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 April 5, 2014 (MMWR[1] week 14).

Situation Update:

- Flu activity is declining nationally, though flu viruses continue to cause illness around the country.
- Influenza like illness (ILI) decreased and remains below baseline of 2.0% for the fourth consecutive week nationwide. In Texas, the percentage of visits for influenza-like illness as reported by ILINet providers was 5.12% which is a low level of ILI activity. Locally, the percentage of visits was 2.94%.
- Nationally, pneumonia and influenza deaths remain below the epidemic threshold and is at 6.8% of total deaths. Locally these deaths have trended near or below seasonal levels and 21 deaths have been attributed to influenza.
- Nationally, there have been 85 pediatric influenza-associated influenza deaths, 18 reported in Texas. There have been two pediatric influenza-associated deaths in Travis County.
- The percentage of specimens testing positive for influenza increased nationally and is at 13.4%. There was a decrease statewide; the percent positive for the week is 12.71%. Locally, 0 out of 3 specimens submitted for PCR testing were positive for influenza.
- The 2009 H1N1 viruses have predominated this influenza season, though the proportion of influenza B viruses is now increasing.
- Of the 685 positive specimens tested nationally, 44% were influenza A and 56% were influenza B. Subtyping was performed on 181 influenza A specimens; 69% were H3 and 31% were 2009 H1N1. Statewide, influenza A comprises 5.9% of the specimens submitted. Further testing performed on one of these specimens show H3N2 accounts for 100% of the influenza A.
- Of the 2207 influenza specimens antigenically characterized by the CDC so for this year, 1753 specimens matched the influenza A H1N1 component and 270 specimens matched the influenza A H3N2 component in the trivalent and quadravalent influenza vaccines. Of the 184 influenza B specimens, 124 specimens matched the component found in both trivalent and quadravalent influenza vaccines and the other 60 specimens matched the second B strain of the quadravalent influenza vaccine.

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- In Texas, characterization has been performed on 81 influenza A (H1N1) viruses and 18 influenza A (H3N2) viruses both matching components of the trivalent and quadravalent influenza vaccines. Additionally, four influenza B viruses match the B component of the trivalent vaccine while eight have been characterized as the additional B component found in the quadravalent vaccine but not in the trivalent vaccine.

