Austin/Travis County Health and Human Services Department
Epidemiology and Health Statistics Unit

Travis County Influenza Surveillance

This report contains data for the 2013-2014 Influenza Season through January 18, 2014 (MMWR[1] week 3).

Situation Update:

- National flu activity continues to be high overall but is declining in parts of the country; this decline is most notable in the Southeast.
- 2009 H1N1 viruses continue to predominate across the country; this is the first season that the virus has circulated at high levels since the pandemic. All flu vaccines are designed to protect against 2009 H1N1 virus; anyone 6 months and older who has not gotten vaccinated for influenza this season should do so now.
- Influenza like illness (ILI) remains above baseline nationwide; however, it has decreased over the past three weeks to 3.4%. In Texas, the percentage of visits for influenza-like illness as reported by ILINet providers was 7.25% which is a high level of ILI activity. Locally, the percentage of visits was 4.90%.
- Nationally, pneumonia and influenza deaths remain above the epidemic threshold (7.2% of total deaths). Locally these deaths have trended near or below seasonal levels and 15 deaths have been attributed to influenza.
- Nationally, there have been 28 pediatric influenza-associated influenza deaths, nine reported in Texas. There has been one pediatric influenza-associated death in Travis County.
- The percentage of specimens testing positive for influenza decreased nationally and is at 23.1%. There was also a slight decrease statewide; the percent positive is for the week is 21.41%. Locally 0 out of 5 specimens submitted for PCR testing were positive for influenza.
- Of the 2793 positive specimens tested nationally, 97% were influenza A and 3% were influenza B. Subtyping was performed on 1785 influenza A specimens, 3% were H3 and 97% were 2009 H1N1. Statewide, influenza A comprises 96% of the specimens submitted. Further testing performed on 206 of these specimens show H1N1 accounts for 95.6% of the influenza A.

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- Of the 799 influenza specimens antigenically characterized by the CDC so for this year, 711 specimens matched the influenza A H1N1 component and 72 specimens matched the influenza A H3N2 component in the trivalent and quadravalent influenza vaccines. The remaining 16 specimens were influenza B, nine specimens matched the component found in both trivalent and quadravalent influenza vaccines and the other seven specimens matched the second B strain of the quadravalent influenza vaccine.

- In Texas, characterization has been performed on 44 influenza A (H1N1) viruses and three influenza A (H3N2) viruses both matching components of the trivalent and quadravalent influenza vaccines.

- Some antiviral resistance to oseltamivir (Tamiflu) has been seen in 20 out of 1827 specimens tested (1%), all of which were 2009 H1N1. High levels of resistance to adamantanes continues to occur among 2009 H1N1 and H3N2 viruses. Adamantanes are not effective against influenza B. Texas has had 180 specimens tested two have been resistant to oseltamivir (Tamiflu).

H5N1:

- Canada reported the first case of influenza A H5N1, in a human, ever detected in the Americas. No cases of H5N1 have been reported in the United States. The CDC reports the risk to people in the United States is considered to be low at this time.

- H5N1 infections are rare and these viruses do not spread easily from person to person. The CDC is not recommending that the public take and special actions regarding H5N1 in response to this case.

- For more information, visit H5N1 Influenza.

H7N9:

- No cases of H7N9 have been reported in the United States. The CDC reports the risk to people in the United States is considered to be low at this time.

- For more information, visit H7N9 Influenza.

Preventive Actions:

- The CDC recommends that anyone six months of age and older should be vaccinated for the flu every flu season. Individuals who are at high risk are especially advised to be vaccinated. High risk individuals are as follows:
  - Persons 65 years of age and older
  - Pregnant women
  - Individuals with certain chronic medical conditions, including diabetes, asthma, heart and lung disease
  - Health care workers
  - Individuals who live with and/or care for high risk individuals

- In addition to the vaccine, there are certain preventive measures an individual can take to prevent the flu:
  - Wash your hands often with soap and water, or use an alcohol-based hand sanitizer if soap is not available.
  - Practice proper sneezing and coughing measures.
  - Avoid touching your nose, mouth and eyes.
  - Avoid coming into contact with an individual who is sick.
  - If you are sick, stay home until you are fever free for 24 hours without the use of fever-reducing medications.

Although these preventive actions are highly recommended they do not take the place of the flu vaccine.

