



HOUSTON HEALTH
DEPARTMENT



Office of Surveillance & Public Health Preparedness
Program of Public Health Informatics

Influenza Surveillance Weekly Report
CDC MMWR Week 14: April 03 to 09, 2016

Influenza Activity by County, State, and National Levels

Houston/ Harris County: Week 14	Texas: Week 14	CDC: Week 14
Elevated	Not available	Elevated

Highlights

- The Houston Health Department (HHD) conducts seasonal influenza surveillance from Oct (week 40) 2015 to May (week 22) 2016. In Week 14, flu activity **increased** compared to the previous week and remains elevated. Flu activity has probably peaked but flu activity will likely continue for several weeks. Flu vaccine is recommended for the entire season.

Influenza Like Illness

- The percentage of reported influenza-like illness (ILI) detected from emergency centers in Houston/Harris County **increased** from 2.1% in week 13 to 2.5% in week 14. The proportion of ILI was above the baseline of 1.8%.
- The percentage of Flu Near You users reporting ILI **increased** from 1.8% to 3.6%.
- The percentage of ILI cases among HISD students **increased** from Feb (67) to Mar (123).

Virology

- The percentage of flu test positives from sentinel providers in Houston **decreased** from 54% in week 13 to 0% in week 14.
- In week 14, 2 surveillance specimens were tested by the City of Houston Bureau of Laboratory Services. The following types and number of viruses were detected in these specimens: **Influenza A H3 (0), Influenza A H1N1 (0), Influenza B (0)**.
- Cumulatively this season, the City of Houston Bureau of Laboratory Services has tested 461 surveillance specimens. Of the 107 positive lab results, the A/H3 accounts for 53 (49.5%) of the positives.
- HHD receives electronic lab reports from clinical labs. In week 14 there was a **decrease** in flu positives. Flu A activity accounts for 90% of the flu positives this season. Week 11 had the highest count (76) of flu positives this season.
- HHD received non-electronic lab reports from clinical labs, this season March showed the highest flu activity.

Pediatric Mortality

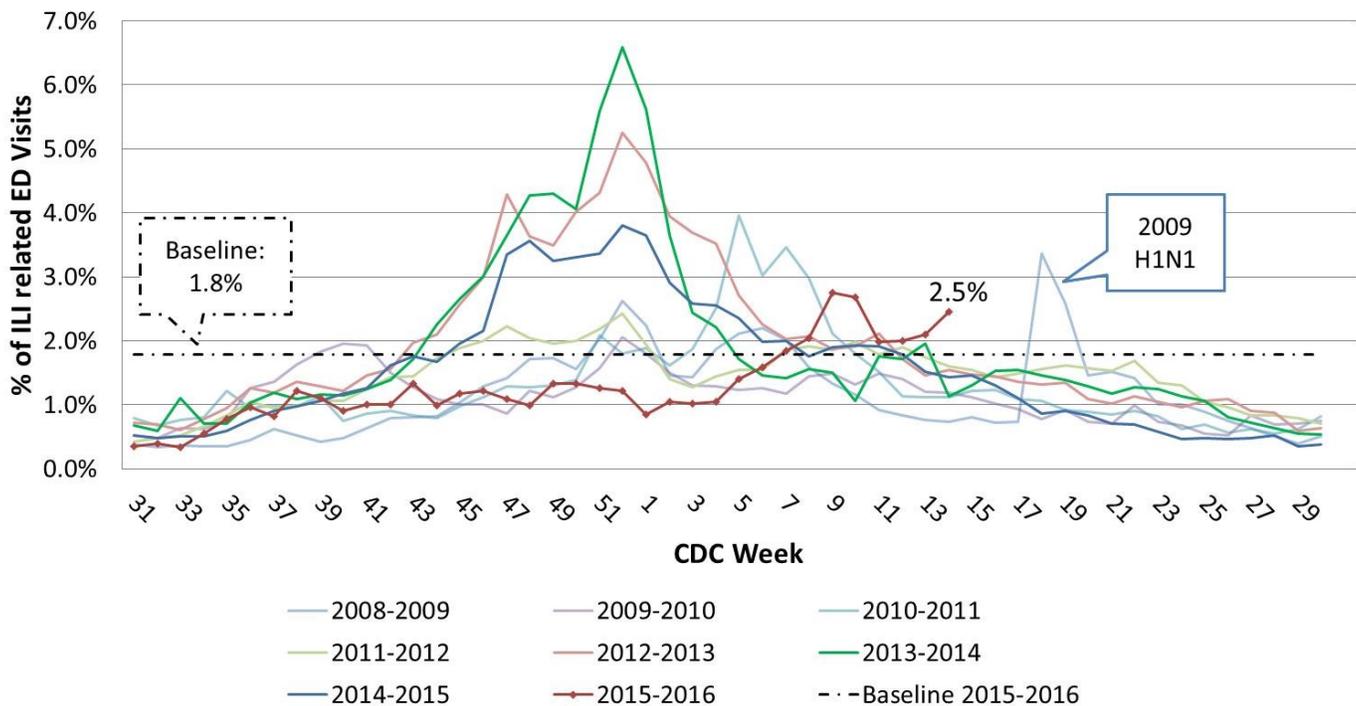
- During the 2015-2016 influenza season, zero (0) Houston influenza-associated pediatric deaths have been reported.