- Some antiviral resistance to oseltamivir (Tamiflu) has been seen in 56 out of 4817 specimens tested (1.2%), all of which were 2009 H1N1. High levels of resistance to adamantanes continue to occur among 2009 H1N1 and H3N2 viruses. Adamantanes are not effective against influenza B. Texas has had 374 specimens tested; three 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 any 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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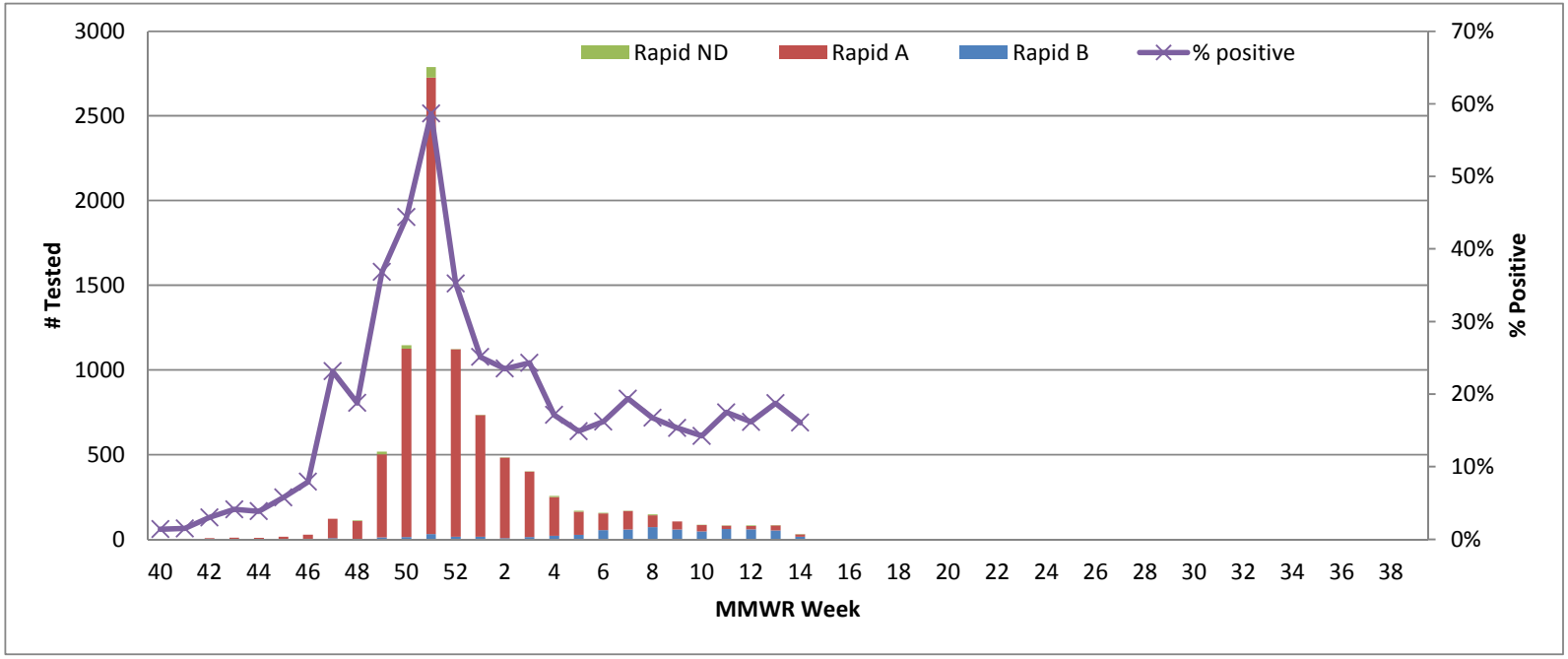
Figure 1. Influenza Surveillance, Travis County Providers [4,5,6]

Week Ending	2/15/2014	2/22/2014	3/1/2014	3/8/2014	3/15/2014	3/22/2014	3/29/2014	4/5/2014
MMWR Week	7	8	9	10	11	12	13	14
# Influenza Rapid Tests Performed	868	879	684	604	469	505	468	431
# Total Positive Influenza Tests	169	147	105	86	82	83	82	84
% Positive Influenza Tests	19.5%	16.7%	15.4%	14.2%	17.5%	16.4%	17.5%	19.5%
# Positive A Influenza	110	70	47	36	20	19	22	32
# Positive B Influenza	57	72	58	48	61	59	59	50
# Non-Differentiated Influenza[3]	2	5	0	2	1	5	1	2

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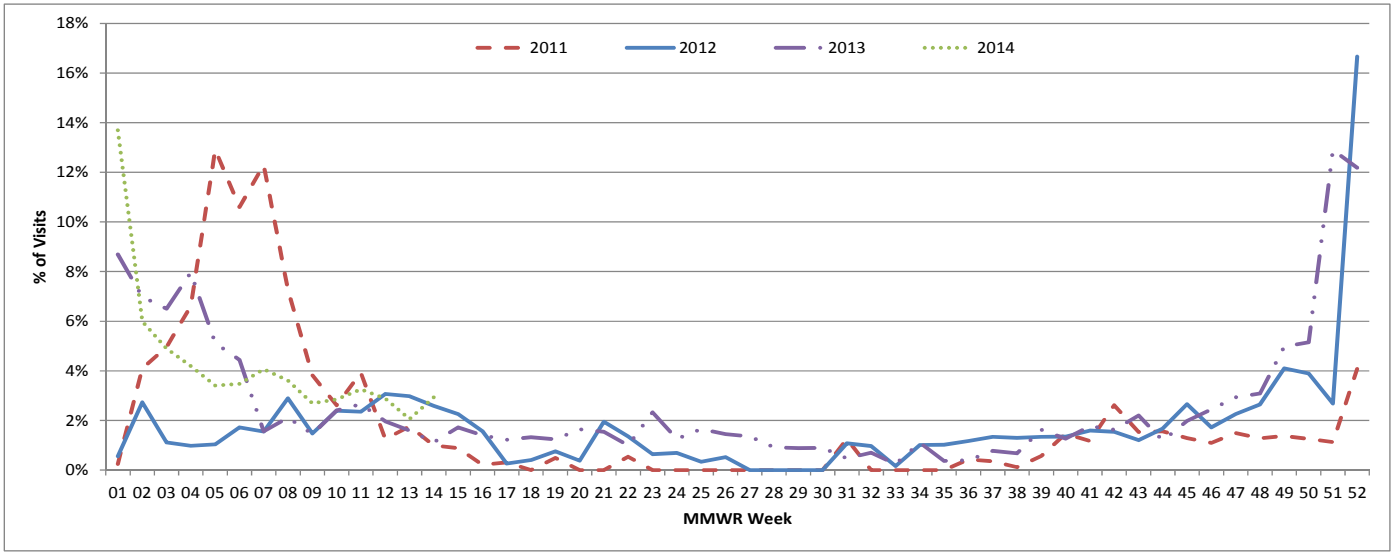
Figure 3. Percentage of Visits Due to Influenza-like-Illness Reported by Travis County Participants in ILINet: 2009-2013[8]



