



Dallas County Health and Human Services

2012-2013 Influenza Season Review

Final Report - Week ending May 11, 2013

Epidemiologic Summary

- The percentage of positive influenza tests exceeded 10% for 15 consecutive weeks, from the week ending November 24, 2010 through the week ending March 12, 2011. The number of positive tests peaked at 30.3% during the week 2, ending January 12, 2013. For nine consecutive weeks, the percentage of positive tests exceeded 20%.
- The number of emergency department visits for complaints of influenza peaked on January 9, 2013, during week 2, which is consistent with hospital influenza testing surveillance data.
- The first influenza-associated hospitalization was reported during week 39, ending September 29, 2012. A total of 881 in-patient hospitalizations were reported by area hospitals for 2012-2013, exceeding the 541 hospitalizations during the H1N1 pandemic in 2009-2010.
- The circulating strains in the area during the 2012-2013 season were 65% influenza A (H3N2), 34% influenza B, and 3% influenza A 2009 (H1N1).
- Three influenza-associated pediatric deaths were reported in Dallas County during the 2012-2013 influenza season. In the state of Texas, there were eighteen influenza-associated pediatric deaths reported.
- 33.5% of influenza B viruses tested nationally did not match the influenza B component in the 2012-2013 influenza vaccine.
- Almost all (99%) of influenza A (H3N2) and influenza A (H1N1)2009 isolates tested by CDC this season have been susceptible to oseltamivir and zanamivir.
- During the 2012-2013 influenza season, the highest total absenteeism in Dallas County schools was 7.7%, with a low of 1.8%, and a season average of 3.9%. ILI absences averaged 0.2% for the season.
- RSV activity continues to decrease with 2.4% of specimens testing positive during week 19.

Figure 1. Number and Percentage Positive Influenza Tests by Week, Dallas County: Season Beginning November 24, 2012 through week ending March 2, 2013

| Week Ending | Nov 24 | Dec 1 | Dec 8 | Dec 15 | Dec 22 | Dec 29 | Jan 5 | Jan 12 | Jan 19 | Jan 26 | Feb 2 | Feb 9 | Feb 16 | Feb 23 | Mar 2 |
|---|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|
| CDC Week | 47 | 48 | 49 | 50 | 51 | 52 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 |
| # Influenza Tests Performed Weekly | 960 | 1346 | 1821 | 2372 | 3787 | 3525 | 4241 | 5292 | 4387 | 3716 | 2609 | 2027 | 1519 | 1338 | 1212 |
| Total # Positive Influenza Tests ¹ | 137 | 209 | 404 | 503 | 1097 | 1080 | 1271 | 1602 | 1281 | 1016 | 548 | 296 | 158 | 147 | 143 |
| Percentage Positive Influenza Tests | 14.3 | 15.5 | 22.2 | 21.2 | 28.9 | 30.5 | 29.9 | 30.3 | 29.2 | 27.3 | 21.0 | 14.6 | 10.4 | 11.0 | 11.8 |
| # Positive Influenza A | 80 | 107 | 210 | 286 | 618 | 639 | 781 | 1069 | 872 | 677 | 346 | 171 | 93 | 77 | 77 |
| # Positive Influenza B | 56 | 99 | 188 | 211 | 461 | 414 | 469 | 496 | 389 | 319 | 197 | 125 | 65 | 64 | 61 |
| # Non-differentiated Influenza ³ | 1 | 3 | 6 | 6 | 18 | 27 | 21 | 37 | 20 | 20 | 5 | 0 | 0 | 6 | 5 |
| # Influenza Hospitalizations⁴ | 14 | 17 | 26 | 36 | 66 | 89 | 130 | 170 | 100 | 85 | 38 | 21 | 15 | 19 | 12 |
| # Influenza-associated Deaths ⁵ | 1 | 1 | 0 | 1 | 0 | 0 | 2 | 4 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| # Influenza-associated Deaths of non-Dallas County Residents ⁶ | 0 | 0 | 0 | 0 | 0 | 1 | 1 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 |

Data were obtained from the same surveillance sites as designated for DCHHS' seasonal influenza program, with over 20 participating Dallas area hospitals, urgent care centers, and sentinel providers.