For additional information about Influenza surveillance, contact:
The Austin/Travis County Health and Human Services Epidemiology and Health Statistics Unit at (512) 972-5555

Other Helpful Resources:

Texas Department of State Health Services (DSHS)

Centers for Disease Control and Prevention (CDC)

World Health Organization (WHO)

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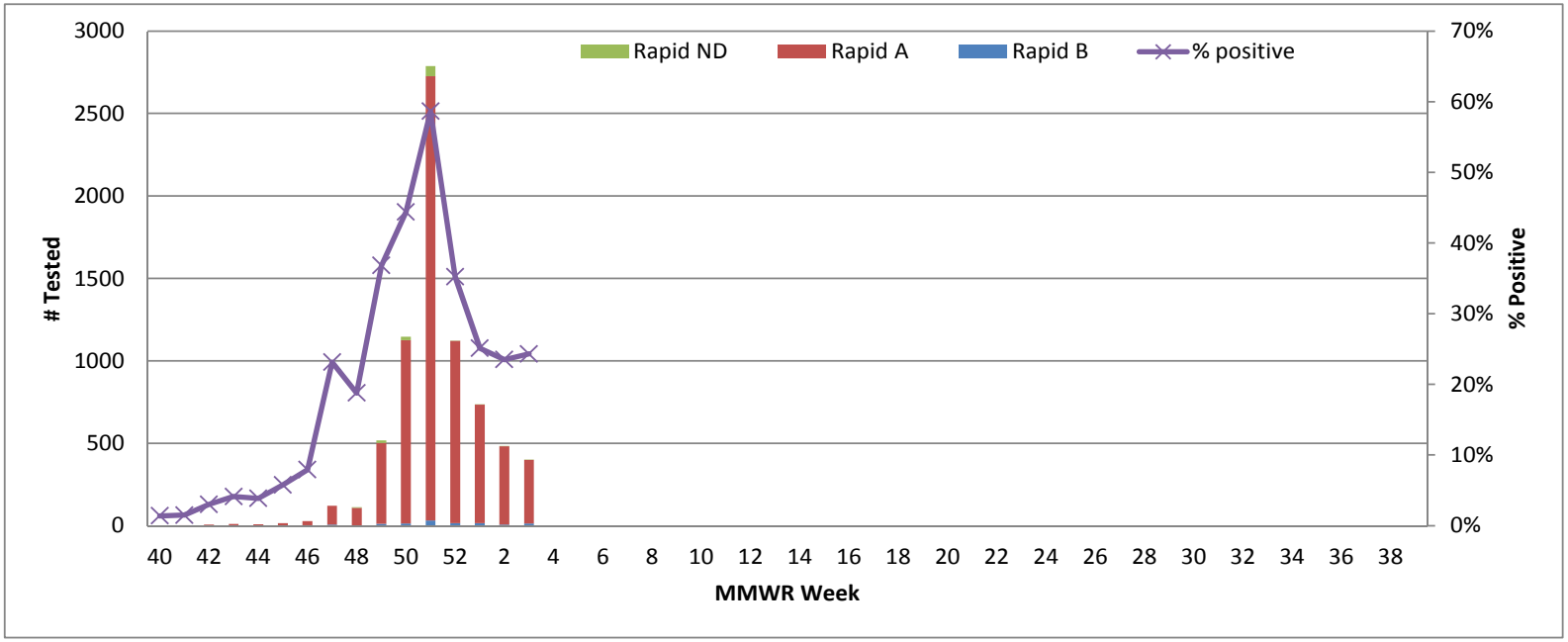
Figure 1. Influenza Surveillance, Travis County Providers [4,5,6]

Week Ending	11/30/2013	12/7/2013	12/14/2013	12/21/2013	12/28/2013	1/4/2014	1/11/2014	1/18/2014
MMWR Week	48	49	50	51	52	1	2	3
# Influenza Rapid Tests Performed	596	1404	2583	4752	3190	3550	2055	1650
# Total Positive Influenza Tests	112	517	1147	2787	1124	736	483	401
% Positive Influenza Tests	18.8%	36.8%	44.4%	58.6%	35.2%	20.7%	23.5%	24.3%
# Positive A Influenza	107	490	1112	2696	1105	719	476	387
# Positive B Influenza	1	12	13	31	16	15	6	13
# Non-Differentiated Influenza[3]	4	15	22	60	3	2	1	1

