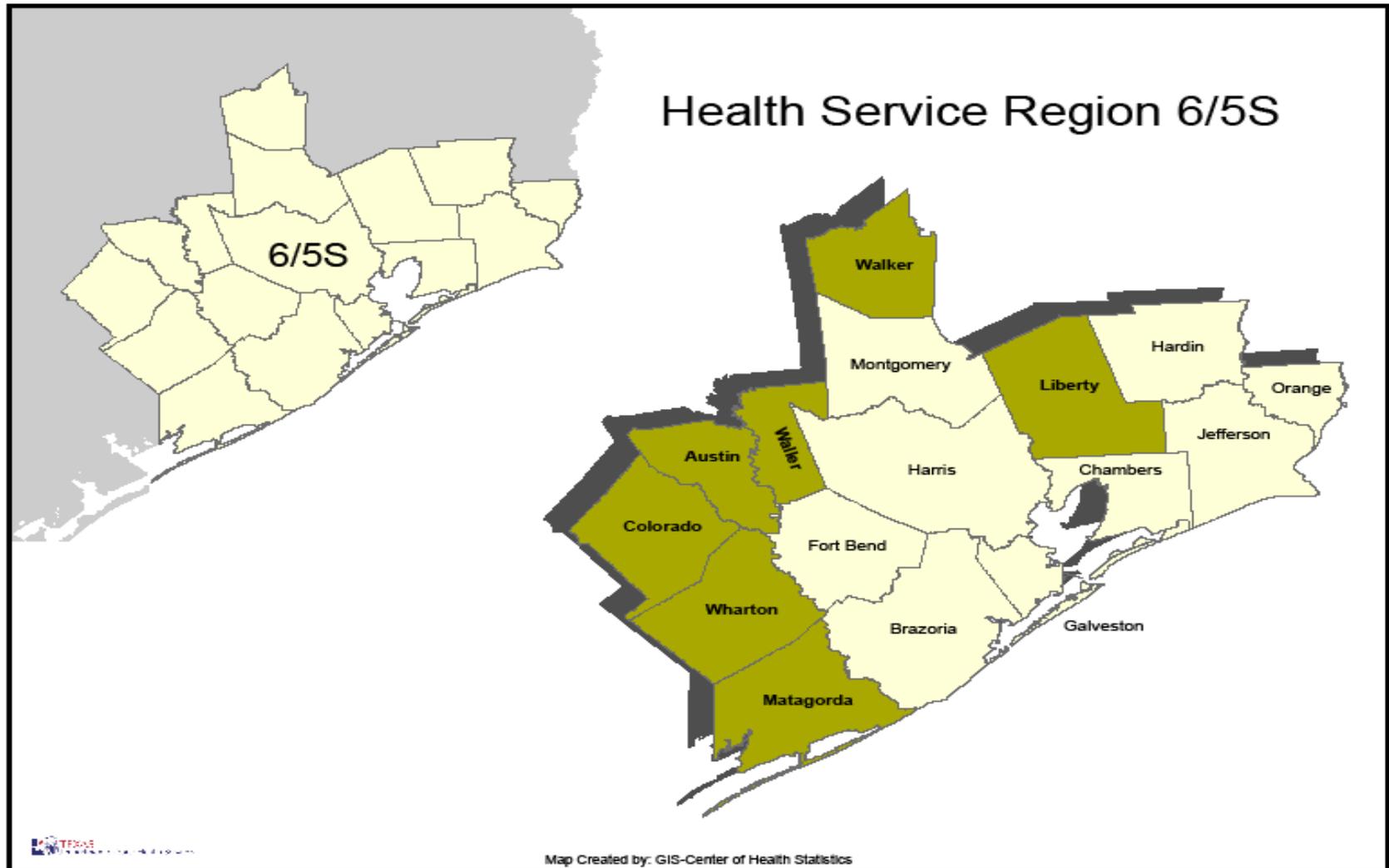


# EVALUATION OF AN ONLINE SCHOOL SURVEILLANCE SYSTEM

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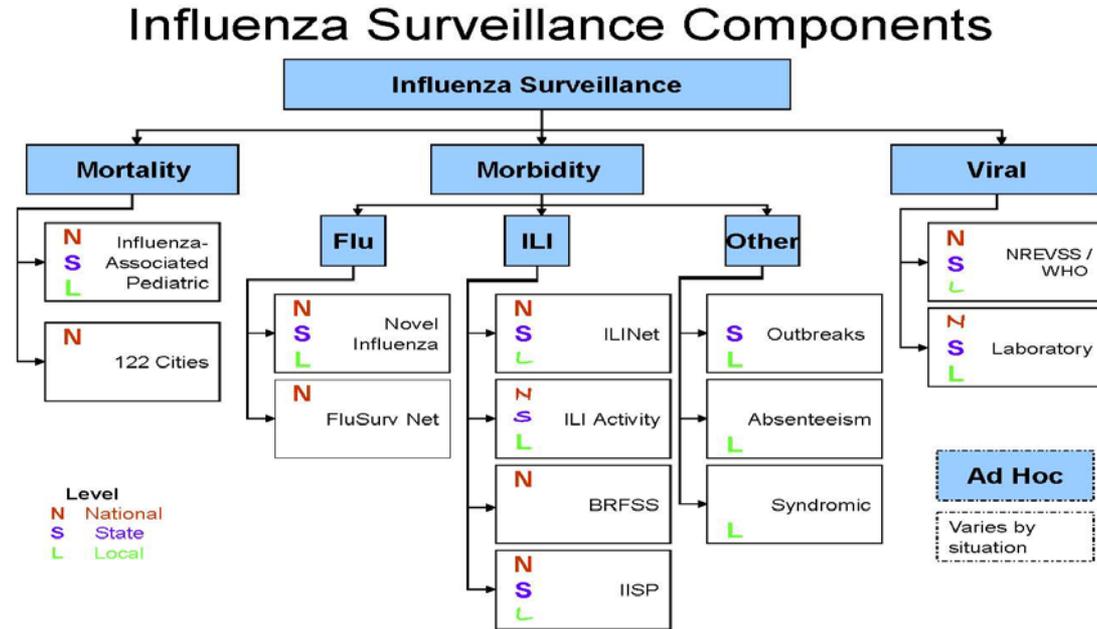
Texas Department of State Health Services, Health Service Region 6/5 South.

# Area of Coverage and Jurisdiction



## Components of Influenza Surveillance

Influenza surveillance in the United States has three major components: mortality, morbidity and viral surveillance. For each of these components, activities may be conducted at the national, state or local level. Texas has regional health departments that perform both state and local level surveillance activities.



The following pages provide a brief description of the most common influenza surveillance activities. For a more detailed description of the activities conducted in Texas, please refer to Section IV of this handbook.

# Background

- The Texas Department of State Health Services Region 6/5 South, established a school surveillance system in 2009 to monitor ILI during the novel H1N1 outbreak
- Reports of ILI activity were received by fax, mail
- No database for storage and analysis difficult

# Background

- Developed an in House EPI-INFO database to store the information over time
  - Labor intensive
  - Time consuming
- Thoughts of putting the questionnaire on line
  - Cost and skilled manpower
- Decided to adapt and adopt a commercial survey system to capture the data online

# Methods

- To visit all schools in all the independent school districts (28 ISD representing ~ 115 schools) to meet them and sell the idea to them
  
- To research how to use the commercial survey to suit our purpose
  - Reading up and practice
  - Asking colleagues who had experience using this survey