Data source: CDC ILI.net system

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

		05/26/2013 - 7/27/2013	7/28/2013 - 9/28/2013	09/29/2013 - 11/30/2013	12/1/2013 - 2/1/20143	2/2/2014 - 4/5/2014	4/6/2014 - 6/7/2014
MMWR Week		22-30	31-39	40-48	49-5	6-14	15-23*
Influenza A (Total Positive PCR Tests)		0	1	6	91	5	0
Subtype	Seasonal H1N1	0	1	6	83	2	0
	Season H3N2	0	0	0	2	3	0
	Not Subtyped	0	0	0	13	0	0
Influenza B (Total Positive PCR Tests)		0	0	0	1	6	0
PCR Negative Specimens		0	9	13	123	17	3

* 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 14
Number of labs reporting flu tests	14
Number of specimens tested	1204
Number of positive specimens (%)†	153 (12.71%)
Percentage of total tests that were antigen detection tests	66.28%
Positive specimens by type/subtype [n (%)]	
Influenza A	**9 (5.9%)**
Subtyping performed	1 (11.1%)
A (H1N1)	0 (0.0%)
A (H3N2)	1 (100.0%)
Subtyping not performed	8 (88.9%)
Influenza B	**144 (94.1%)**

†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 6. Texas Antiviral Resistance[11]

	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%)

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

Texas Antigenic Characterization[11]

Influenza A (H1N1) [81]

- Eighty-one 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) [18]

- Eighteen 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 [12]

- Yamagata lineage [4]: Three (33%) influenza B/Yamagata-lineage virus has 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 [8]: six (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.

Figure 7. Texas Respiratory Laboratory Results[5]

Virus	Number of Laboratories Testing	Tests Performed	Positive Tests	Percentage of Tests Positive
Adenovirus (respiratory)	4	351	14	3.99%
HMPV	5	352	30	8.52%
Parainfluenza virus	4	351	21	5.98%
Rhinovirus	3	341	93	27.27%
RSV†	9	266	26	9.77%

