

2014-2015 Texas Influenza Season Summary and 2015-2016 Season Updates

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Outline

- Reporting overview and flu surveillance components
- 2014-2015 flu season review
- 2015-2016 season updates

Influenza Reporting

- Influenza illnesses are not reportable, except:
 - Influenza-associated deaths in children <18 years
 - Novel influenza virus infections
 - Influenza/influenza-like illness (ILI) outbreaks
- Flu surveillance is sentinel and voluntary
 - National flu surveillance season: October – May (MMWR week 40 through week 20)
 - Texas performs flu surveillance year round

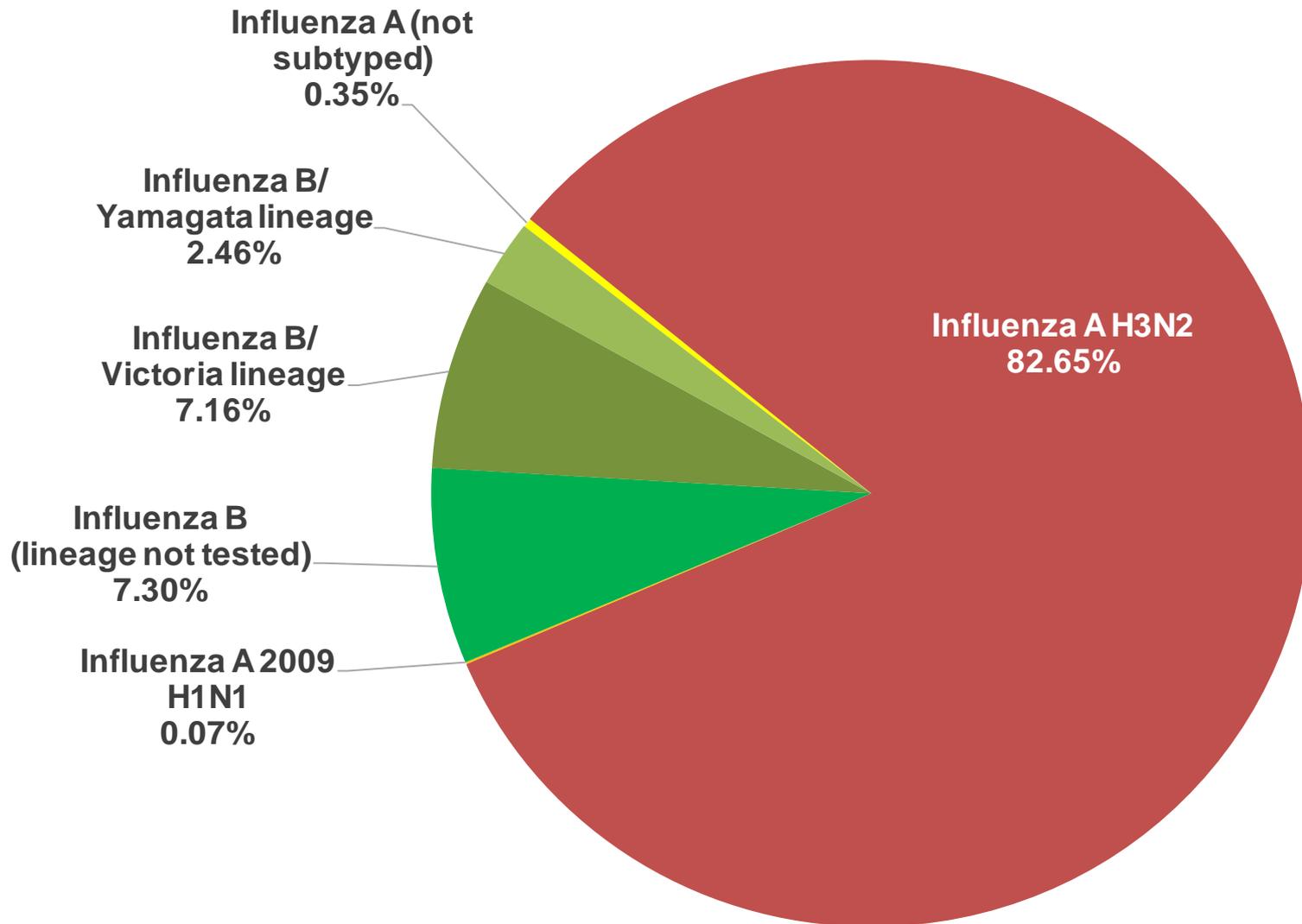
Texas Influenza Surveillance Components

- Viral (Laboratory) Surveillance
- Morbidity
 - ILI
 - ILINet (outpatient visits)
 - Flu
 - Novel Influenza Reporting
 - Other
 - Outbreaks
 - Absenteeism (local level only)
 - Syndromic surveillance (local level only)
- Mortality
 - Influenza-associated pediatric deaths
 - Pneumonia and influenza deaths

