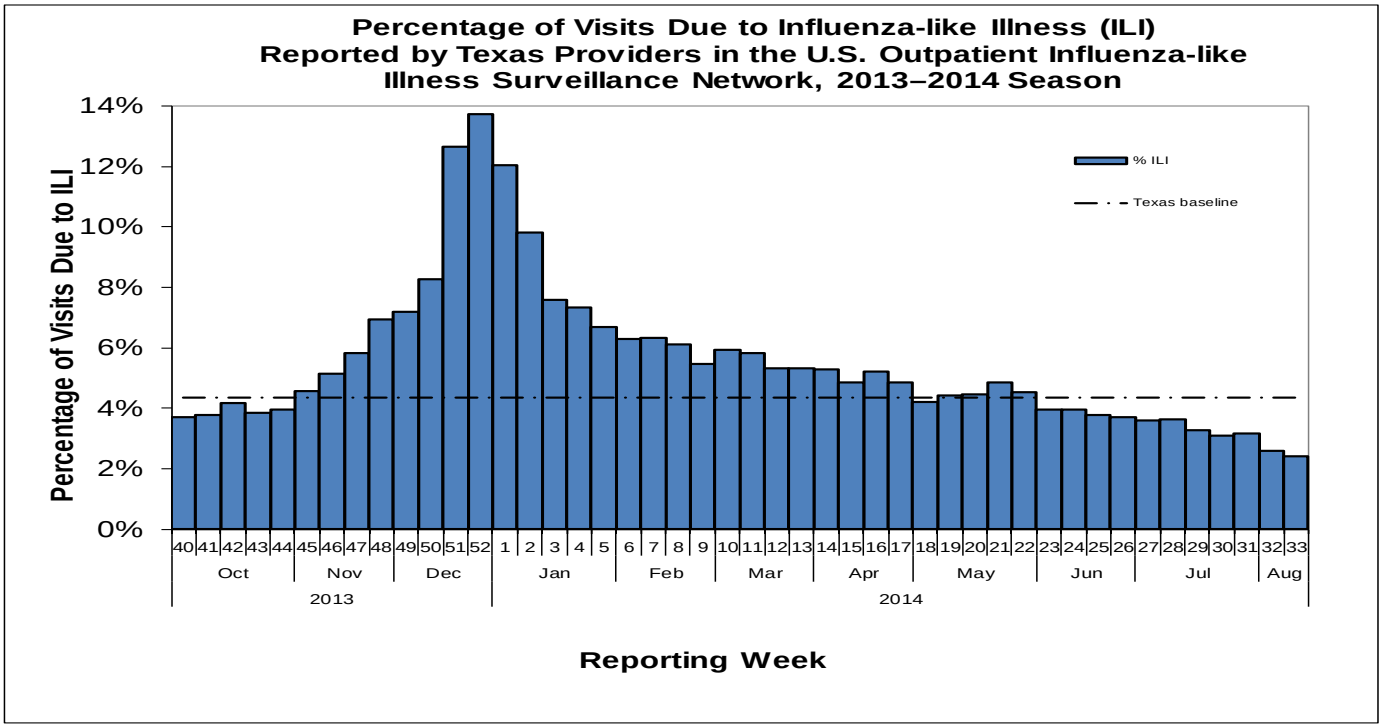