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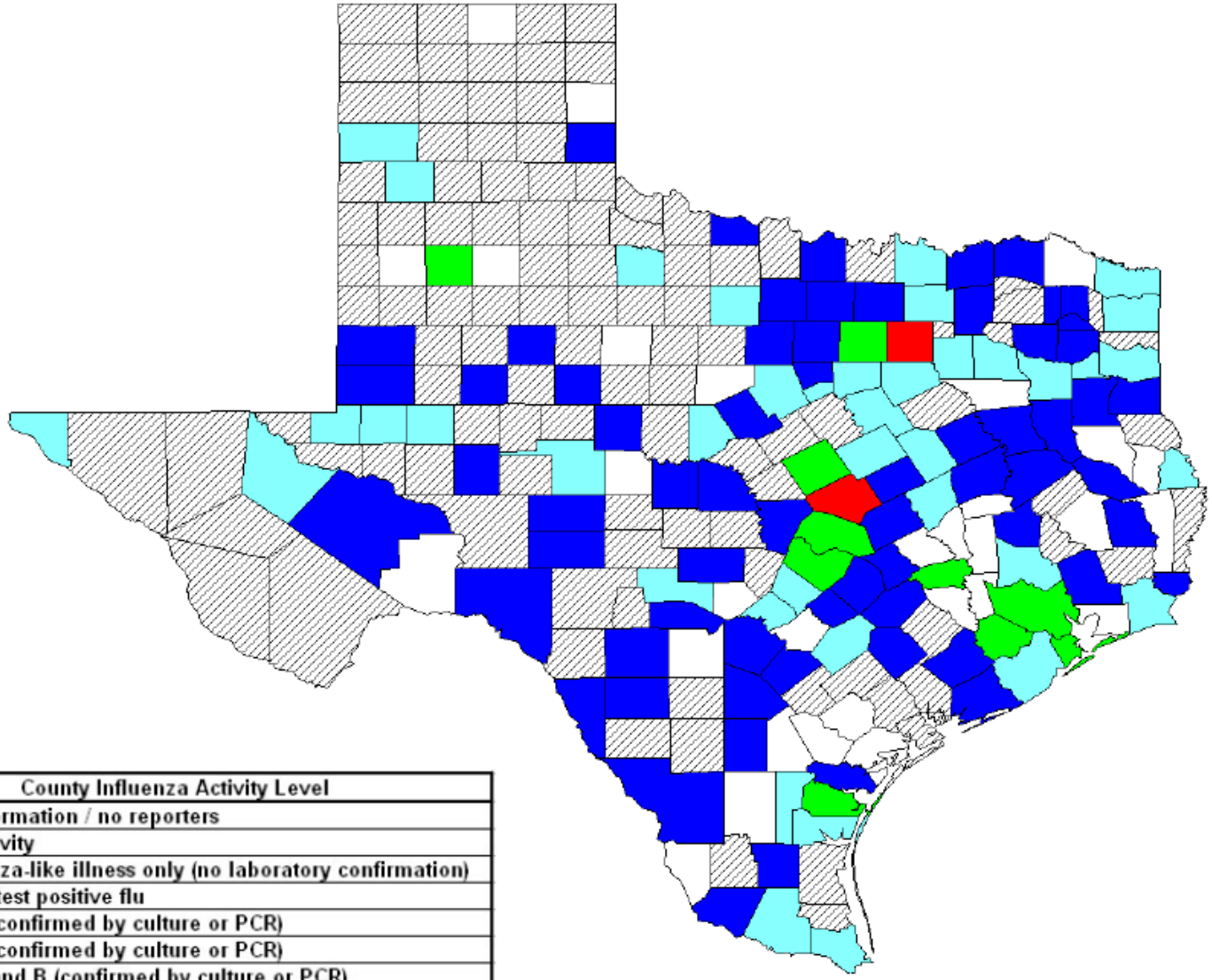
Figure 8. Statewide Influenza Activity[10,12,13]



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)