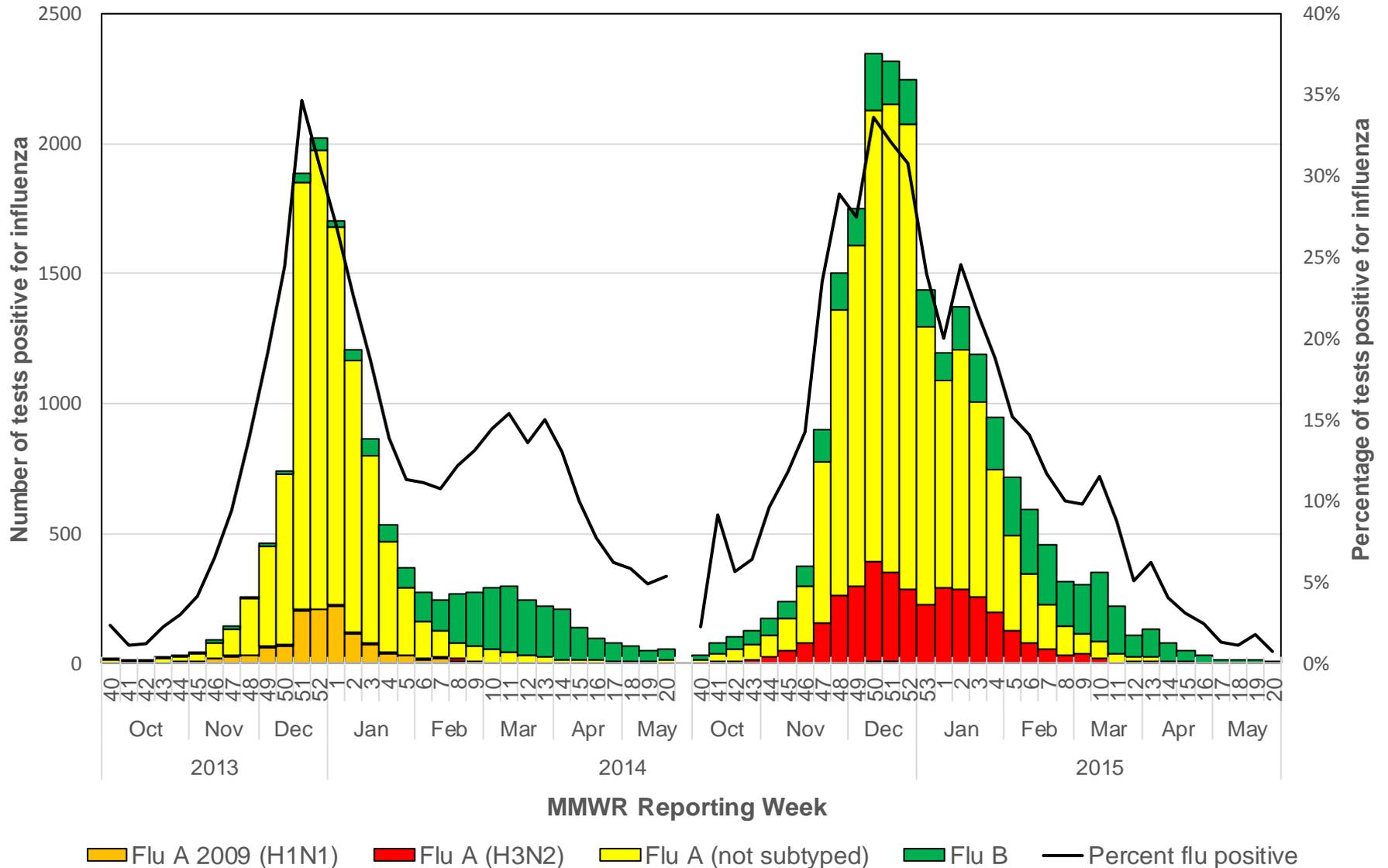


2014-2015 Texas Influenza Season Summary

Influenza Type and Subtype Identified from Positive Influenza Specimens from Texas Public Health Laboratories, 2014-2015