National

- At the national level during week 14, 14% of specimens tested and reported to the CDC by clinical labs were positive for influenza. The proportion of outpatient visits for ILI 2.1% was **at** the national baseline (2.1%) and the proportion of deaths attributed to pneumonia and influenza (7.5%) was **above** the epidemic threshold of 7.1%.

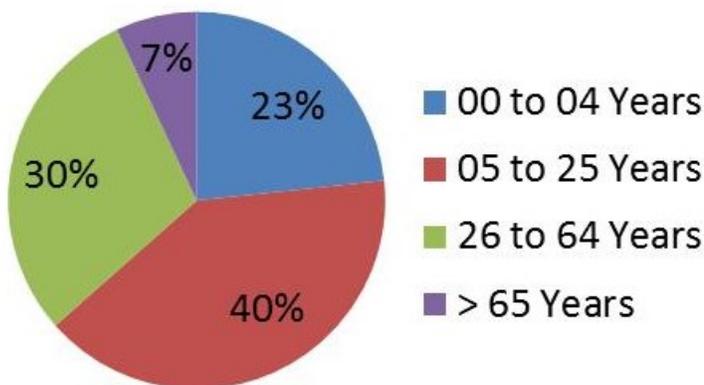
Syndromic Surveillance: 2015-2016 Influenza Season