Figure 2. Number and Percentage Positive Influenza Tests by Week, Dallas County: 2012-2013 Season

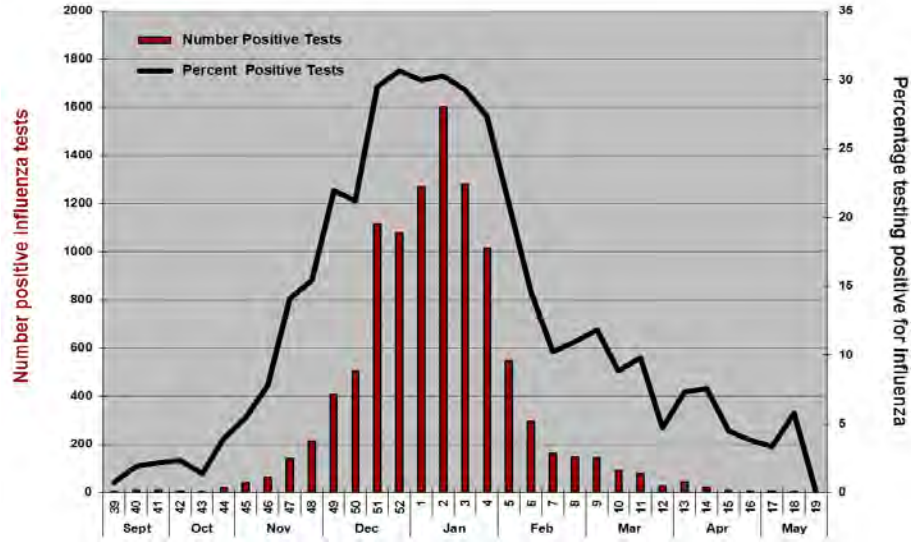


Figure 3. Number and Percentage Positive Influenza Tests by Week, Dallas County: Season Comparison from January 1, 2011 through May 11, 2013

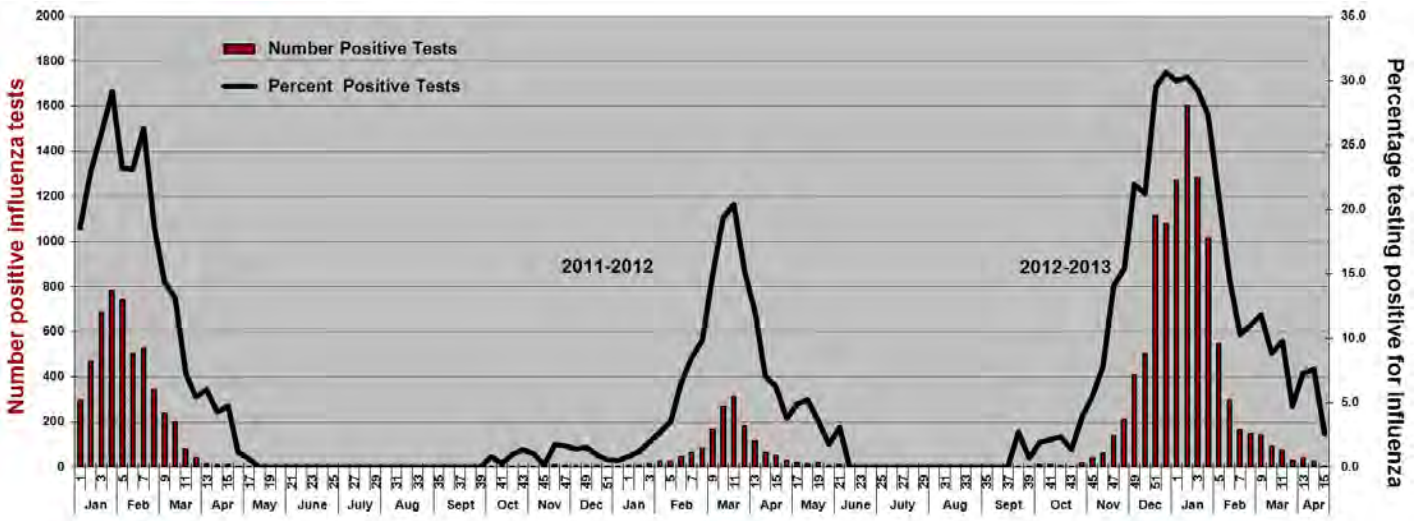


Figure 4. Number and Percentage Positive Influenza Tests by Week, Dallas County: Season Comparison from January 1, 2009 through May 11, 2013