Data source: Austin/Travis County Influenza surveillance reporters

Figure 2. Number Tested and Percent Positive Rapid Influenza Tests by Week, Travis County: 2012-2013 Influenza Season[4,5,6,8]



Data source: Austin/Travis County Influenza surveillance reporters

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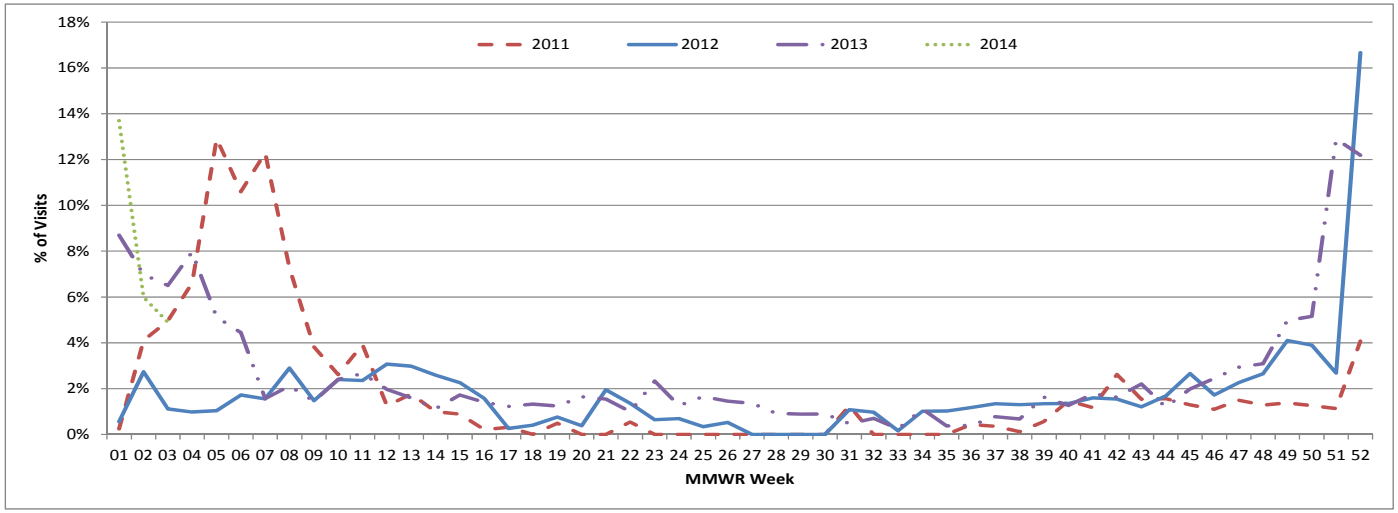
Figure 3. Percentage of Visits Due to Influenza-like-Illness Reported by Travis County Participants in ILINet: 2009-2013[8]



Data source: CDC ILI.net system

Figure 4. Travis County Confirmed Influenza Test Results:[2,9,10]

		1/20/2013 - 3/23/2013	3/24/2013 - 5/25/2013	05/26/2013 - 7/27/2013	7/28/2013 - 9/28/2013	09/29/2013 - 11/30/2013	12/1/2013 - 12/28/2013
MMWR Week		4-12	13-21	22-30	31-39	40-48	49-5*
Influenza A (Total Positive PCR Tests)		29	1	0	1	6	85
Subtype	Seasonal H1N1	3	1	0	1	6	77
	Season H3N2	26	0	0	0	0	2
	Not Subtyped	0	0	0	0	0	13
Influenza B (Total Positive PCR Tests)		4	0	0	0	0	1
PCR Negative Specimens		28	6	0	9	13	105

* Incomplete data.
Data source: Austin/Travis County Influenza surveillance reporters and the Department of State Health Services lab

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Figure 5. Influenza Testing by Texas Laboratories[11, 14]

	Week 03
Number of labs reporting flu tests	16
Number of specimens tested	2779
Number of positive specimens (%)†	595 (21.41%)
Percentage of total tests that were antigen detection tests	65.78%
Positive specimens by type/subtype [n (%)]	
Influenza A	**572 (96.1%)**
Subtyping performed	206 (36.0%)
A (H1N1)	197 (95.6%)
A (H3N2)	9 (4.4%)
Subtyping not performed	366 (64.0%)
Influenza B	**23 (3.9%)**

†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.