Comparison of ILI-Related ED Visits in Houston/Harris County

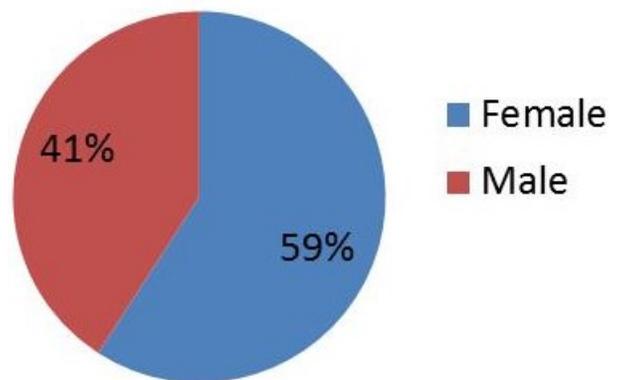


Syndromic Surveillance: 2015-2016 Influenza Season Age and Gender Distribution

Age Group



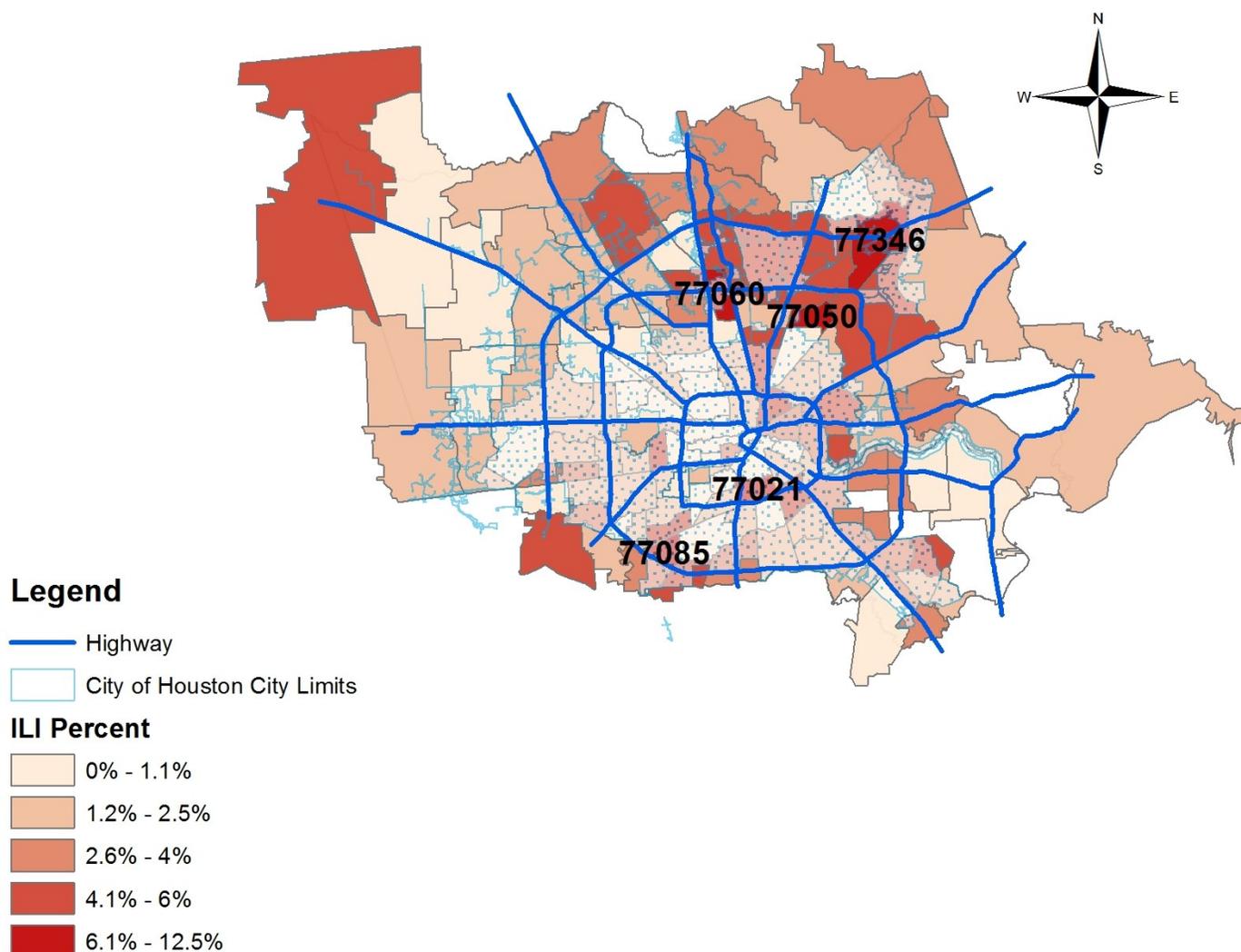
Gender



In Week 14, 2.5% of emergency center (EC) visits were due to influenza-like illness (ILI) complaints. Of the 416 patients presenting with ILI, the age group that recorded the most EC visits was the 05 to 25 year olds (40%). Females accounted for 59% of patients presenting with ILI.

NOTE: Houston/Harris County ILI activity is assessed using information provided by surveillance participants in the Real-time Outbreak Disease Surveillance System (RODS). For week 14, 36 surveillance participants reported ILI information to Houston Health Department. Influenza-like illness (ILI) is defined as the mention of fever AND cough, OR fever AND sore throat, OR flu in the patient's ED chief complaint. These data do not represent laboratory confirmed cases of influenza nor do they represent all ED visits in Houston/Harris County.

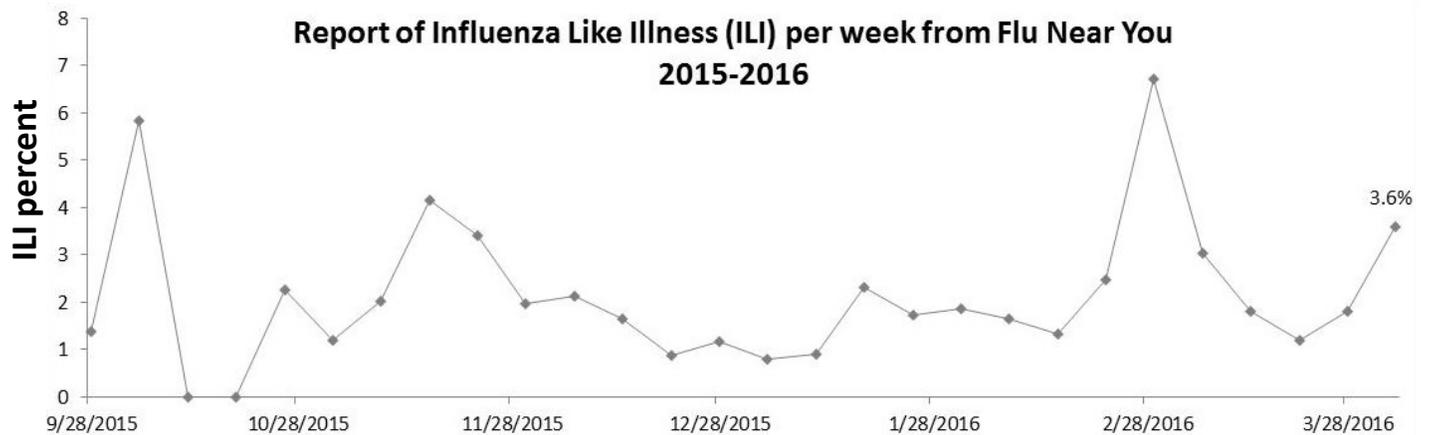
Syndromic Surveillance: Geographic Distribution Map of ILI