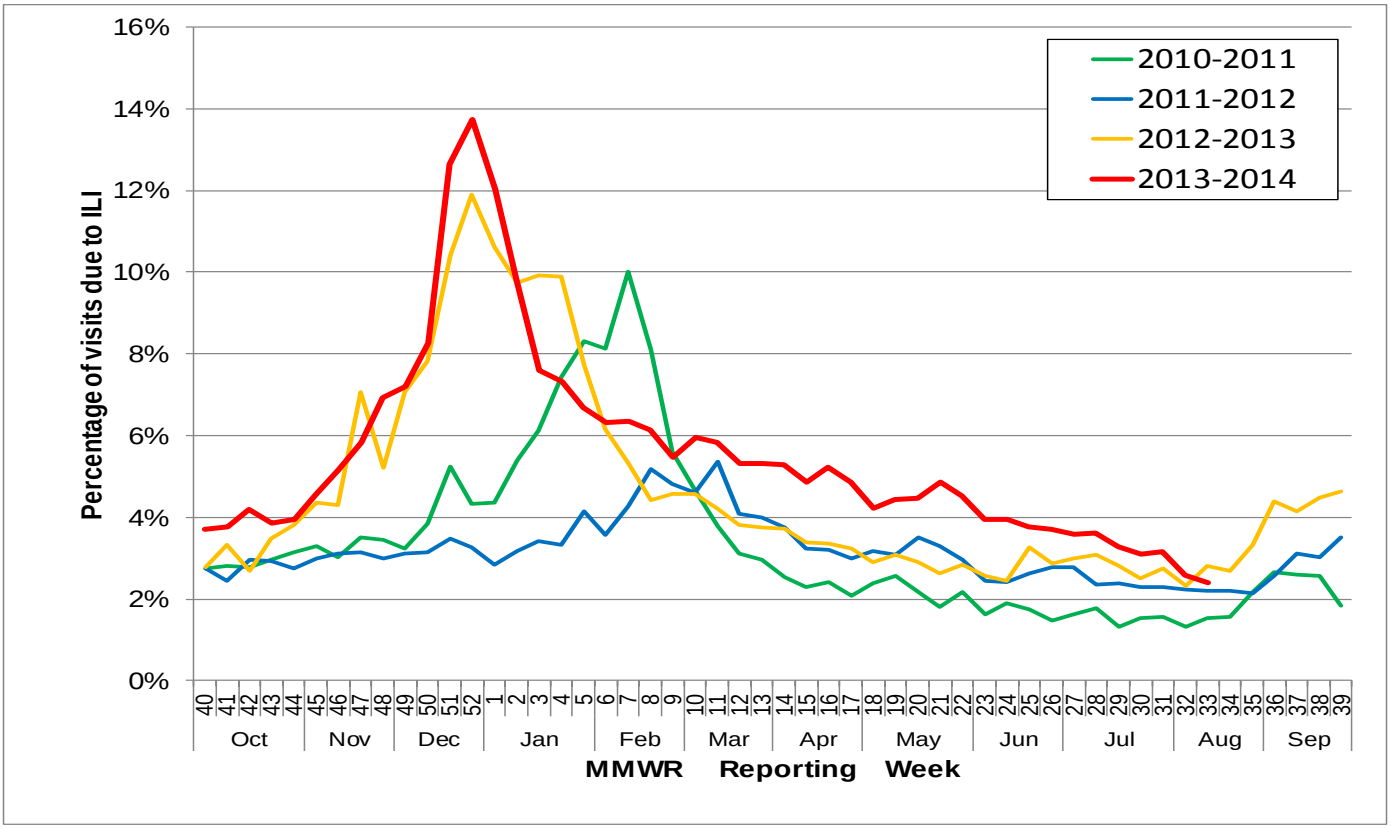