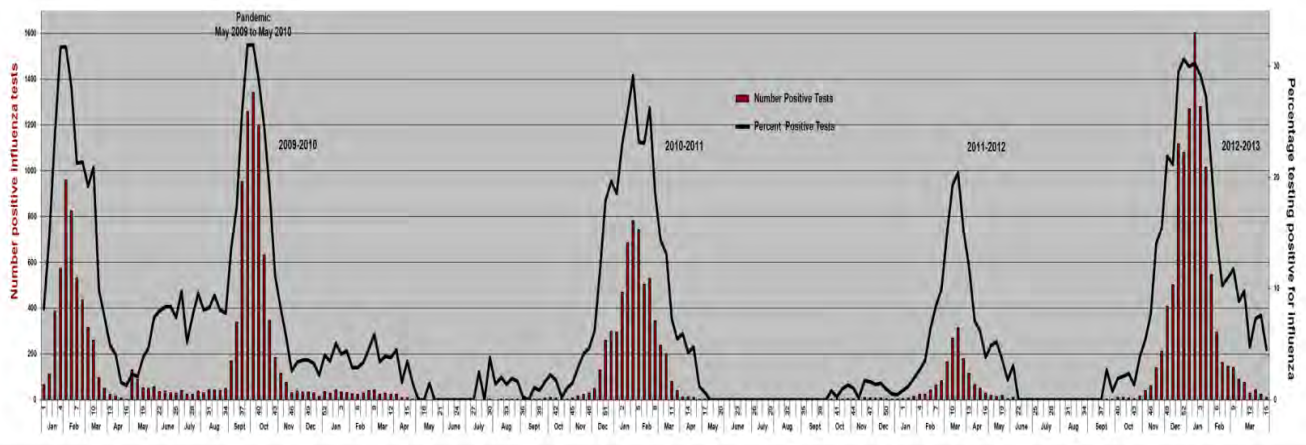


Figure 5. 2012-2013 Dallas County Influenza Season Comparison with prior years: 2010-2011 and 2011-2012

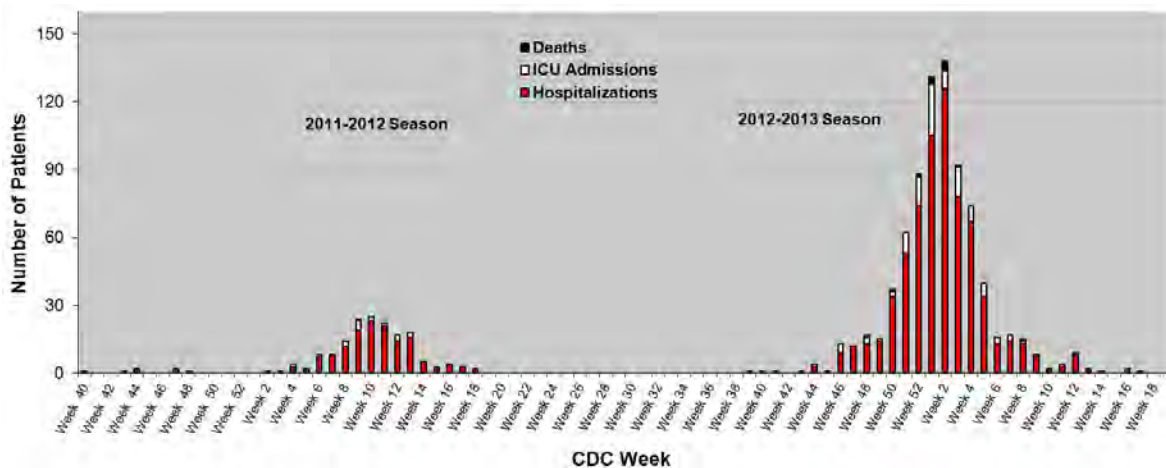
| | | |
|--|--|---|
| <p>2010-2011 Start Week: Week 50 Peak: Week 4 783 positive (29.1%) End: Week 10 (Mar 12, 2011) 13 consecutive Weeks Total Influenza Deaths: 5 Pediatric Deaths: 2</p> | <p>2011-2012 Start: Week 9 (Mar 3, 2012) Peak: Week 11 313 positive (20.4%) End: Week 15 (Apr 14, 2012) 8 consecutive Weeks Total Influenza Deaths: 0 Pediatric Deaths: 1</p> | <p>2012-2013 Start Week 47 (Nov 24, 2012) Peak: Week 2 1602 positive tests (30.3%) End: Week 9 (Mar 2, 2013) 15 consecutive Weeks Total Influenza Deaths: 12 Pediatric Deaths: 3</p> |
|--|--|---|

Figure 6. Characteristics of Influenza Hospitalizations, Dallas County: September 23, 2012 – May 11, 2013

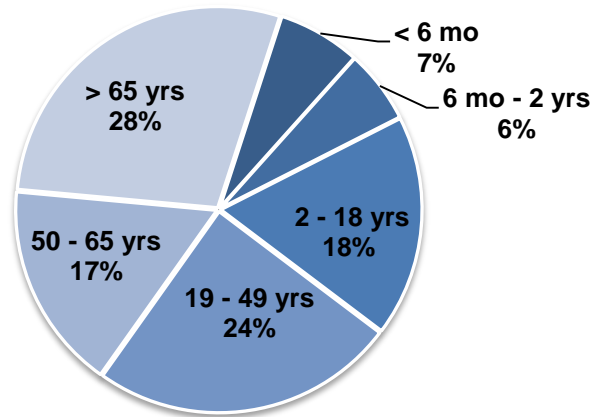
| | |
|--|---|
| | N=805* |
| Influenza Subtype (n**=283) | Influenza A (H3N2) (55%); Influenza B (41%); Influenza A (H1N1) (4%) |
| Gender | Female (53%) |
| Race/Ethnicity | White (34%); Hispanic (33%); Black (23%); Asian (3%); Other/Unknown (7%) |
| Median Age | 44 years (Range: 4 days – 99 years) |
| Presence of ≥1 underlying medical condition or age < 2 years old | 79% |
| Primary Reason for Admission | Respiratory Distress (374); Pneumonia (271); Seizures (49); Myositis (14) |
| ICU Admissions | 108 (13.4%) |
| Deaths | 12 |