During week 14, the ZIP codes that have the greatest percentage of ED visits related to ILI (6.0% or greater) are: 77021, 77050, 77060, 77073, 77085, and 77346

NOTE: Houston/Harris County ILI distribution map was created using data provided by 36 hospitals that voluntarily provide data based on chief complaints in the Real-time Outbreak Disease Surveillance System (RODS). This map reflects the percentage of ILI cases from each zip code from the total amount of cases seen in each zip code during the current week of reporting. Influenza-like illness (ILI) is defined as the mention of fever AND cough, OR fever AND sore throat, OR flu in the patient's ED chief complaint. These data do not represent laboratory confirmed cases of influenza nor do they represent all ED visits in Houston/Harris County.

Flu Near You: ILI per week



Flu Near You (FNY) is a participatory surveillance tool which compliments traditional disease surveillance. The percentage of FNY users reporting ILI increased from 1.8% on 03/28/2016 to 3.6% on 04/04/2016. See the last page for information on how to participate.

School Surveillance

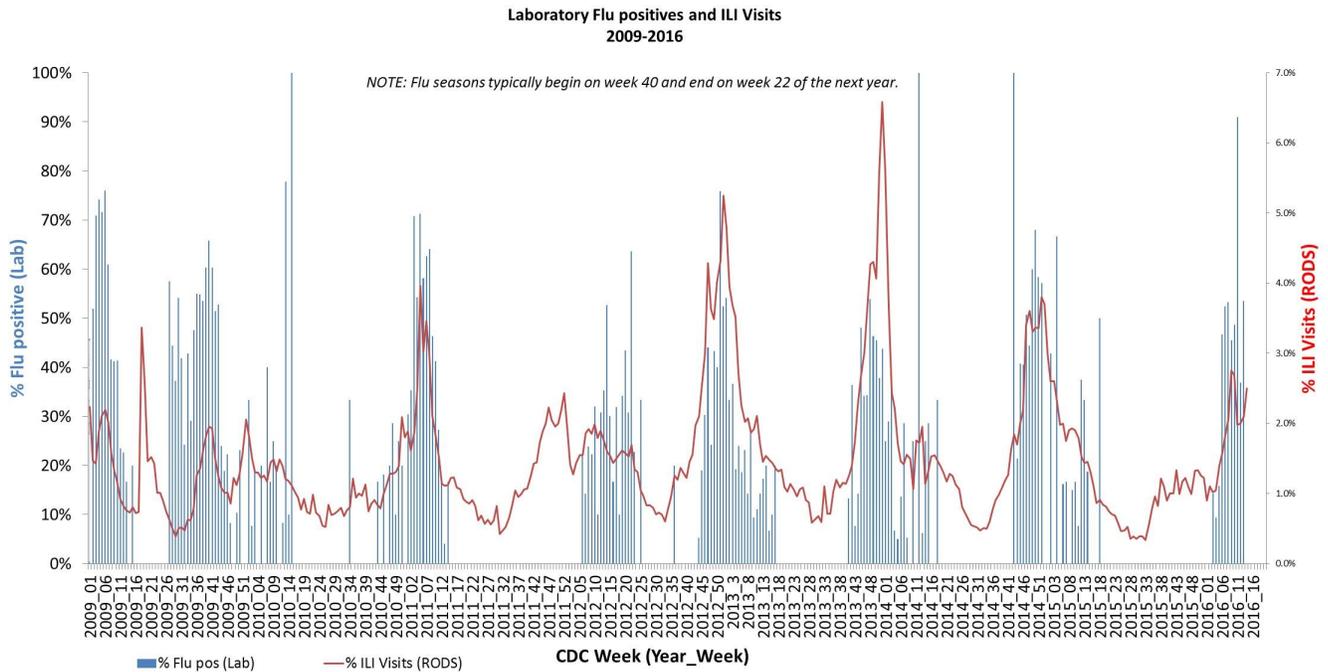
Table 1: ILI and Influenza Cases by Type and School Type¹ per Month

	Total Cases	Lab Confirmed		Flu A	Flu B	A+B	Unclassified	Elem Schools	Middle Schools	High Schools	Multi-Level Schools
		#	%								
Aug	-	-	-	-	-	-	-	-	-	-	-
Sep	03	01	33%	-	-	-	01	01	01	01	00
Oct	04	00	0%	-	-	-	04	03	01	00	00
Nov	04	00	0%	-	-	-	04	02	01	01	00
Dec	04	00	0%	-	-	-	04	03	01	00	00
Jan	05	00	0%	-	-	-	05	04	01	00	00
Feb	67	09	13%	05	00	-	04	52	08	04	03
Mar	123	31	25%	08	01	-	22	104	04	08	07
Apr											
Total											

September was the first full month of 2015-2016 school year. ILI cases in HISD students increased in March (123) compared to February (67). There were 31 laboratory confirmed flu cases seen in March and 8 were confirmed as influenza A.

