

# Influenza Surveillance Systems in Texas 101

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## Outline

- Overview of Influenza Surveillance
- Levels of Influenza Surveillance
- Components of Influenza Surveillance
- Supporting Influenza Surveillance

## Key Terms

- Influenza Like Illness (ILI)
  - Fever  $\geq 100^{\circ}\text{F}$ , plus:
    - Cough and/or
    - Sore throat
  - In the absence of another known cause
- Influenza A
  - May include both seasonal and novel strains
- Influenza B
- Pandemic H1N1
  - Also referred to as Swine flu, Pandemic flu and 2009 H1N1

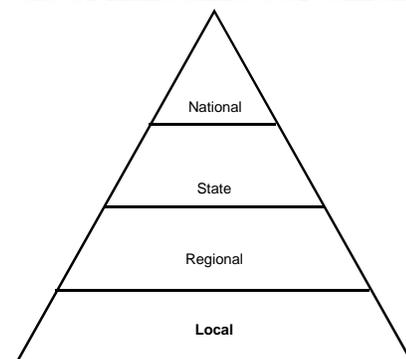
## Influenza Surveillance

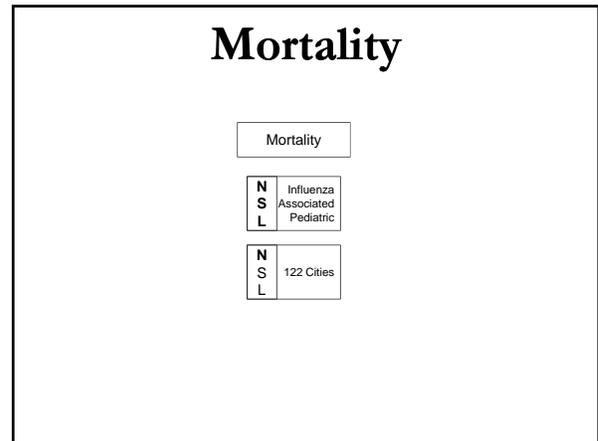
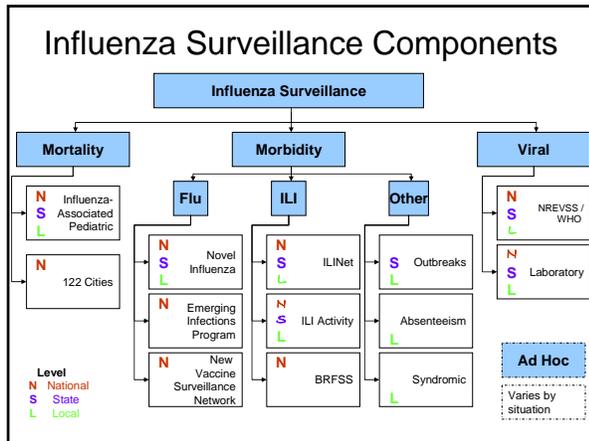
- The Influenza Surveillance System is a multi-component surveillance network with local, regional, state and national activities.
- Data collection is based on a reporting week that starts on Sunday and ends on Saturday of each week.
  - Designated as Week 32 or week ending 9/05
  - aka CDC MMWR week
- Reporting is voluntary except where noted

## Goals of Influenza Surveillance

- Find out when and where influenza activity is occurring,
- Determine what type of influenza viruses are circulating,
- Detect changes in the influenza viruses,
- Track influenza-related illness and
- Measure the impact influenza is having on deaths in the United States.