  - Emailed some questions to the developer



**TEXAS**  
Department of  
State Health Services

Health Service Region 6/5 South: Schools Surveillance

Exit this survey

## Weekly School Surveillance

### 1. Influenza Like Illness Data

The case definition of influenza like illness (ILI) is a fever of 100oF or greater plus cough and or sore throat in the absence of another disease besides influenza causing these symptoms.

#### 1. Start Date of This Report (This is the Monday of the school week, even if it was a holiday)

Date of report

MM DD YYYY

/  /

#### 2. What is the MMWR Week?

#### 3. Name of School / Campus

#### 4. Name of School District

#### 5. Influenza Like illness (ILI) Data. [If data is not available for a particular question, input 999].

a. How many students were seen/sent home by the Nurse for ILI ?

b. How many students were absent and reported ILI symptoms?

c. How many students were absent for whatever reason (total absentees including ILI)?

d. How many faculty and staff were absent this week due to ILI symptoms?



# Weekly Reminder

- Dear school nurse / district nurse,
- This is a friendly reminder to fill in the weekly School surveillance survey at the link below.
- <https://www.surveymonkey.com/s/WeeklySurveillance>
- **The MMWR for this week survey is 42.**
- **The Report Start date would be 10/15/2012 .**
- **The report should cover activities between 10/15/2012 and 10/19/2012.**
- **The system would allow you to enter data for this week up until 5.00 pm Monday 10/22/2012.**
- *Remember that this weekly report does not replace the timely notification of the occurrence of reportable conditions in your schools when they occur.*
- Let me know if you have questions.
- Thanks