NOTE: Data on student ILI and influenza cases is collected from 306 schools within Houston Independent School District. ¹School will be counted more than once if more than one case from the same school is reported during the

Laboratory Surveillance: Influenza Rapid Test Results, Houston

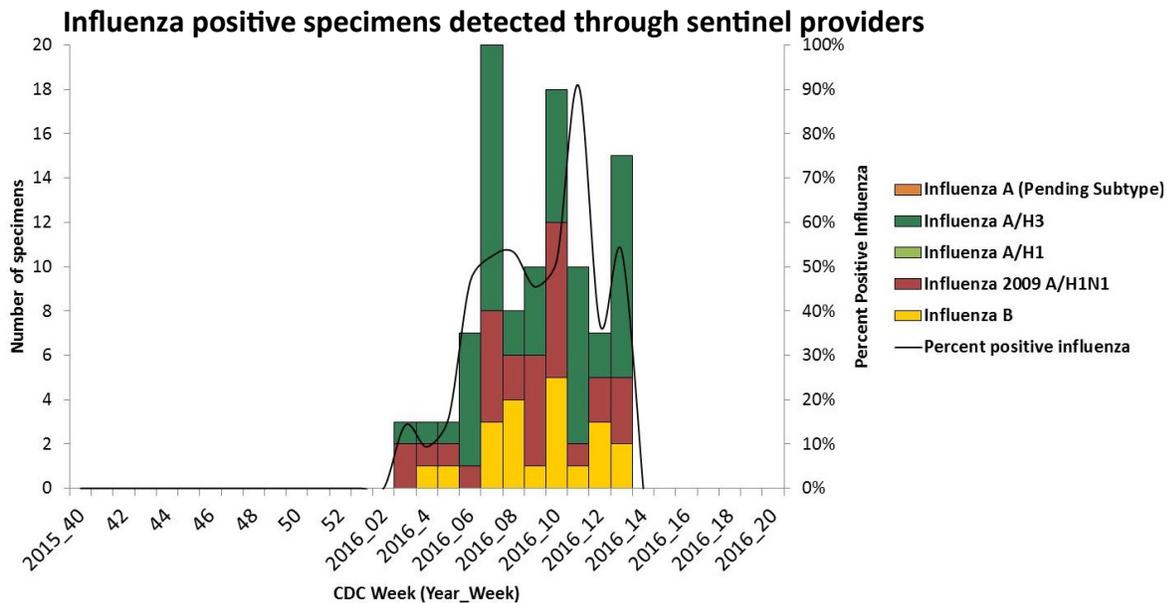


CDC Week Number	12 (Mar 20-26)	13 (Mar 27-Apr 2)	14 (Apr 3-9)
# of Influenza Tests Performed	19	28	2
% Influenza Positive	36.8%	53.6%	0%
# Influenza A Positive	4	13	0
% Influenza A Positive	75.0%	86.7%	0%
# Influenza B Positive	3	2	0
% Influenza B Positive	25.0%	13.3%	0%
# Non-differentiated Positive	0	0	0
% Non-differentiated Positive	0%	0%	0%