Figure 3: Percentage of Visits Due to Influenza-like Illness Reported by Texas ILINet Participants, 2010–2014 Seasons



Reports from Health Service Regions

Reports were received from all Health Service Regions (HSRs) during week 33. HSR 1 and HSR 9/10 reported a decreased level of flu activity compared to week 33. The remaining HSRs reported the same level of flu activity compared to week 33.

Variant Influenza Viruses

No variant or novel influenza viruses have been detected in Texas in 2013 or 2014.

Institutional Outbreaks and School Closures

No influenza or ILI outbreaks were reported during week 33.

No school closures were reported during week 33.

Influenza-Associated Pediatric Mortality

No influenza-associated pediatric deaths were reported during week 33.

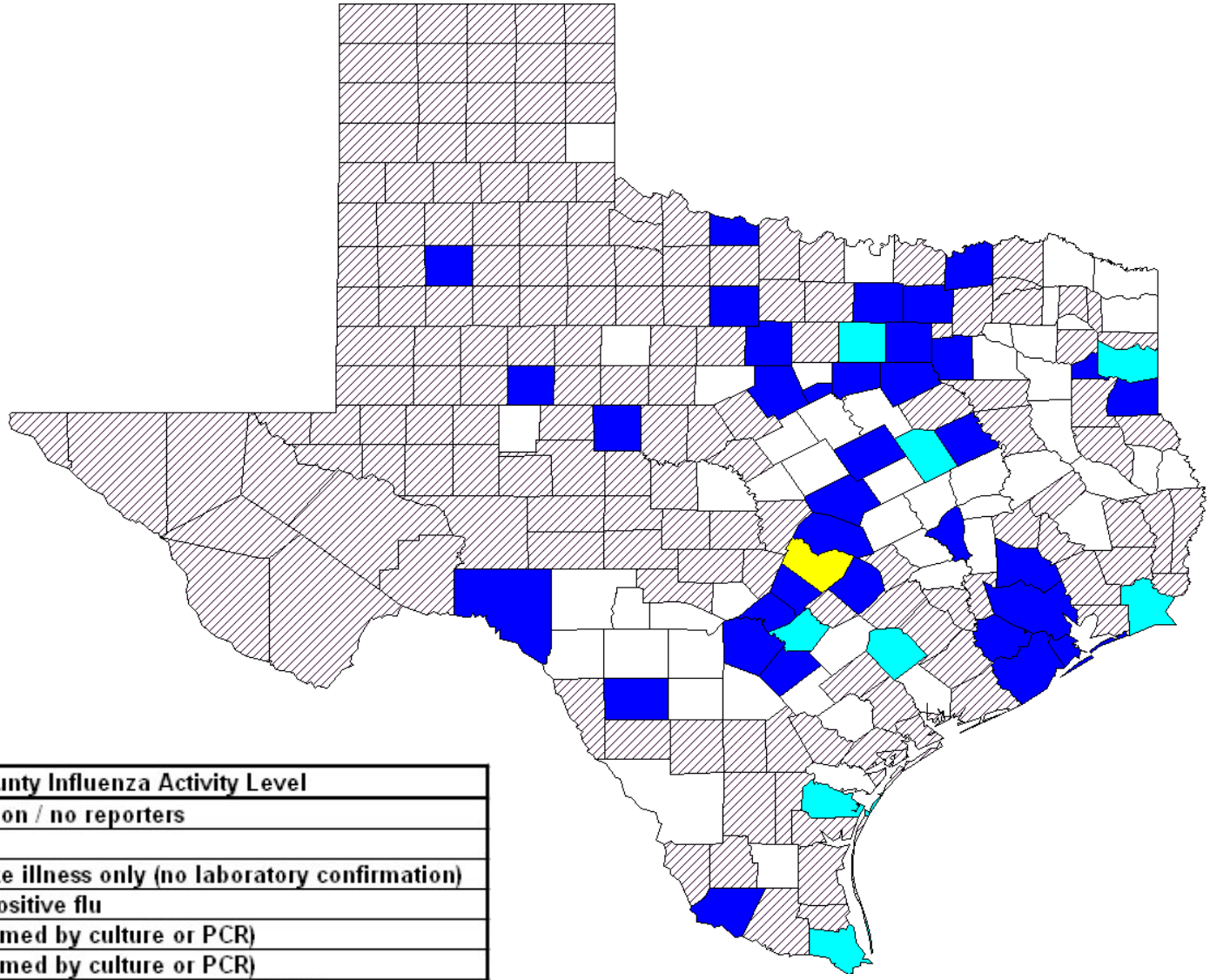
Nineteen influenza-associated pediatric deaths have been reported in Texas during the 2013-2014 influenza season. Cases of influenza-associated pediatric mortality (children <18 years of age) are reportable year-round and by law in Texas.

Table 7: Influenza-Associated Pediatric Deaths Reported in Texas During the 2013–2014 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
2013							
October	0	0	0	0	0	0	0
November	0	0	0	0	0	0	0
December	3	0	2	0	0	0	5
2014							
January	6	0	1	1	0	0	8
February	0	0	1	0	0	1	2
March	0	0	1	2	0	0	3
April	0	0	0	0	0	0	0
May	0	0	0	0	0	0	0
June	0	0	1	0	0	0	1
July	0	0	0	0	0	0	0
August	0	0	0	0	0	0	0
Total	**9**	**0**	**6**	**3**	**0**	**1**	**19**

Statewide Influenza Activity Map

Figure 4: Texas Map Displaying the Highest Level of Influenza or ILI Activity Reported by County for the Week Ending August 16, 2014 (MMWR Week 33)



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.**

Enhanced ILINet/IISP

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 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/