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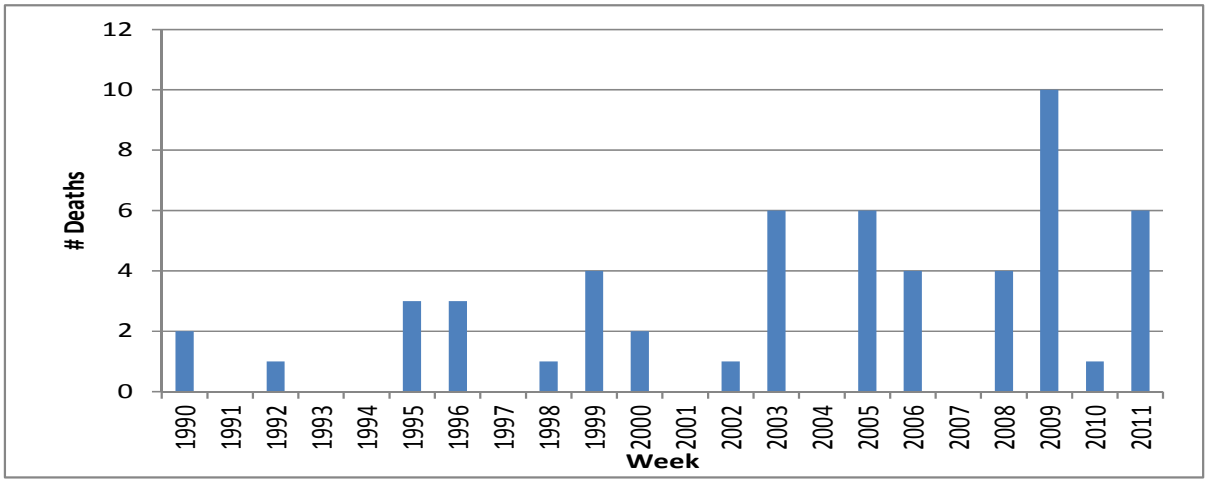
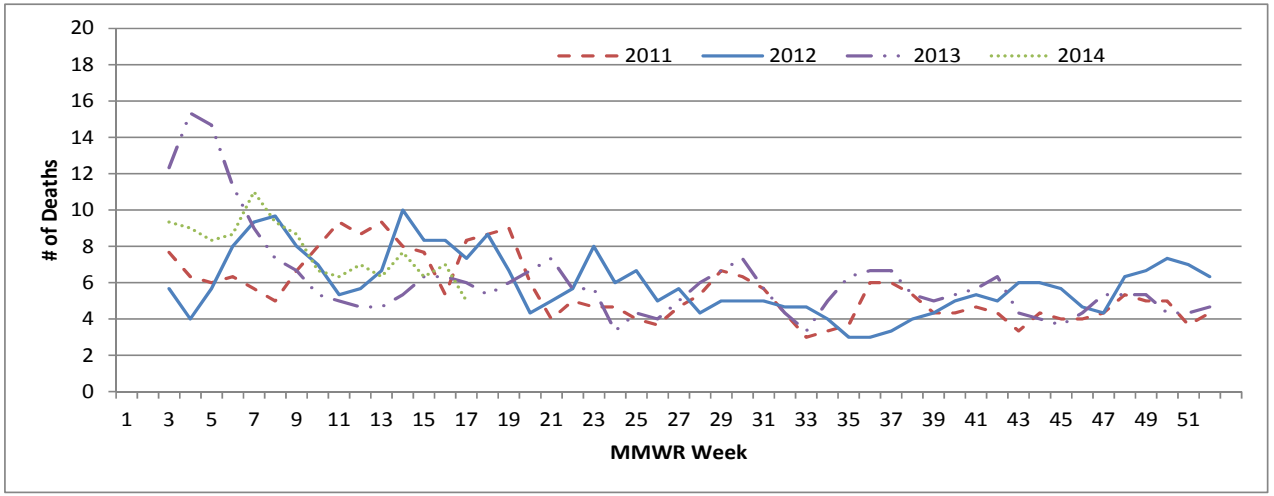
Figure 9. Annual Influenza Related Mortality, Travis County: 1990-2010