Laboratory Based Respiratory Viruses Surveillance: 2014-2015, 2015-2016

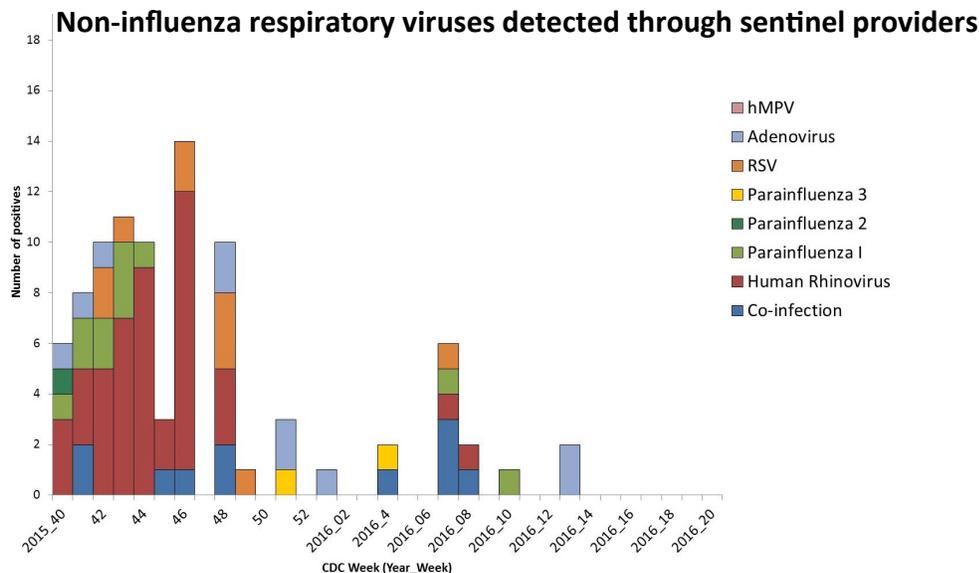
Influenza Viral Surveillance Summary

- During the 2015-2016 flu season the HHD Office of Surveillance and Public Health Preparedness tested 461 specimens from sentinel providers and detected influenza A/H3 (49.5%), Influenza 2009 A/H1N1 (28.0%), Influenza B (19.6%) and Influenza co-infection (1.9%). Among weeks with 5% or greater positive lab results, the average percent of positive influenza labs was 42.7%.
- For MMWR Week 14, zero (0) specimens tested positive for influenza virus. This season Week 11 had the highest percentage of positive influenza lab positives.



Non-influenza respiratory virus surveillance

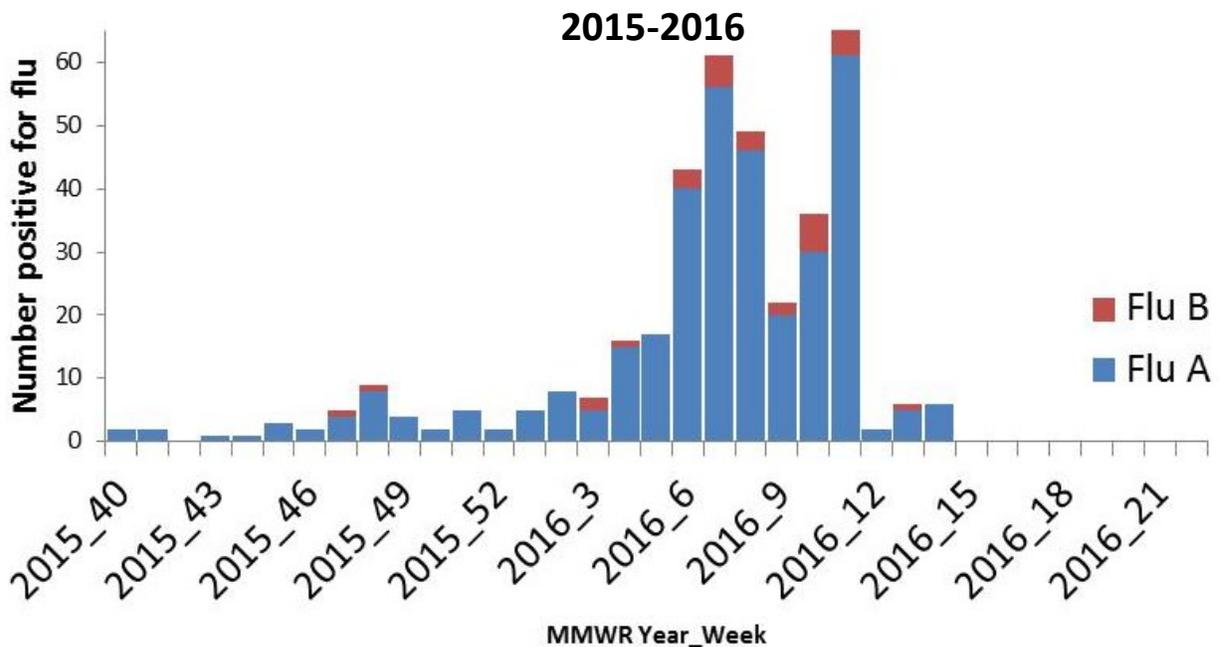
- During the 2015-2016 season, among the specimens tested by culture or respiratory virus panel the following non-influenza respiratory viruses were detected: human rhinovirus (48.4%), respiratory syncytial virus (10.8%), parainfluenza 1 (11.8%), parainfluenza 2 (1.1%), parainfluenza 3 (2.2%), adenovirus (10.8%), human metapneumovirus (3.2%) and co-infection (11.8%).