Texas Antigenic Characterization[11]

Influenza A (H1N1) [44]

- Twenty-four 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) [3]

- Two 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.

Figure 6. Texas Antiviral Resistance[11]

	Oseltamivir		Zanamivir	
	Virus samples tested (n)	Resistant viruses, number (%)	Virus samples tested (n)	Resistant viruses, number (%)
Influenza A (H1N1)	178	2 (1.12%)	13	0 (0%)
Influenza A (H3N2)	2	0 (0%)	2	0 (0%)
Influenza B	0	--	0	--

- Since October 1, 2013, 2 influenza viruses from Texas have shown resistance to Oseltamivir (Tamiflu).

Figure 7. Texas Respiratory Laboratory Results[5]

Virus	Number of Laboratories Testing	Tests Performed	Positive Tests	Percentage of Tests Positive
Adenovirus (respiratory)	3	386	8	2.07%
HMPV	4	406	9	2.22%
Parainfluenza virus	4	408	6	1.47%
Rhinovirus	2	376	43	11.44%
RSV†	12	445	108	24.27%

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

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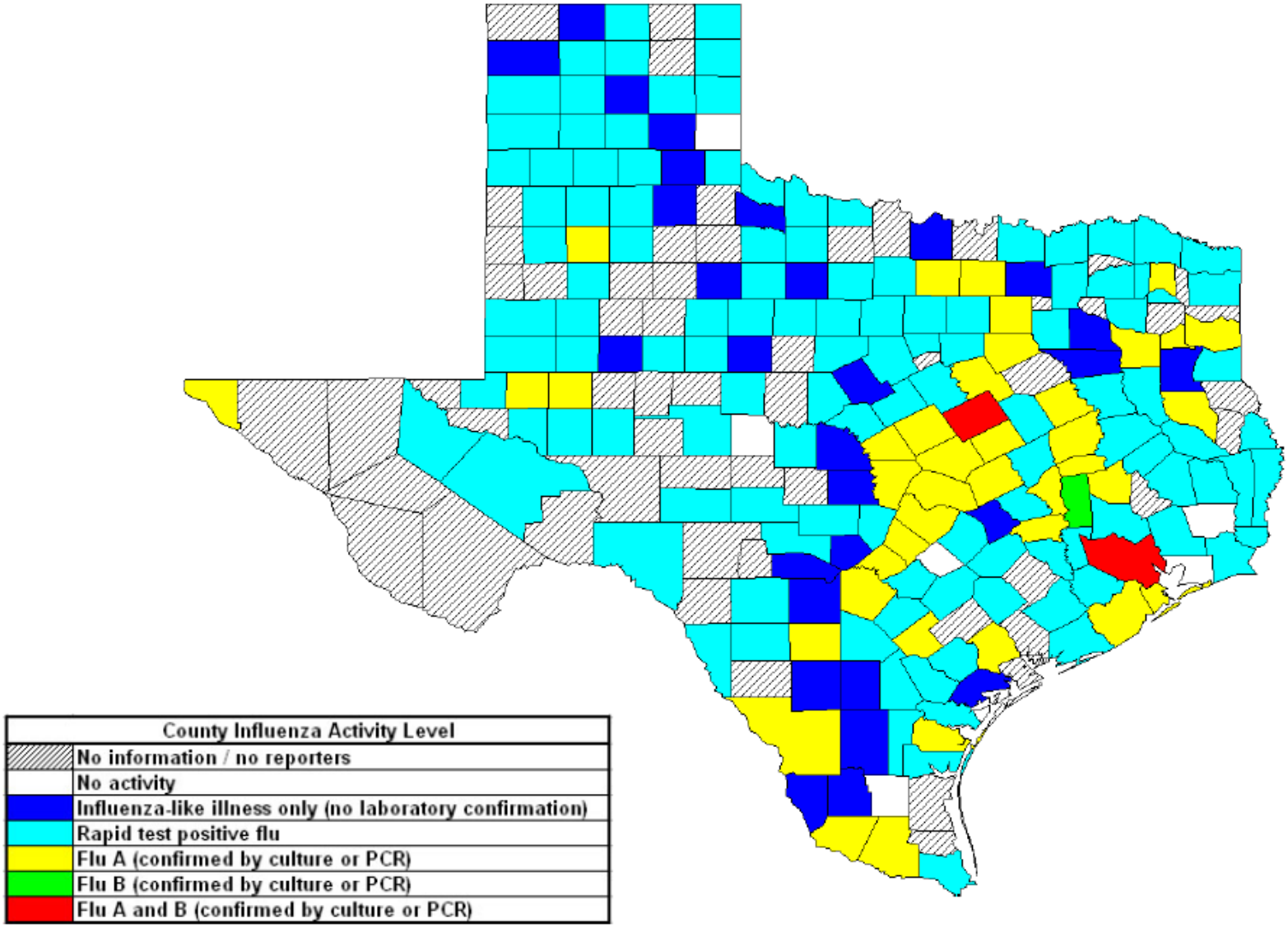
Figure 8. Statewide Influenza Activity[10,12,13]