Number and Percentage of Tests (Antigen, Culture, PCR) Positive for Influenza by Type and Subtype Reported by Texas NREVSS Laboratories, 2013-2014 & 2014-2015 Influenza Seasons



Viral Surveillance

- Antigenic Characterization Testing
 - 113 Texas influenza viruses characterized
 - 66 influenza A (H₃N₂) viruses
 - 4.5% matched the 2014-2015 flu vaccine H₃ strain
 - 47 influenza B viruses
 - Yamagata lineage (44.7%)
 - 42.6% matched the 2014-2105 vaccine flu B strain (trivalent & quadrivalent)
 - 2.1% did not match the 2014-2105 flu B vaccine strain
 - Victoria lineage (55.3%)
 - This flu B strain included in quadrivalent vaccine only

2014-2015 Vaccine Effectiveness

(Updated 2/26/15)

- Overall VE estimate: 19% (95% CI: 7%–29%)
 - Flu vaccine was 19% effective in preventing medical visits against all influenza across all age groups
- H₃N₂ component: 18% (95% CI: 6%–29%)
 - Nationally, two-thirds of circulating H₃ viruses were drifted from vaccine strain
- B component: 45% (95% CI: 14%–65%)

<http://www.cdc.gov/flu/news/updated-vaccine-effectiveness-2014-15.htm>

Viral Surveillance

- Antiviral Testing
 - 117 viruses from Texas were tested
 - No viruses tested were resistant to recommended antivirals

	Oseltamivir		Zanamivir		Peramivir [^]	
	Virus samples tested (n)	Resistant viruses, number (%)	Virus samples tested (n)	Resistant viruses, number (%)	Virus samples tested (n)	Resistant viruses, number (%)
Influenza A (H₁N₁)	0	0 (0%)	0	0 (0%)	0	0 (0%)
Influenza A (H₃N₂)	96	0 (0%)	96	0 (0%)	96	0 (0%)
Influenza B	21	0 (0%)	21	0 (0%)	21	0 (0%)

[^] Peramivir is an intravenous antiviral medication that was FDA-approved for use on December 19, 2014.