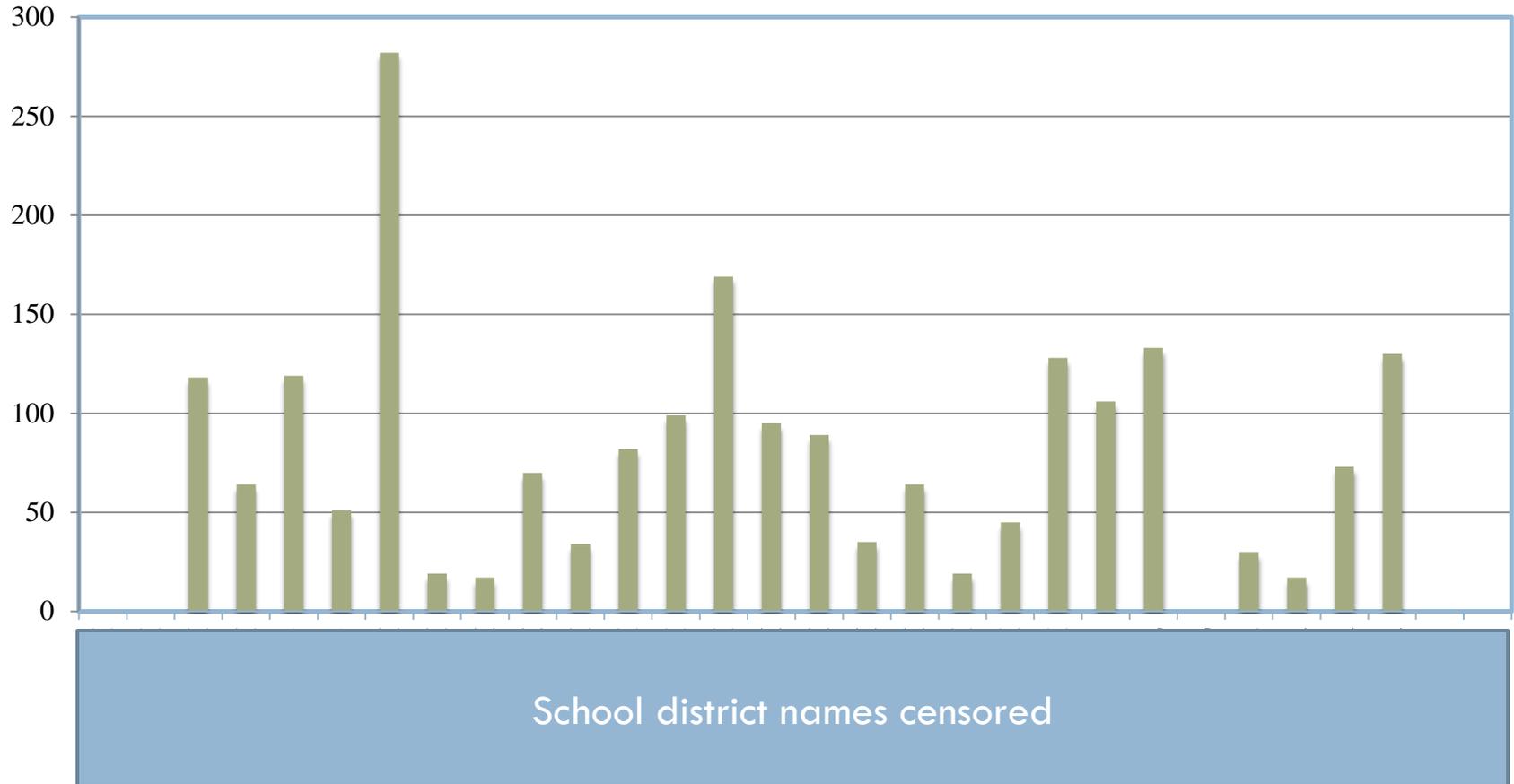
# Results: School visits and Participation

- We made visit to the 26/28 ISD
  - One (1) no appointment
  - One (1) no show
- 25 /28 indicated interest to participate
  - Three (3) ISD said no
  - Few other schools declined
- That leaves us with 99 schools in 25 ISDs to work with

# Results: Reporting

- Coverage was week 36 through 22 (39 weeks)
- Total number of schools reporting per week
  - Range 23 to 77
  - Mean 53
  - Median 55
  - Mode 56
- On the average over 50% of expected schools report weekly