| <i>2012-2013 Influenza-associated Deaths</i> | <i>Adult Deaths</i> | <i>Pediatric Deaths (≤ 18 years)</i> |
|--|---------------------------|--------------------------------------|
| <i>Dallas County residents:</i> | 6 | 3 |
| <i>Non-Dallas County residents</i> | 3 | 0 |
| <i>In Dallas County hospitals:</i> | | |
| <i>Median age:</i> | 62 | 6 |
| <i>Age Range:</i> | 6 years - 93 years | 6 years – 12 years |
| <i>Percentage with underlying medical conditions</i> | 88% | 33% |

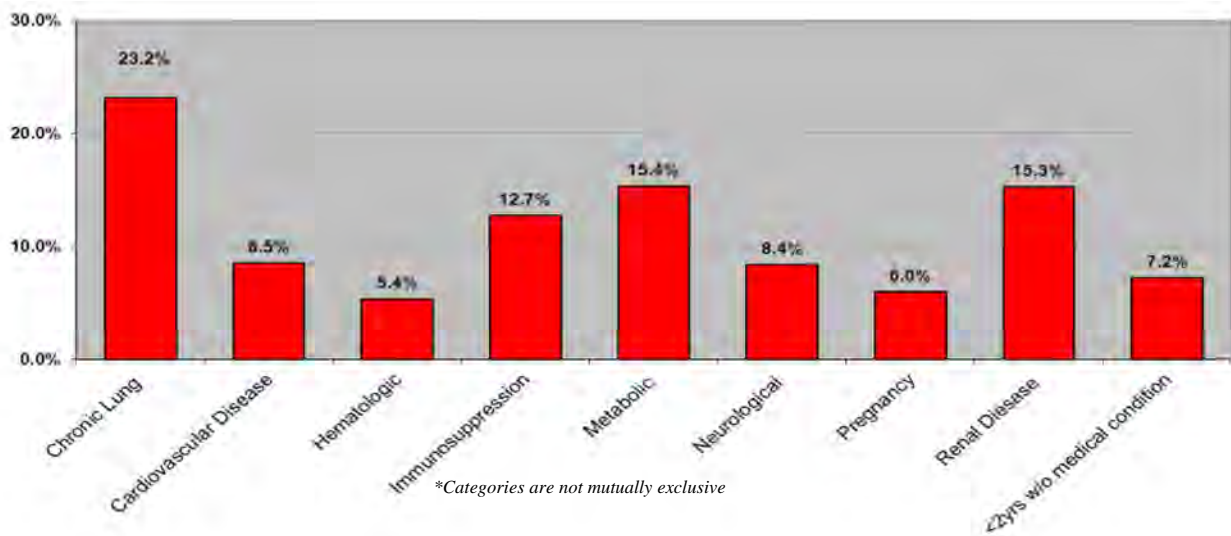
Figure 7. Hospitalized Influenza Patients by Date of Admission, Dallas County: October 2, 2011 – May 11, 2013 (N=805)



**Figure 8. Age Distribution of Hospitalized Confirmed Influenza Cases, Dallas County:
November 19, 2012 – May 11, 2013 (N=805)**



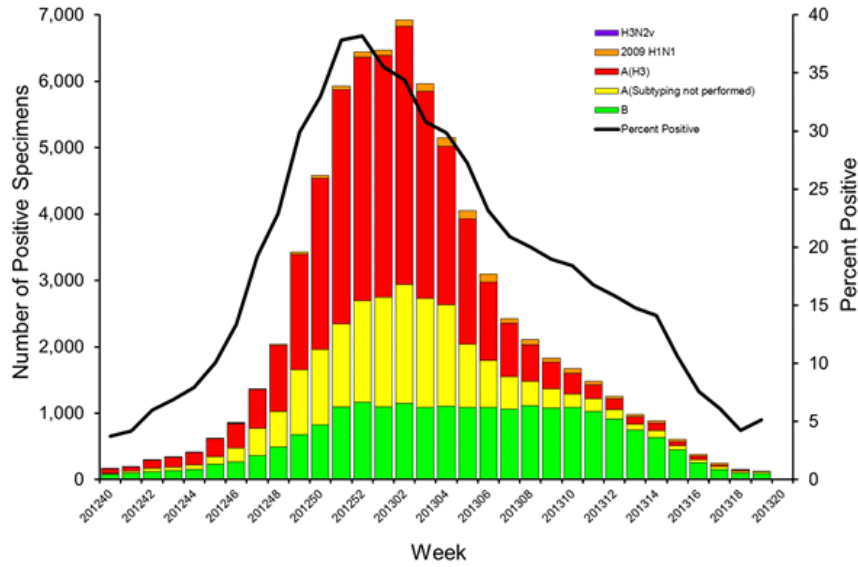
**Figure 9. Percent of Hospitalized Cases with a Known Underlying Medical Condition*,
Dallas County: September 23, 2012 – May 1, 2013**