Passive Viral Surveillance, Electronic lab reports

HHD receives electronic lab reports from clinical laboratories. In week 14, there were 6 additional laboratory confirmed influenza cases from the prior week. Flu A activity accounts for 90% of the flu positives this season. Week 11 had the highest count (76) of flu positives this season.

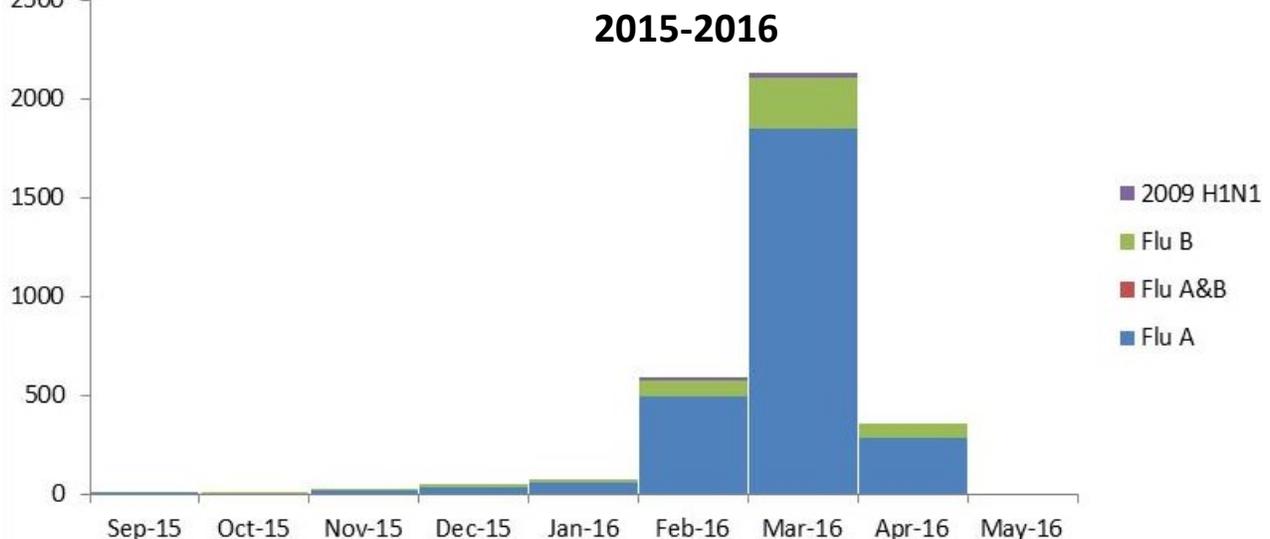
Number of flu positives reported via Electronic Lab Reports per Week,



Passive Viral Surveillance, Non-electronic lab reports

HHD receives non-electronic lab reports of flu positive results from clinical laboratories. In March, flu activity increased compared to February. Flu A accounts for 85% of the flu positives this season. The month with the highest flu activity is March.

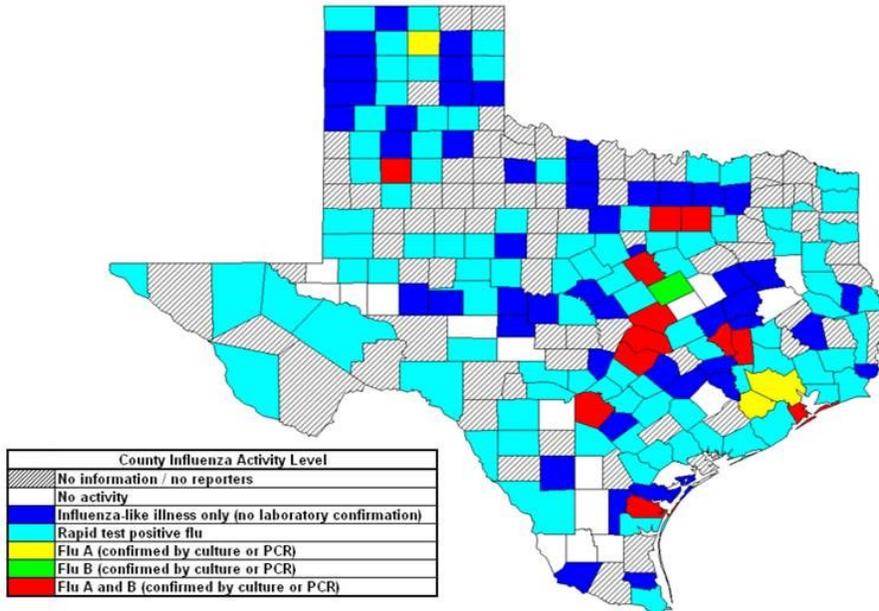
Number of flu positives reported via Non-electronic lab reports per Month,