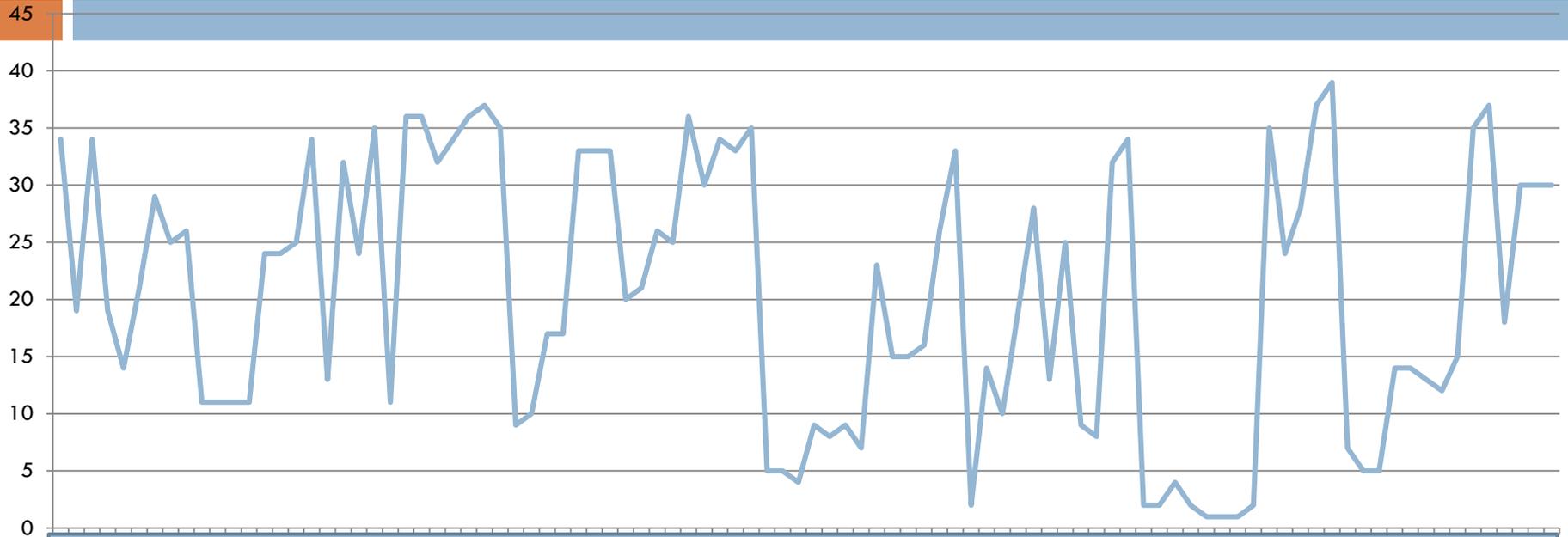
# Consistency of Reporting by School District



# Results: Consistency of weekly participation per school

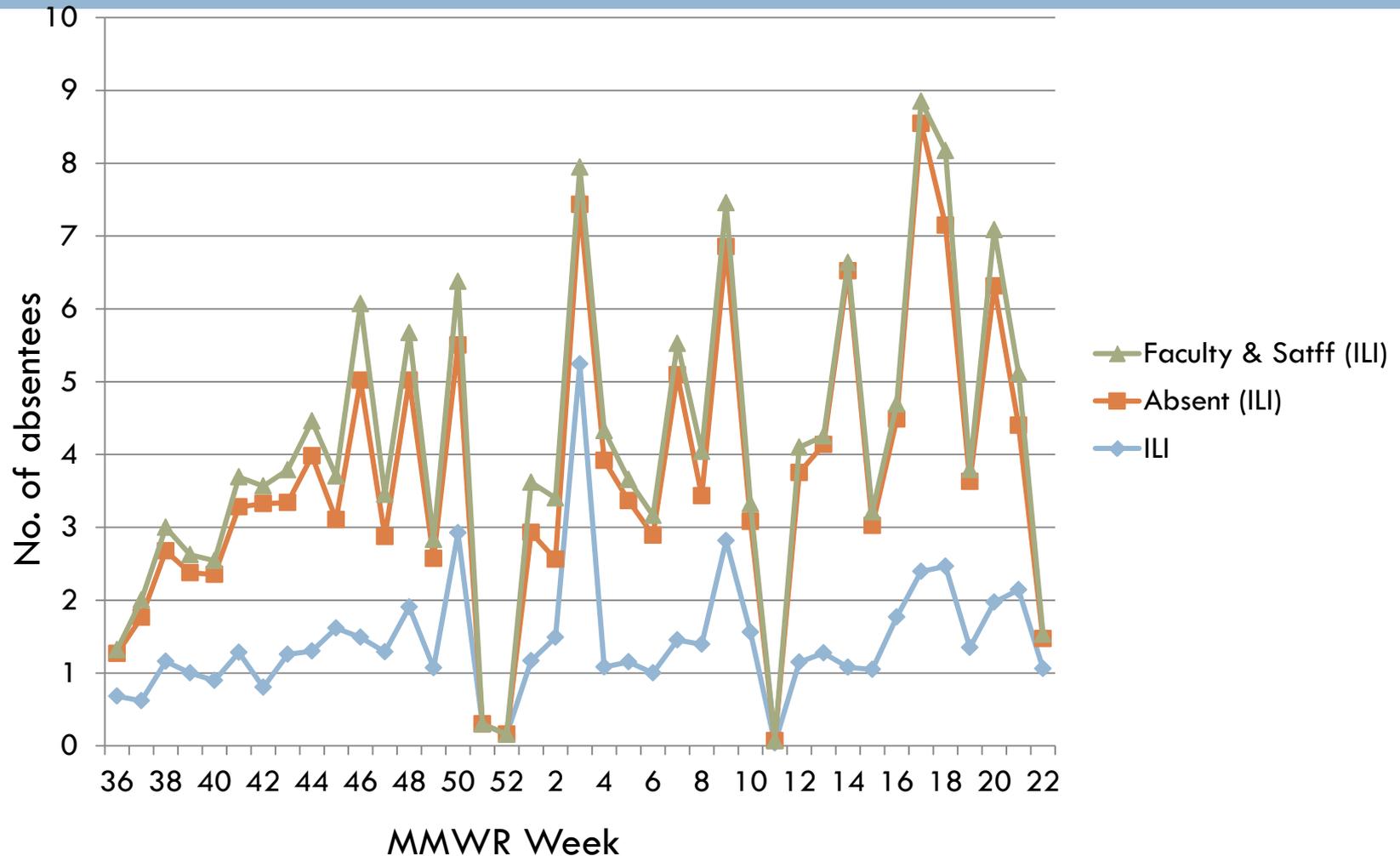
- Number of times a particular school reported
  - Range 1- 39
  - Mean number of reports 21
  - Median number of reports 21
  - The Mode 34
  