From CDC FluView report* for Week 19 (May 5-11, 2013) in U.S.:

- Influenza activity remained low in the United States during week 19, with 5.1% of specimens tested by NREVSS laboratories positive for influenza.
- The proportion of deaths attributed to pneumonia and influenza (P&I) was below the epidemic threshold.
- One influenza-associated pediatric death was reported during week 19.
- The proportion of outpatient visits for influenza-like illness (ILI) was 0.9% which is below the national baseline of 2.2%.

Figure 10. Influenza Positive Tests Reported to CDC by U.S. WHO/NREVSS Collaborating Laboratories, National Summary, September 23, 2012 –May 11, 2013



*<http://www.cdc.gov/flu/weekly> (accessed 5-17-2013)

Figure 11. Antiviral Resistance of Influenza Isolates, US: 2012-2013 Season*

| | Oseltamivir | | Zanamivir | |
|---------------------------|--------------------------|-------------------------------|--------------------------|-------------------------------|
| | Virus Samples tested (n) | Resistant Viruses, Number (%) | Virus Samples tested (n) | Resistant Viruses, Number (%) |
| Influenza A (H3N2) | 2,119* | 2 (0.1) | 2,119* | 1 (0.05) |
| Influenza B | 935 | 0 (0.0) | 935 | 0 (0.0) |
| 2009 H1N1 | 540* | 2 (0.4) | 257 | 0 (0.0) |

*<http://www.cdc.gov/flu/weekly>, (accessed 5-17-2013)

Figure 12. Antigenic Characterization of Influenza Isolates, Texas and US: 2012-2013 Season*

| | Subtype | Texas (N=108) | US (N=2,391) |
|--|-----------|--|--|
| Influenza A | H1 | 13 | 231 of 234 (98.7%) |
| | H3 | 54 | 1,319 of 1324 (99.6%) |
| Influenza B | | 35 of 41 (85.4%) B/Yamagata/16/88 lineage | 474 of 689 (68.8%) B/Yamagata/16/88 lineage |
| | | 6 of 37 (14.6%) B/Victoria/02/87 lineage | 554 of 833 (66.5%) B/Victoria/02/87 lineage |
| <u>2012-13 Influenza Vaccine Composition, Northern Hemisphere:</u> A/California/7/2009 (H1N1)-like virus A/Victoria/361/2011-like virus B/Wisconsin/1/2010-like virus (Yamagata lineage) | | | |

*From <http://www.cdc.gov/flu/weekly> (accessed 5-17-2013)

| Composition of the 2013-2014 Influenza Vaccine* |
|--|
| The World Health Organization (WHO) and the Food and Drug Administration's Vaccines and Related Biological Products Advisory Committee (VRBPAC) have made recommendations for the composition of the 2013-2014 influenza vaccines to be used in the United States. |
| Recommendations for Trivalent vaccines: |
| <ol style="list-style-type: none"> 1. A/California/7/2009-like (2009 H1N1) virus 2. A(H3N2)/A/Victoria/361/2011 (A/Texas/50/2012) 3. B/Massachusetts/2/2012-like (B/Yamagata lineage) virus |
| Recommendations for Quadrivalent vaccines: |
| 4. Brisbane/60/2008-like (B/Victoria lineage) virus in addition to the viruses recommended for the trivalent vaccines. |
| These recommendations were based on global influenza virus surveillance data related to epidemiology and antigenic characteristics, serological responses to 2012-2013 seasonal vaccines, and the availability of candidate strains and reagents. |

*From <http://www.cdc.gov/flu/weekly> (accessed 5-17-2013)

Figure 13. ESSENCE Syndromic Surveillance for Chief Complaints of Influenza-like Illness, Dallas County: September 26, 2012 – May 15, 2013