Morbidity Surveillance

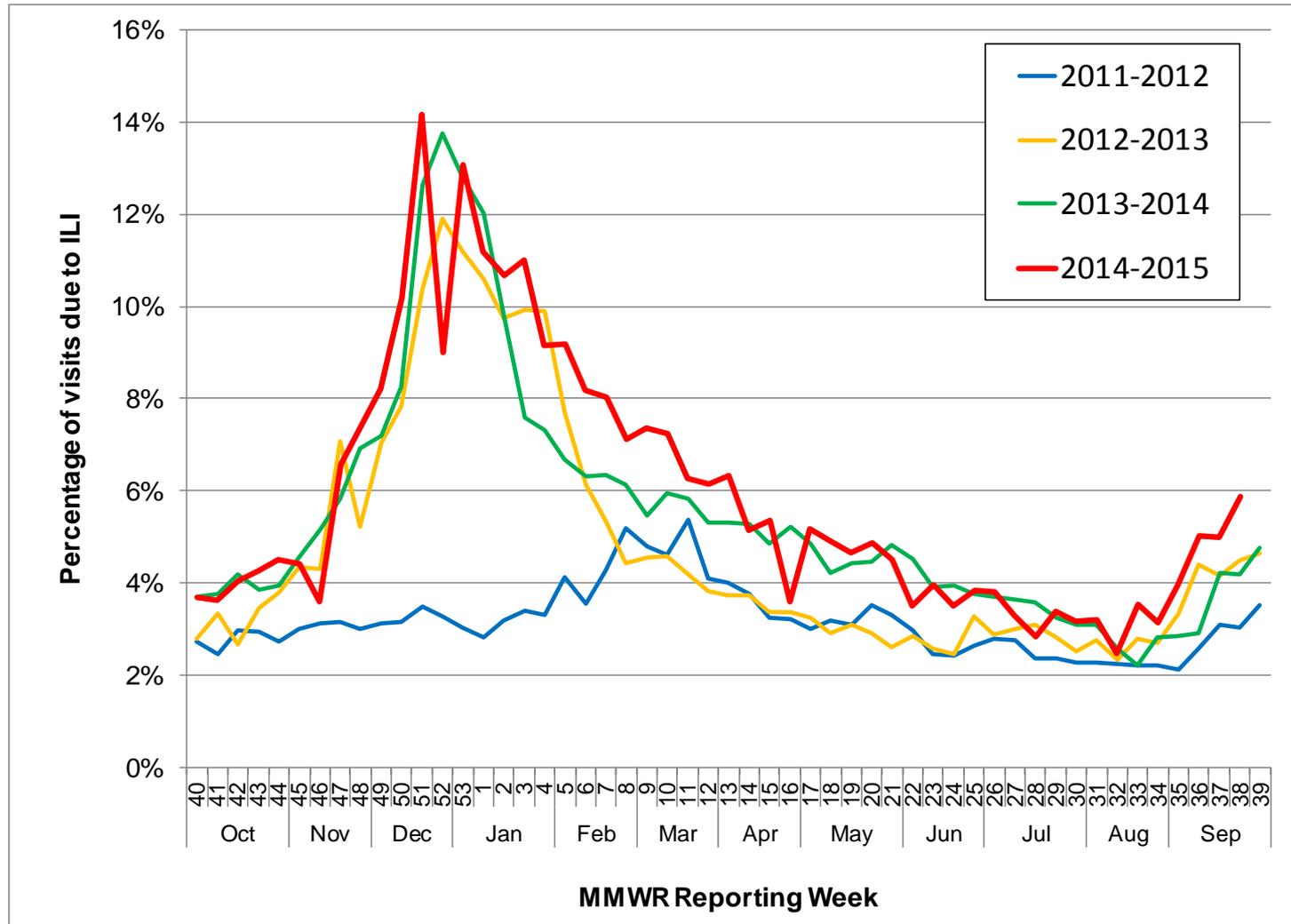
- Estimated Annual Burden of Influenza

	United States	Texas
Influenza illnesses (5%-20% ill annually)	15.8 to 63.2 million	1.3 to 5.3 million
Influenza hospitalizations (primary discharge diagnosis)	226,054 (range: 54,523 to 430,960)	18,989
Influenza-associated deaths, all ages	23,607 (range: 3,349 to 48,614)	1,983

Morbidity Surveillance

- US Outpatient Influenza-like Illness Surveillance Network (ILINet)
 - Outpatient influenza-like illness (ILI) visits as a proportion of all visits → %ILI
 - >150 ILINet reporters in Texas
 - Average of 112 providers (range: 83-123) reported weekly during 2014-2015 national flu surveillance season
 - Peak: 14.17% ILI in week 51 (week ending Dec 20)

Percentage of Visits Due to Influenza-like Illness by Week as Reported by Texas ILINet Providers, 2011-2015