- On the average over 50% of participating schools reported at least 21 times out of the expected 39 times

# Number of reports per school

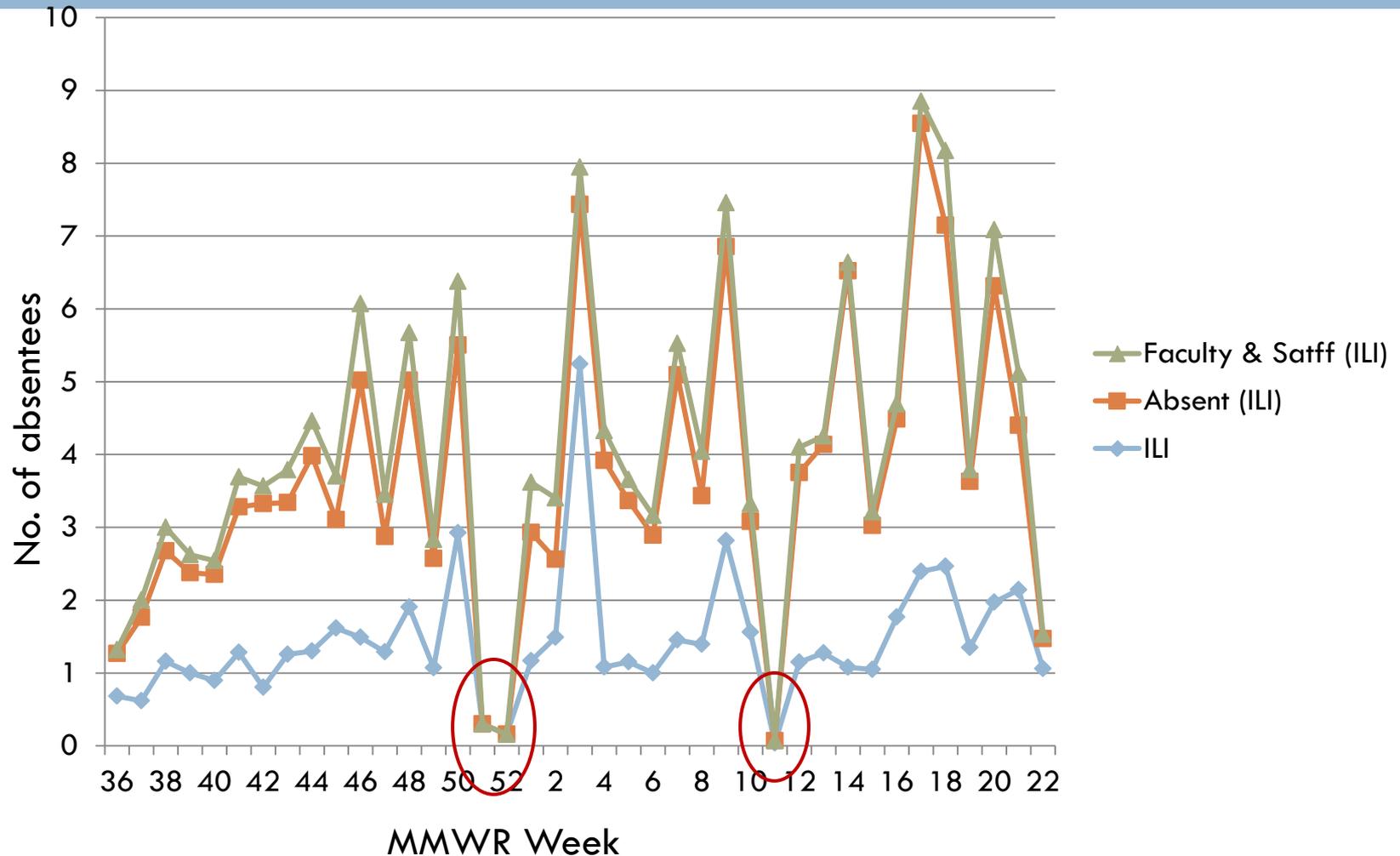


Individual school names censored

# Graph: Trend of ILI indicators per MMWR week

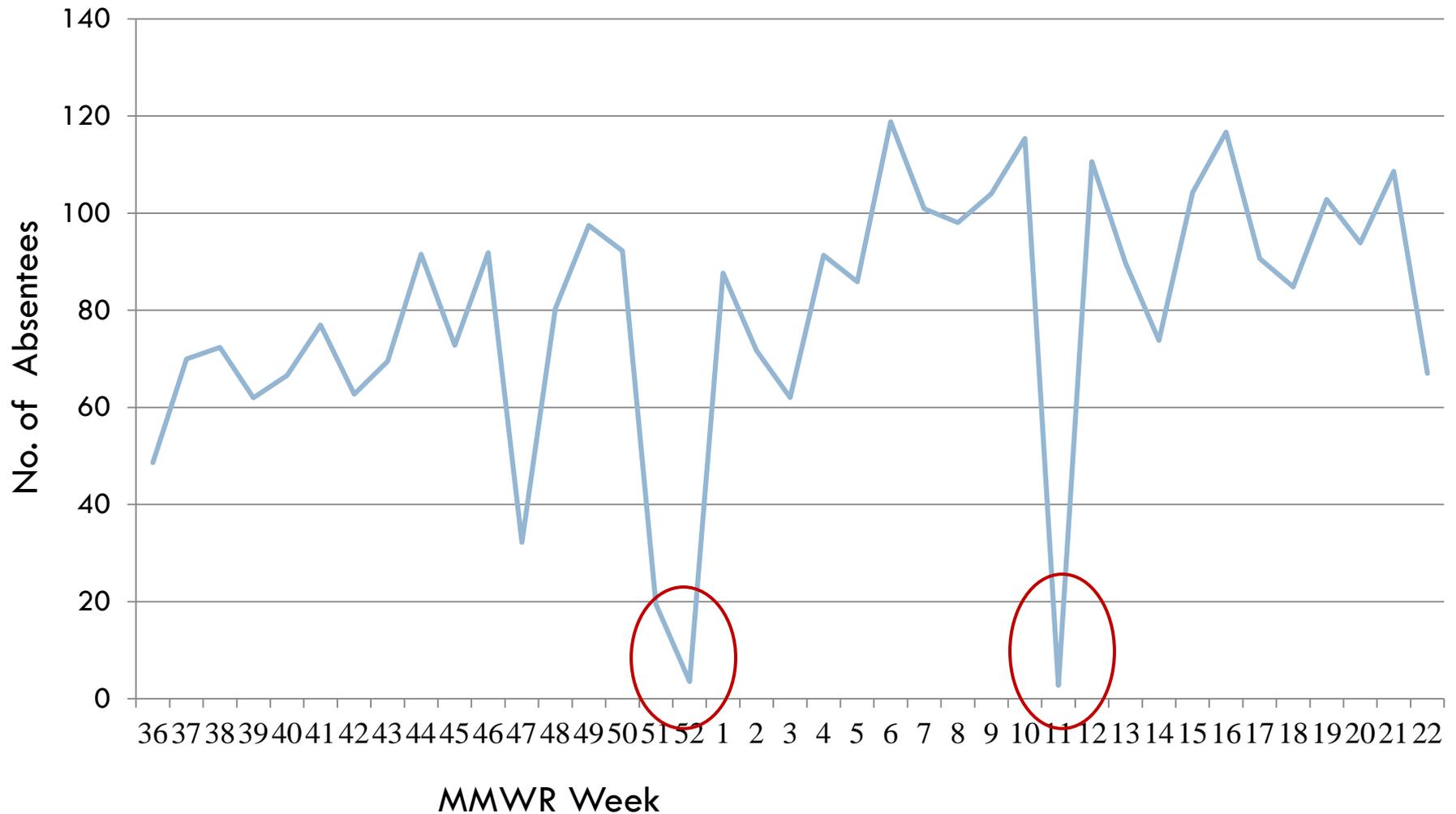


# Graph: Trend of ILI indicators per MMWR week



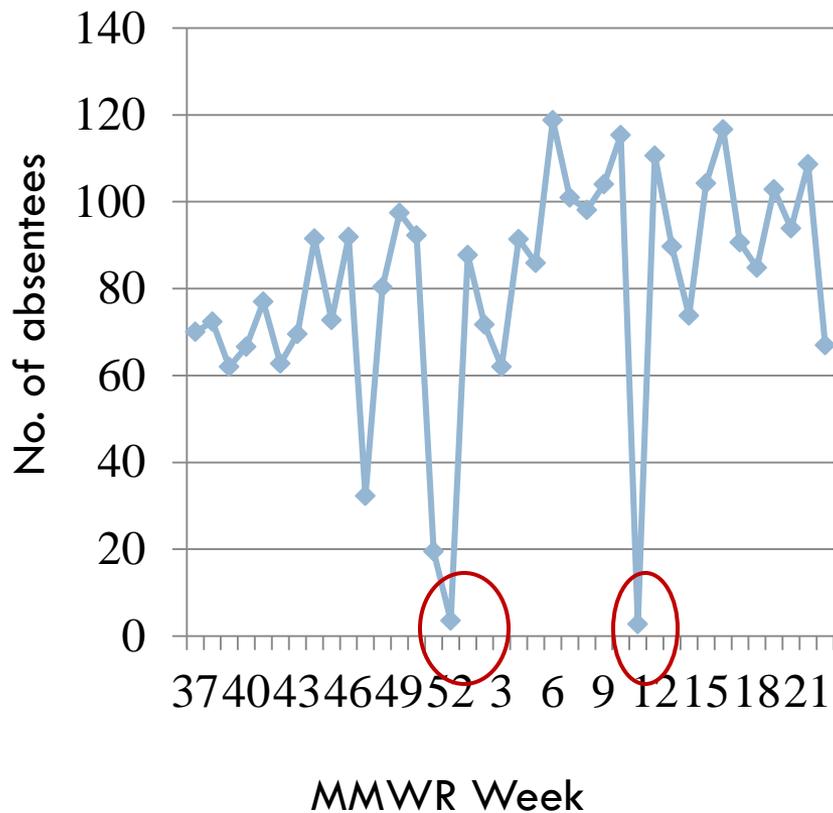