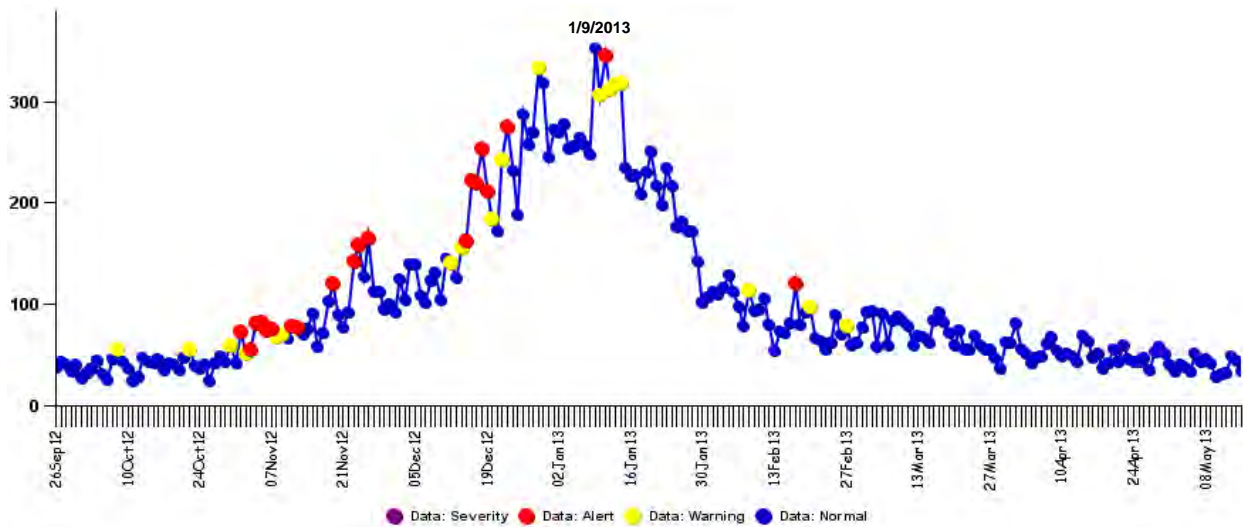
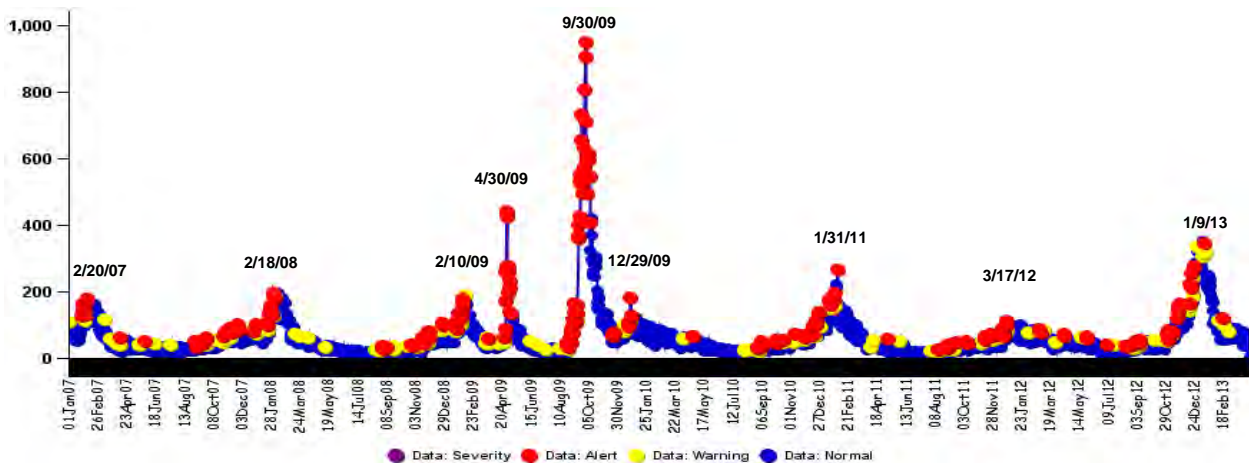


Figure 14. ESSENCE Syndromic Surveillance for Chief Complaints of Influenza-like Illness, Dallas County: January 1, 2007 – May 15, 2013



Data obtained from hospitals participating in the Electronic Surveillance System for the Early Notification of Community-based Epidemics (ESSENCE) from January 1, 2007 through May 11, 2013. Depicted are the numbers of persons presenting to 18 Emergency Departments in Dallas County hospitals with self-reported chief complaints of influenza-like illness.