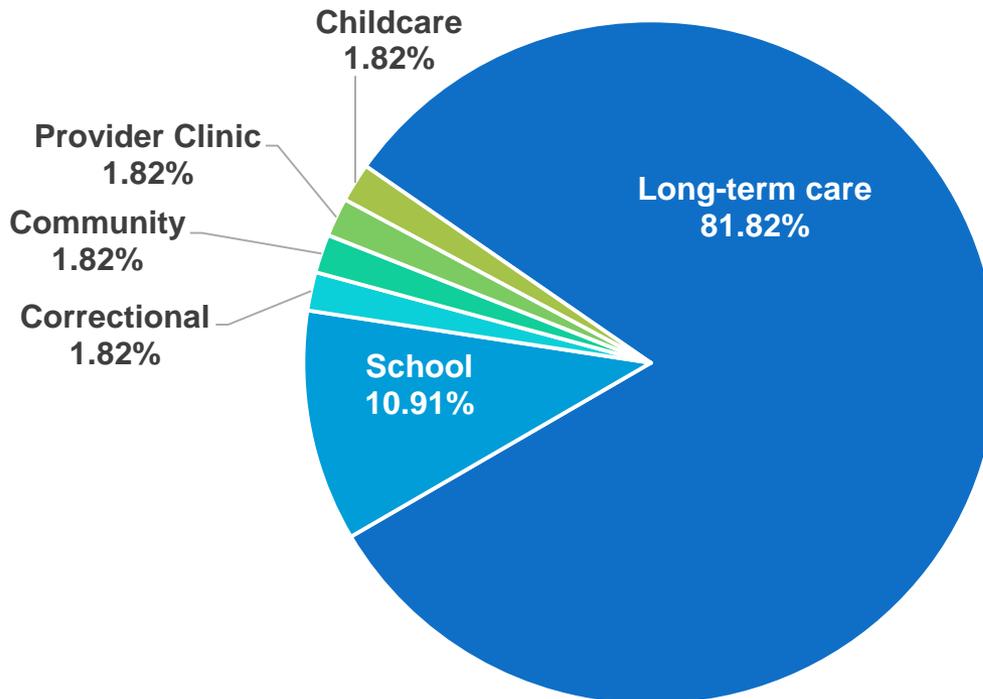
Morbidity Surveillance

- Outbreaks
 - 55 outbreaks reported
 - 6 ILI outbreaks
 - 49 influenza outbreaks
 - 34 (69.4%) were Flu A
 - 4 (8.2%) were Flu B
 - 1 (2.0%) was Flu A and Flu B
 - 10 (20.4%) unknown

Morbidity Surveillance

- Outbreaks

Number of Reported Influenza/Influenza-like Illness Outbreaks in Texas by Type of Facility, 2014-2015 Influenza Season



Mortality

Number of Influenza-associated Pediatric Deaths in Texas by Flu Season and by Influenza Type and Subtype, 2007-2015

	2007-08	2008-09	2009-10	2010-11	2011-12	2012-13	2013-14	2014-15*
Influenza A, total	8	20	33	10	4	6	16	10
A (H ₁ N ₁)	0	17	22	3	1	0	9	0
A (H ₃ N ₂)	0	0	0	2	0	3	1	3
A (Not subtyped)	8	3	11	5	3	3	6	7
Influenza B	2	7	0	2	0	11	3	7
Flu A+B	0	0	0	0	0	3	1	0
Total	10	27	33	12	4	20	20	17

*Number of cases to date

Mortality

- Influenza-associated pediatric deaths, 2014-2015
 - 17 reported as of October 2, 2015
 - Etiology: 59% flu A, 41% flu B
 - Average age: 6.88 years (range: 1 month--17 years)
 - 53% female
 - 8 (47%) with underlying health conditions
 - Chromosomal abnormalities: 2 (25%)
 - Lung conditions, including asthma: 3 (37.5%)
 - 11 (65%) with significant co-infections (MRSA, GAS, *S. pneumoniae*, RSV, enterovirus, adenovirus)
 - 10/15 (67%) not fully vaccinated for flu



2015-2016 Influenza Season Updates

Influenza Vaccine Strain Changes

- 2014-2015 Northern Hemisphere flu vaccine:
 - Trivalent:
 - an A/California/7/2009 (H1N1)-like virus
 - an A/Texas/50/2012 (H3N2)-like virus
 - a B/Massachusetts/2/2012-like virus (B/Yamagata lineage)
 - Quadrivalent: above, plus a B/Brisbane/60/2008-like virus (B/Victoria lineage)
- 2015-2016 Northern Hemisphere flu vaccine:
 - Trivalent:
 - an A/California/7/2009 (H1N1)pdm09-like virus
 - an A/Switzerland/9715293/2013 (H3N2)-like virus
 - a B/Phuket/3073/2013-like virus (B/Yamagata lineage)
 - Quadrivalent: above, plus a B/Brisbane/60/2008-like virus (B/Victoria lineage)



Other Updates

- Vaccine recommendations
 - Annual vaccination for everyone ≥ 6 months of age
 - No preference for live attenuated influenza vaccine (LAIV) or inactivated influenza vaccine (IIV) when either one is otherwise appropriate
- National flu surveillance season has started
 - 2015-2016 season: October 4, 2015 – May 21, 2016
 - First state weekly flu report posted on Friday, October 16
- New this season: P&I flu deaths (all ages) from vital stats

Early Season Data (2015-16)

- Respiratory virus activity, August-September 2015:
 - Influenza
 - Flu A (H₃N₂) PCR confirmation
 - Lubbock – LTCF outbreak in late August
 - Austin – early-mid September
 - Fort Worth – late September
 - Some positive rapid tests, mostly flu B in September (NREVSS)
 - Other viruses: some parainfluenza (esp. para 1), adenovirus, rhinovirus, RSV, seasonal coronaviruses; few enteroviruses, HMPV
- No pediatric deaths
- Some regions reporting flu/ILI activity increases

Contact Us

- Sign up for flu report notifications:

<http://www.dshs.state.tx.us/idcu/disease/influenza/surveillance/2016/>



- DSHS Central Office's Flu Team mailbox:

flutexas@dshs.state.tx.us

Sources

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Questions?