# Graph: Trend of ILI indicators per MMWR week.

(Total absentees for all schools combined)

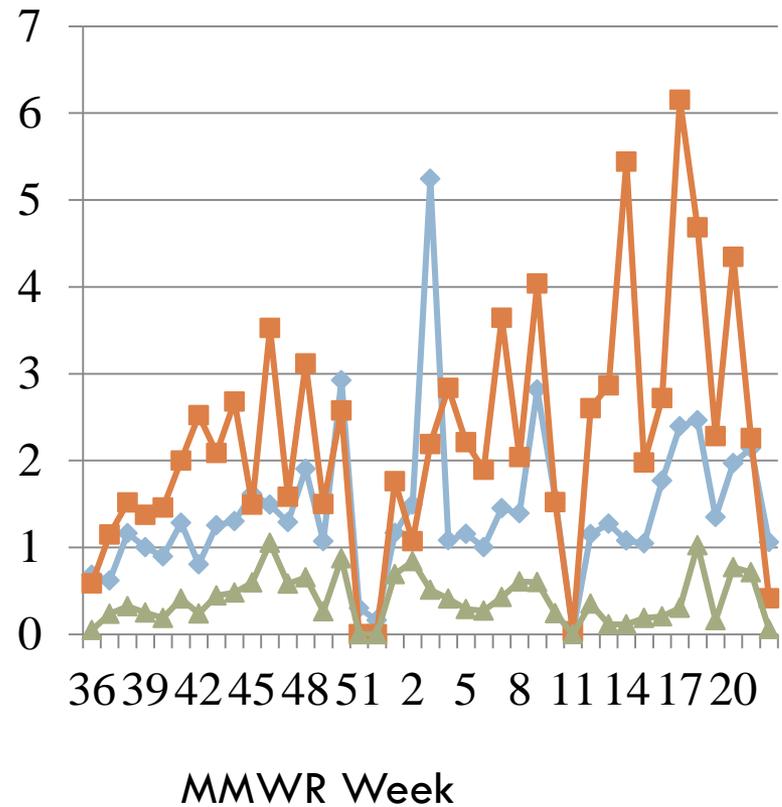


# Graph of ILI indicators / Total Absentees per MMWR week

## Total Absentees



## ILI by Nurse, Absent students ILI, Faculty ILI



# Statistics of ILI Indicators: All reporting Schools Combined

	Range	Mean	Median	Mode
Diagnosed as ILI by School Nurse	0-67	1.41	0	0
Absent and reported ILI	0-136	2.3	0	0
Total Absentees	0-514	83.8	67	0
Faculty and Staff with ILI	0-34	0.42	0	0

# Trends of average ILI indicators among school grades types.

	Diagnosed ILI by School Nurse	Total Absentees	Absent (ILI)
All Elementary Schools	2.15(0)	85.5 (81)	3.82(0)
All Middle Schools	0.66 (0)	63.7 (40)	0.44 (0)
All High Schools	1.15 (0)	104 (66)	1.14 (0)