Figure 15. Dallas County LRN Influenza PCR Test Results: October 15, 2012 – May 11, 2013

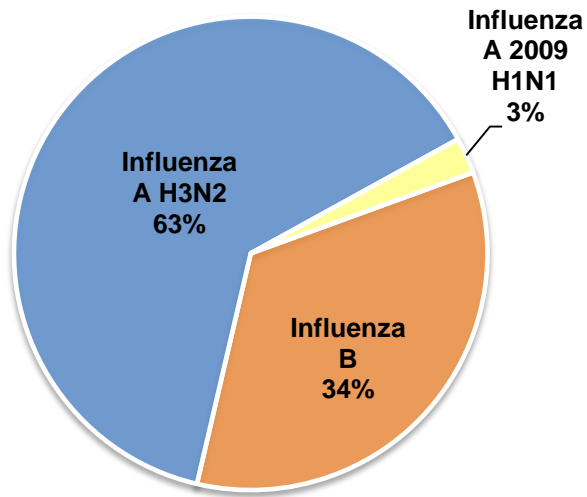


Figure 16. Number and Percent Positive RSV Rapid Antigen Tests, NREVSS Surveillance Data, North Texas: August 6, 2011 – May 11, 2013

| | Feb 16 | Feb 23 | Mar 2 | Mar 9 | Mar 16 | Mar 23 | Mar 30 | Apr 6 | Apr 13 | Apr 20 | Apr 27 | May 4 | May 11 |
|---------------------------------|--------|--------|-------|-------|--------|--------|--------|-------|--------|--------|--------|-------|--------|
| CDC Week | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18* | 19* |
| # Tests Performed Weekly | 547 | 467 | 470 | 397 | 342 | 292 | 220 | 207 | 186 | 138 | 116 | 83 | 41 |
| Total Positive RSV Tests | 143 | 111 | 88 | 55 | 49 | 35 | 23 | 20 | 16 | 7 | 3 | 2 | 1 |
| % Positive RSV Tests | 26.1 | 23.7 | 18.7 | 13.9 | 14.3 | 11.9 | 10.5 | 9.7 | 8.6 | 5.1 | 2.6 | 2.4 | 2.4 |

* Indicates preliminary data which are subject to change, as adjustments are made for late-arriving data