## Levels of Influenza Surveillance

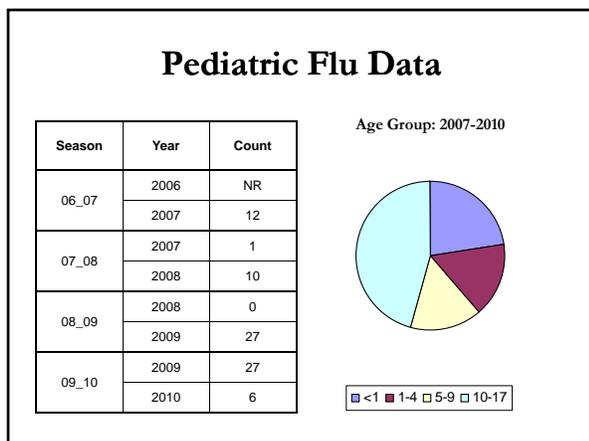




- ### Influenza Pediatric Mortality
- **Activity:** Influenza-Associated Pediatric Mortality
  - **Level:** National (2004); state, regional and local (2007)
  - **Who:** As required by law in Texas
  - **What:** Individual reports on influenza associated deaths in anyone <18 years old
  - **How:** Individual report form faxed to health department within 1 work day
- Year Round Reporting

### Influenza-Associated Pediatric Mortality

Report form available on the DSHS website at <http://www.dshs.state.tx.us/idcu/investigation/forms/PedFlu.pdf>

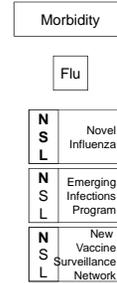


- ### 122 Cities
- **Activity :** 122 Cities Mortality Reporting System
  - **Level:** National
  - **Who:** Vital Statistics offices in 122 US cities (7 cities in Texas)
  - **What:** total number of death certificates received by age group and the number citing influenza and/or pneumonia
  - **How:** Weekly to CDC
- Year Round Reporting

## Other Potential Mechanisms

- Vital Statistics reports directly to health departments / state
- Reports of all influenza associated deaths
- Reports of select influenza associated deaths (pregnancy / post partum)

## Morbidity - Influenza



## Novel Influenza

- **Activity :** Exotic disease reporting
- **Level:** State, regional and local
- **Who:** As required by law in Texas; typically laboratories
- **What:** Individual reports of any outbreak, exotic disease, or unusual group expression (Includes novel strains of influenza)
- **How:** Call to local health department

Year Round Reporting

Special Reporting

## Pandemic H1N1

- **Activity :** Enhanced influenza surveillance
- **Level:** State, regional and local
- **Who:** Hospitals and/or healthcare providers
- **What:**
  - Aggregate Reporting of Confirmed Cases
    - Hospitalized by age group and county
  - Individual Reports of Confirmed Cases
    - ICU
    - Deaths
- **How:** Faxed or emailed weekly to health department

Discontinued at the end of May 2010

Special Reporting

## EIP

- **Activity :** Emerging Infections Program
- **Level:** National
- **Who:** Select hospitals in 12 metropolitan areas in 10 states; no participating sites in Texas
- **What:** lab confirmed influenza in hospitalized people <18 years old
- **How:** Directly to CDC

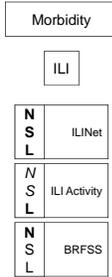
Seasonal Reporting

## NVSN

- **Activity :** New Vaccine Surveillance Network
- **Level:** National
- **Who:** Hospitals in 1 county each in 3 states (OH, TN, NY)
- **What:** lab confirmed influenza hospitalization rates for kids <5
- **How:** Directly to CDC

Seasonal Reporting

# Morbidity - ILI



# ILINet

- **Activity :** US Outpatient Influenza-Like Illness Surveillance Network
- **Level:** National with a state level coordinator
- **Who:** ~ 2,500 providers were enrolled in this network during the 2007-08 influenza season nationwide; 130 were in Texas
- **What:** Aggregate count all patients seen and of ILI patients by age group
- **How:** Reported weekly through the CDC website

Year Round Reporting

# ILINet

Percentage of Visits Due to Influenza-like Illness reported by the US Outpatient Influenza-like Illness Surveillance Network (ILINet) in the Texas State (9/18/2009 11:13:36 AM)

Week	# of Reporters	Age 0-4	Age 5-24	Age 25-64	Age ≥64	Total ILI	Total Patients	% ILI
200930	54	25	41	23	11	100	9861	1.01
200931	57	55	91	83	9	238	17480	1.36
200932	53	54	108	76	9	247	17183	1.44
200933	50	46	107	124	13	290	18628	1.56