# Trends of average ILI indicators and absentees among grades in a particular ISD

	Diagnosed ILI by School Nurse	Total Absentees	Absent (ILI)
Elementary School	3 (3) * 740	191 (191)	0
Middle School	0.87 (0) *403	70 (69.5)	0
High School	0.23 (0) *1391	255 (281.5)	0

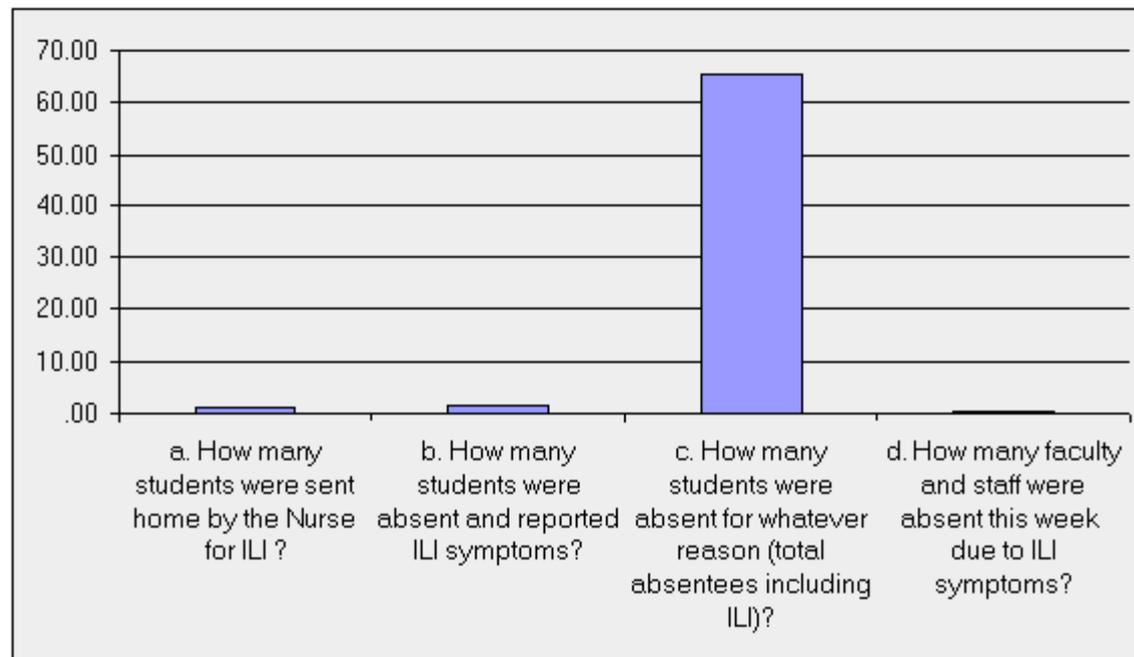
# Trends of average ILI indicators and absentees among grades in a particular ISD per 100000 students

	Diagnosed ILI by School Nurse	Total Absentees	Absent (ILI)
Elementary School	405.4	25810.8	0
Middle School	215	17369.7	0
High School	16.5	18332.1	0

# Quarterly Feedback: Summary of reported Influenza like Illness (ILI) indicators – MMWR 36 – 43, 2011

Indicator	Average / week / school	Average number of persons / week / school
Number of students sent home by the Nurse for ILI	0.96	<1 person
Number of students absent due to ILI	1.62	<2 persons
Total number of absentees	65.57	<66 persons
Number of faculty and staff absent due to ILI	0.27	< 1person

# Quarterly Feedback: Summary of reported Influenza like Illness (ILI) indicators – MMWR 36 – 43, 2011



# Discussion: Strength

- It enables us to monitor ILI and other outbreaks in schools that are distributed over large geographical area and distance, in a way that would have been otherwise difficult
- It enables us to establish baseline normal rates for individual schools and for each school districts.

# Discussion: Strength

- It is cheap requiring just a low annual fee for unlimited surveys
- It requires minimal technical expertise. No IT support needed
- Overall the system is good and able to communicate with our schools and monitor ILI effectively

# Discussion: Limitations and Usefulness

- The number of participating schools or those responding optimally needs to improve. This would increase the coverage and application of data obtained.
- Response rate of over 50% for the resources put in is a lot better than nothing
- It maintains a on going relationship with the school system that we can rely on in case of an event

# Discussion: Challenges

- Influenza reporting and school surveillance is voluntary
  - No form of enforcement
- Limited resources and differential resources
  - One nurses over a district
  - One nurse over just a school
  - One nurse and an assistant over a school
- Change in school nurses without notification

# Discussion: Challenges

- ❑ Entire school district operate as a single campus
- ❑ Unexpected vacation and no assistance to help
- ❑ Computer glitches, down
- ❑ Need more time
- ❑ One found it redundant

# Conclusion

- The system is effective in capturing the data and information it is designed for
  - It is cheap and requires low level technical expertise
- However overall success is determined per individual schools depending on its participation
- The factors limiting participation have been discussed