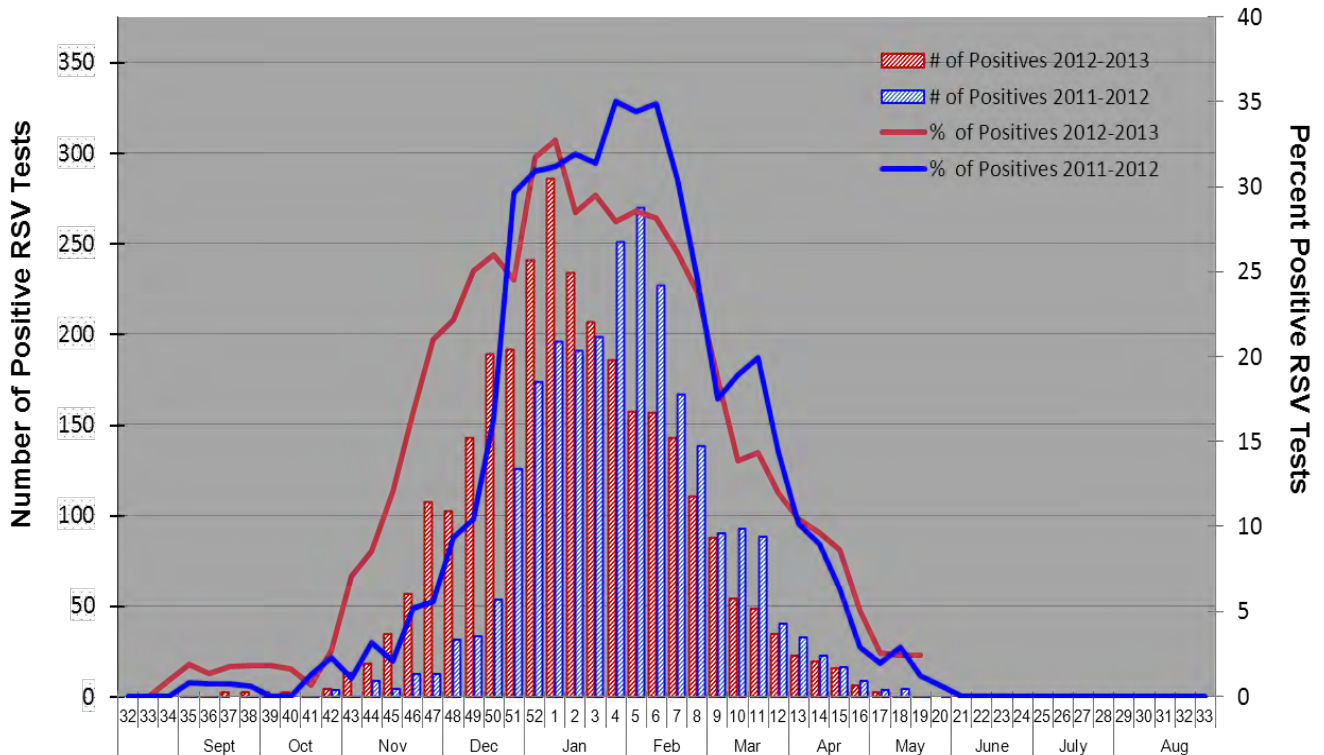
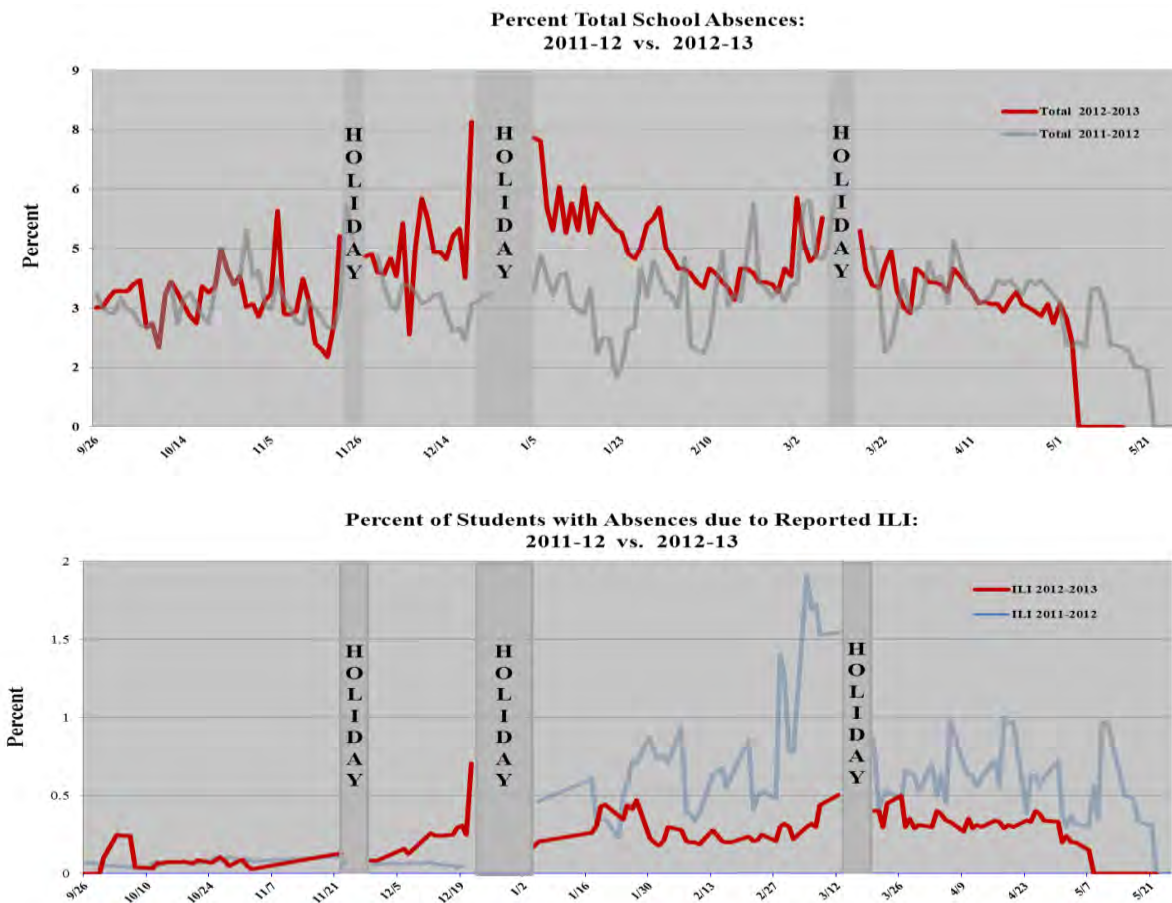


Figure 17: Percentage of Total Student Absences and Percentage of Absences due to Influenza-like Illness: Reported from 14 Independent School Districts in Dallas County: August 24, 2012 – May 11, 2013



School absences and influenza-like illnesses are reported voluntarily from 13 Independent School Districts, representing over 595 elementary, middle, and secondary schools and over 430,000 students in Dallas County.

- Data are submitted from additional charter and private schools on a voluntary basis.
- Data trends are also followed on an individual basis by school and an aggregate basis by districts.

Please Report any of the Following Influenza Patients to DCHHS at (214) 819-2004 within 1 working day:

- Hospitalized patients with influenza (any subtype). Confirmation can be by any laboratory test, rapid antigen, culture, PCR, DFA/IFA, or performed in an outpatient or inpatient laboratory.
- Deaths of persons with confirmed influenza (any subtype). We are requesting all pediatric influenza-associated deaths to be reported *immediately* to facilitate specimen procurement and testing.
- Suspected influenza infections involving a resident of any Long Term Care facility (please report *immediately*), or institutional outbreaks.

Please send inquiries to DCHHS: Influenza@dallascounty.org

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