# ILI Activity

- **Activity :** Health Department Seasonal Influenza Surveillance
- **Level:** Regional and local
- **Who:** private providers, clinics, hospitals and others
- **What:** Aggregate count of ILI and Flu (rapid tests: Flu A, Flu B and Undifferentiated Flu) by county
- **How:** Faxed or emailed weekly to health department

Seasonal Reporting

# Sample ILI Surveillance Forms

**2009-2010 CLINIC WEEKLY ILI/FLU REPORT**  
Submit by 3:00 each Monday for the week prior (Sunday - Saturday)

ENTER TOTAL NUMBER OF PATIENTS SEEN FOR THE WEEK:

Name (Clinic): \_\_\_\_\_  
Name of Reporter: \_\_\_\_\_  
Phone Number: \_\_\_\_\_ Email of Reporter: \_\_\_\_\_  
Work Setting: \_\_\_\_\_

**Definitions:**

- Flu case confirmed by rapid test, culture, antigen detection, or PCR (Flu A, Flu B, Not Differentiated Flu) and/or
- Influenza-like illness activity (ILI): ILI is defined as fever over 100°F and cough and/or sore throat in the absence of another diagnosis.

Please complete the table listing the number of ILI and FLU cases seen in your facility.

County (Prevalence of patient)	# of patients with influenza Flu A	# of patients with influenza Flu B	# of patients with influenza Not Differentiated	# of patients with ILI (not including BRFSS)

**2009-2010 SCHOOL WEEKLY FLU REPORT**

Name (School): \_\_\_\_\_  
Name of Reporter: \_\_\_\_\_  
Phone Number: \_\_\_\_\_ Email of Reporter: \_\_\_\_\_

**WEEK ENDING:** \_\_\_\_\_

The activity is defined as:

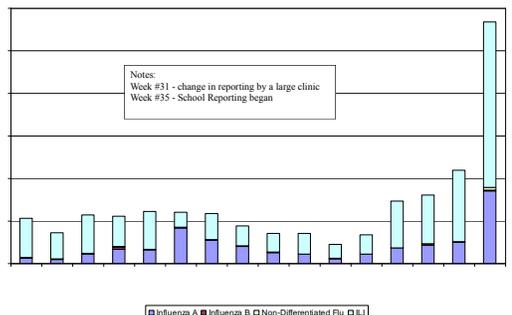
- All confirmed cases: Flu case confirmed by rapid test, culture, antigen detection, or PCR (Flu A, Flu B, Not Differentiated Flu) and/or
- Influenza-like illness activity (ILI): ILI is defined as fever (temperature of 100°F (37.8°C) and a cough and/or a sore throat in the absence of another known diagnosis.

Please complete the table listing the number of flu absences seen by your school. [Click here for a sample report for the school.](#)

County (Prevalence of students)	Absences due to ILI	Absences due to presumed cases of influenza

Please email report by [254.899.4045](mailto:254.899.4045) by 7 am, on Monday, if Monday is a holiday, send ASAP. The report may also be faxed to 254.899.4045 to Sarah's attention. You may call 254.778.4248 with questions or comments. If a single additional case occurs for a previously submitted report, please highlight the change using a red pen.

# ILI Surveillance



## BRFSS

- **Activity :** Behavioral Risk Factor Surveillance System
- **Level:** National
- **Who:** General public
- **What:** Recent ILI
- **How:** ILI assessment questions added to the BRFSS survey. Survey conducted through random digit dialing.