This map was obtained from the Texas Influenza Surveillance Report http://www.dshs.state.tx.us/idcu/disease/Influenza/surveillance/2013/

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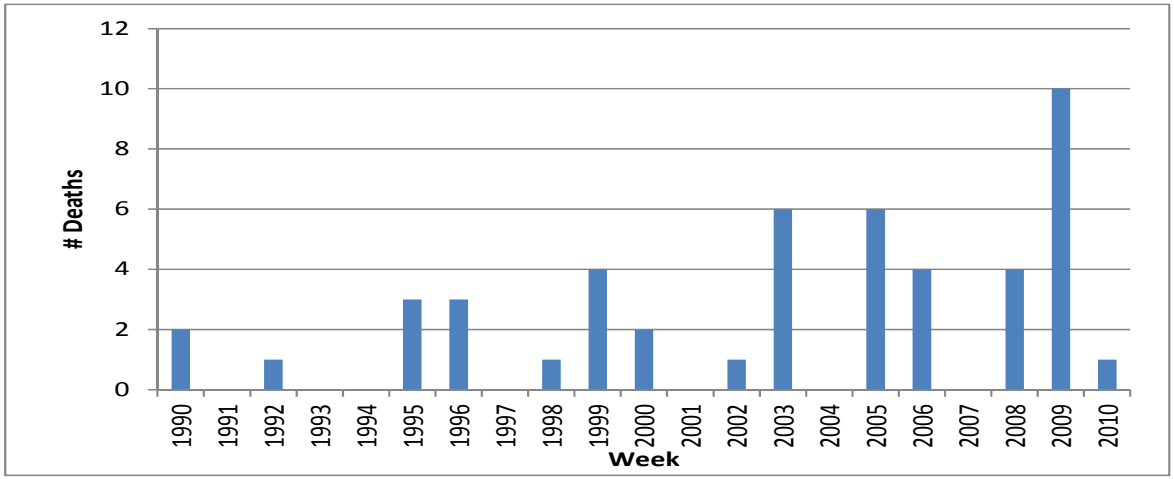
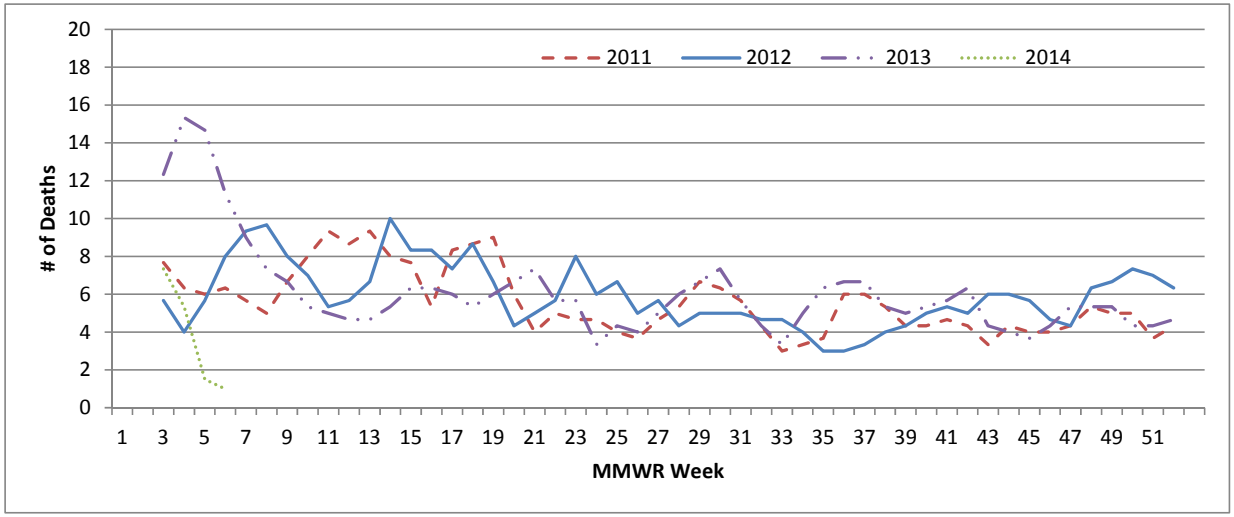
Figure 9. Annual Influenza Related Mortality, Travis County: 1990-2010