Texas and National Influenza and ILI Activity

Statewide Influenza Activity Map

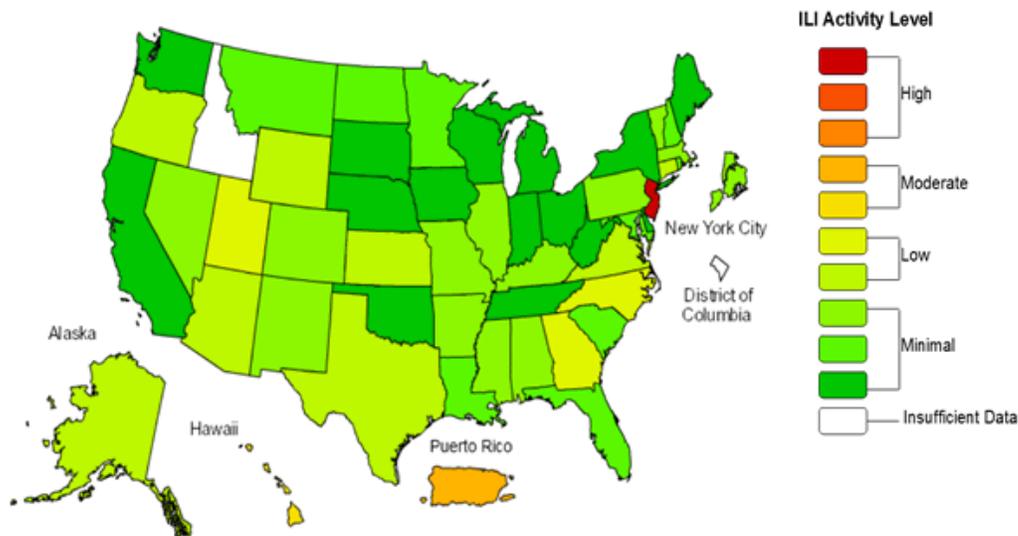
Figure 4: Texas Map Displaying the Highest Level of Influenza or ILI Activity Reported by County for the Week Ending Apr. 09, 2016 (MMWR Week 14)



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.

NOTE: Influenza activity level corresponds to current MMWR week only and does not reflect previous weeks' activity. 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. Positive laboratory results are reported according to specimen collection date or date received in the lab if the former is unknown.
<http://www.dshs.state.tx.us/idcu/disease/influenza/surveillance/2015/>

Influenza-Like Illness (ILI) Activity Level Indicator Determined by Data Reported to ILINet 2015-16 Influenza Season Week 14 ending Apr 09, 2016



NOTE: Data collected in ILINet are used to produce a measure of ILI activity by state. Activity levels are based on the percent of outpatient visits in a state due to ILI and are compared to the average percent of ILI visits that occur during spring and fall weeks with little or no influenza virus circulation. This map uses the proportion of outpatient visits to health care providers for influenza-like illness to measure the ILI activity level within a state. It does not, however, measure the extent of geographic spread of flu within a state. Therefore, outbreaks occurring in a single city could cause the state to display high activity levels. Data collected in ILINet may disproportionately represent certain populations within a state, and therefore, may not accurately depict the full picture of influenza activity for the whole state. <http://www.cdc.gov/flu/weekly/>

The *Houston Influenza Surveillance Weekly Report* is available on the Houston Health Department web site at:

<http://www.houstontx.gov/health/weekly-flu-report>

Flu Near You is a participatory surveillance (crowd sourcing) tool which complements traditional disease surveillance activities. Registered users can obtain real-time information on flu activity and influenza vaccines in the Greater Houston Metropolitan Area. Flu Near You features include:

- Report symptoms
- Find vaccines
- Map flu cases in the Greater Houston Metropolitan area
- Get flu news
- Share on social media

This season HHD invites you to register for Flu Near You at <https://flunearyou.org>



NOTE:

Influenza-like Illness (ILI) is defined as fever (temperature $\geq 100^{\circ}\text{F}$) plus a cough OR a sore throat, in the absence of a known cause other than influenza.

Houston ILI baselines were determined using the same method as the Centers for Disease Control and Prevention Regional ILI baselines. The baseline is developed by calculating the mean percentage ILI of ED visits during non-influenza weeks for the previous three seasons and adding two standard deviations. A non-influenza week is defined as periods of two or more consecutive weeks in which each week accounted for less than 2% of the season's total number of specimens that tested positive for influenza.

Additional information regarding Houston, Texas and national ILI activity can be accessed at:

<http://www.houstontx.gov/health/>

<http://http://www.dshs.state.tx.us/idcu/disease/influenza/surveillance/2015/>

<http://www.cdc.gov/flu/weekly/>

<http://www.who.int/csr/don/en/>

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