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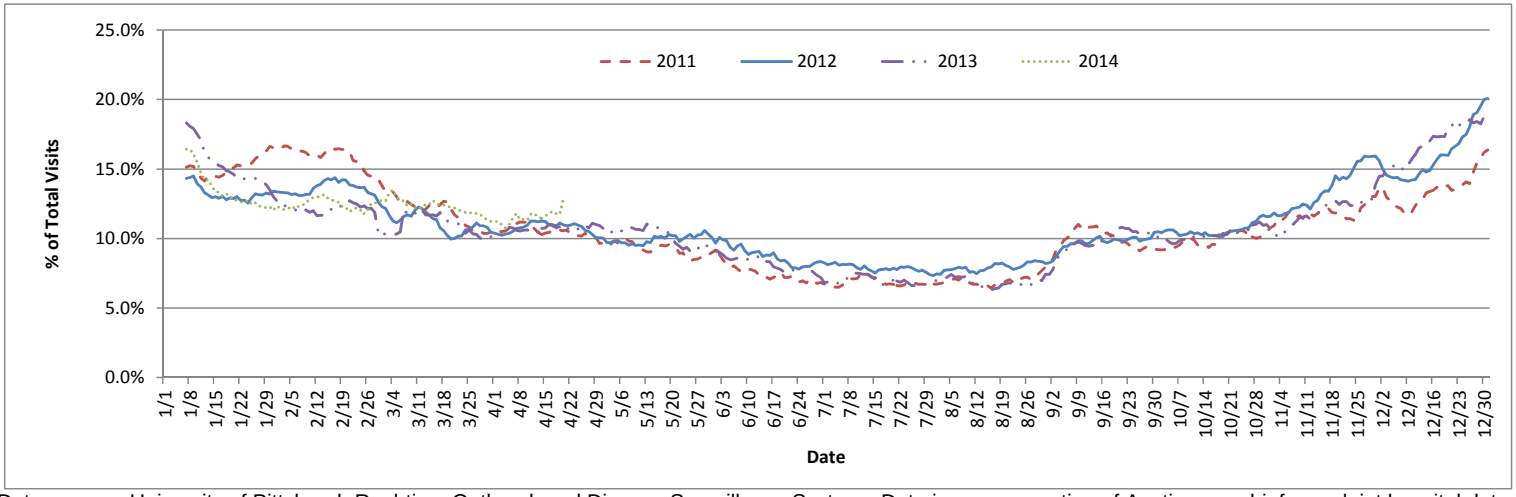
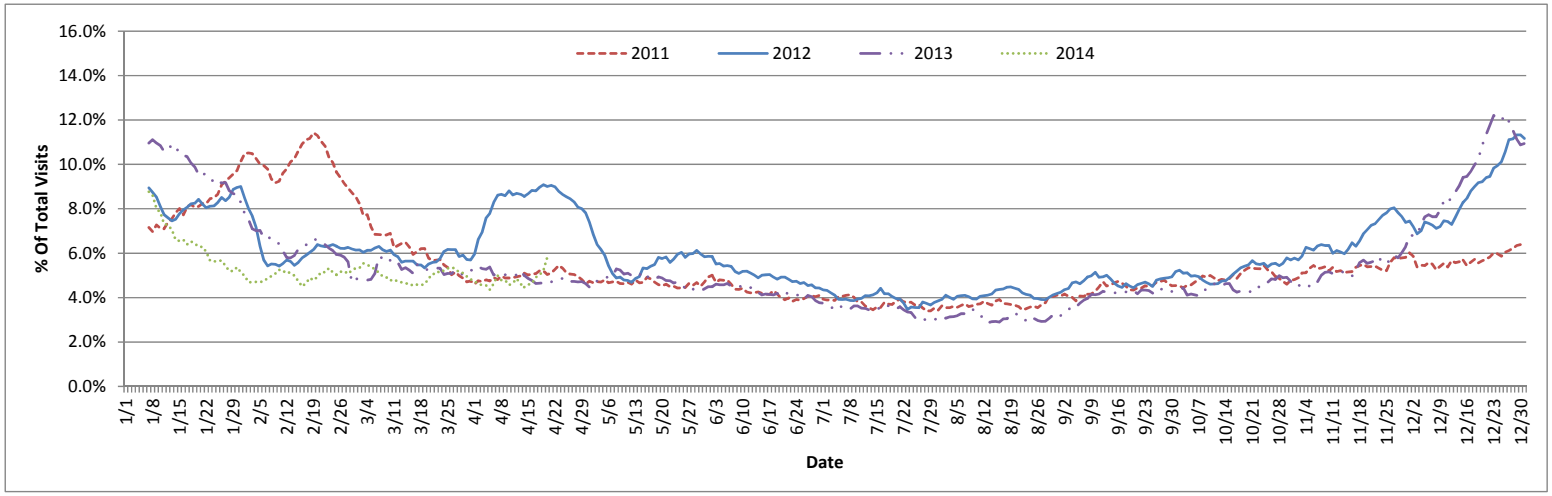
Figure 11. RODS Syndromic Surveillance for the Respiratory Prodrome Category, Travis County: 2010-2013



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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