Special Reporting

## Morbidity - Other

Morbidity

Other

N	Schools
S	
L	
N	Outbreaks
S	
L	
N	Syndromic
S	
L	

## School Surveillance

- **Activity :** Varies
- **Level:** Regional and local
- **Who:** School nurses and/or attendance clerks
- **What:** number of students sent home with ILI and/or who called in sick with ILI or in general
- **How:** Faxed or emailed weekly to health department; some electronic systems are available

Seasonal Reporting

## Outbreaks

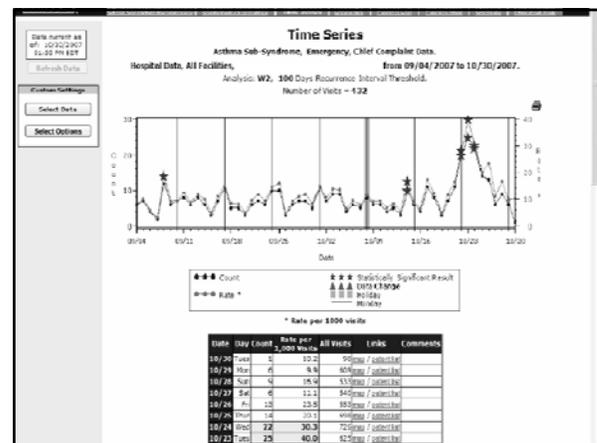
- **Activity :** Outbreak reporting
- **Level:** Local, regional, state
- **Who:** As required by law
- **What:** Report of suspected outbreak or cluster of illness
- **How:** Call to health department ; Surveillance data analysis

Year Round Reporting

## Syndromic Surveillance

- **Activity :** Syndromic programs: ESSENCE, RODS, BioSense etc
- **Level:** Regional and local
- **Who:** Hospitals with emergency rooms
- **What:** emergency room visits categorized by syndrome, age, zip code, date (de-identified)
- **How:** Electronic data automatically sent from hospital to syndromic servers. Frequency of reports may occur hourly, daily or weekly.

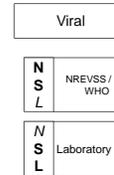
Year Round Reporting



## Other Possible Morbidity Mechanisms

- Absenteeism / ILI surveillance with large businesses
- Absenteeism / ILI surveillance with first responders
- Pharmacy based surveillance
- Nurse call center surveillance
- Poison Control cough/cold medication overdose calls

## Viral Surveillance

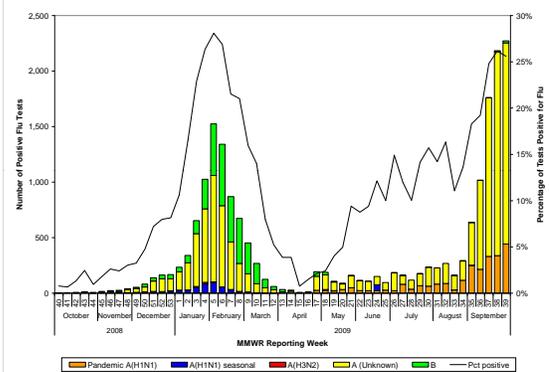


## NREVSS / WHO

- **Activity :** National Respiratory and Enteric Virus Surveillance System and WHO Collaborating Labs
- **Level:** National coordination
- **Who:** Volunteer public health and hospital laboratories
- **What:** Total number of respiratory specimens tested and number of positives
- **How:** Reported weekly to CDC
- **Note:** Tracks multiple respiratory pathogens. Not all labs report all pathogens.

Year Round Reporting

## Texas NREVSS Data 2008-2009 Season



## Laboratory Surveillance

- **Activity :** Influenza Laboratory Surveillance (Culture/PCR)
- **Level:** State, regional, and local coordination
- **Who:** Selected providers
  - Identified by health departments
  - May include ILINet providers
- **What:** Specimens from patients suspected of having influenza
- **How:** Specimens sent to the DSHS lab or LRNs
- **Note:** Subset of submitted specimens sent every two weeks to CDC for further testing

Year Round Reporting

## Reporting

- Email for DSHS flu team
  - [flutexas@dshs.state.tx.us](mailto:flutexas@dshs.state.tx.us)
- Flu reports
  - DSHS flu reports and information:
    - [www.TexasFlu.org](http://www.TexasFlu.org)
    - <http://www.dshs.state.tx.us/idcu/disease/influenza/>
  - CDC FluView: [www.cdc.gov/flu/weekly/](http://www.cdc.gov/flu/weekly/)