Data source: Texas Department of State Health Services http://soupfin.tdh.state.tx.us/deathdoc.htm Data as of September 12, 2012

Figure 10. City of Austin Pneumonia and Influenza Mortality: 2010-2013



Data source: Center for Disease Control and Prevention 122 Cities Mortality: http://wonder.cdc.gov/mmwr/mmwrmort.asp

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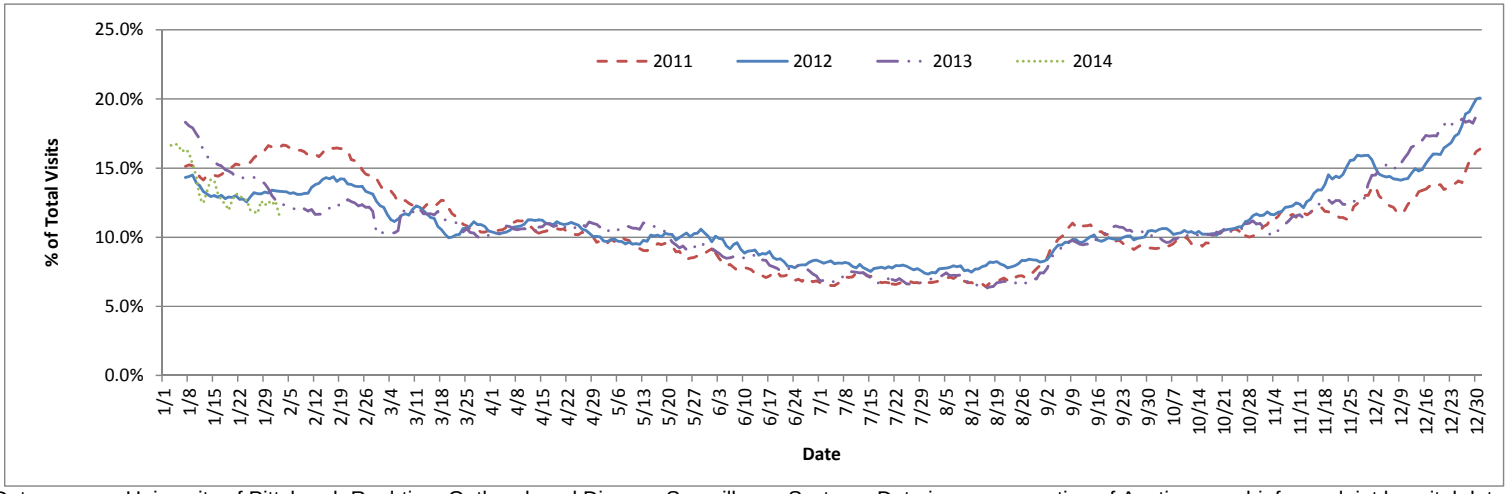
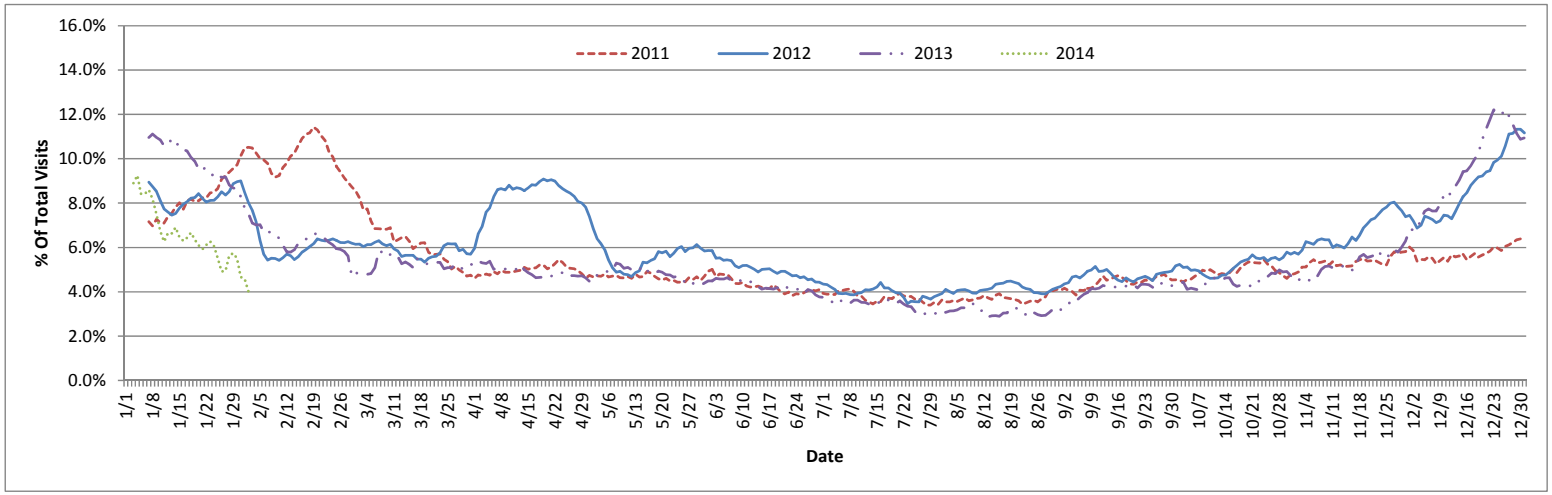
Figure 11. RODS Syndromic Surveillance for the Respiratory Prodrome Category, Travis County: 2010-2013



Data source: University of Pittsburgh Real-time Outbreak and Disease Surveillance System. Data is an aggregation of Austin area chief complaint hospital data

Figure 12. RODS Syndromic Surveillance for Influenza-Like-Illness, Travis County: 2010-2013



Data source: University of Pittsburgh Real-time Outbreak and Disease Surveillance System. Data is an aggregation of Austin area chief complaint hospital data

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[1] MMWR is the Morbidity and Mortality weekly report week published by the CDC.

[2] PCR testing is performed for specimens referred by area sentinel Influenza surveillance reporters. Providers interested in becoming sentinel providers may call the Austin/Travis County Health and Human Services Epidemiology and Health Statistics Unit at (512) 972-5555.

[3] Influenza A is commonly split into 2 subtypes: H1N1 and H3N2. Both strains can circulate each Influenza season.

[4] Influenza is not a reportable condition in Texas; therefore, data is provided by sentinel surveillance reporters and is only a sample of the Influenza activity occurring in the Austin/Travis County area.

[5] Data represent rapid Influenza testing; these tests provide quick results reporting only Influenza A or B (no subtyping). Early in the flu season, results should be used with caution due to false positive results which can occur, especially during times when Influenza activity is low.

[6] Influenza data is collected from a variety of reporters; the number of reporters can vary from week to week.

[7] Non-Differentiated refers to rapid test results that do not differentiate between Influenza A and B.

[8] Data for Austin/Travis County ILI reporters only; the number of reporters can vary from week to week.

[9] Influenza is confirmed via PCR testing and a further subtyping may be performed. PCR testing is performed for specimens referred by area Influenza surveillance reporters.

[10] Positive laboratory results are reported according to specimen collection date or date received in the lab if the former is unknown.

[11] Antigenic characterization and antiviral resistance is obtained from the Texas Influenza Surveillance Report http://www.dshs.state.tx.us/idcu/disease/Influenza/surveillance/2013/ .

[12] Influenza activity level corresponds to the current MMWR week only and does not reflect the previous weeks' activity.

[13] The majority of Influenza cases are not reportable by law to the Texas Department of State Health Services. This map contains data from sentinel sites and does not represent all Influenza cases in the state.

[14] 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.

[15] Some non-NREVSS reporters also contribute to the RSV data.

[16] Percentages based on the total number of specimens B positive and subtyped A specimens.

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