


From Prevention to Early Detection and Timely Response
School & Child Health Surveillance




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Presenter

Tabatha Offutt-Powell, MPH
 Doctoral Candidate
 Department of Epidemiology
 School of Public Health
 University of North Texas Health Science Center




Presentation outline

- Surveillance definitions, purposes 
- Tarrant County's approach & data
- System evaluation & conclusions
- Replicability & Guidance Kit




What is surveillance?

Ongoing systematic collection, analysis, and interpretation of health data in the process of describing and monitoring a health event or events


www.cdc.gov/ncphi/diss/ndss/syndromic.htm


Syndromic surveillance

- Uses health data ***preceding diagnosis***
- Facilitates public health response:
 - Signals if case/outbreak is significant
 - Allows ongoing tracking of outbreak
 - Supports collaboration with providers


www.cdc.gov/ncphi/diss/ndss/syndromic.htm


Influenza-Like Illness symptoms

Two key symptoms:

- Temperature >100°
- Cough / sore throat*

Other symptoms:

- Malaise and muscle aches
- Runny nose, chills or headache




 * With no other known cause
 

Why focus on youth?

- Accelerate flu transmission
- Biologically more susceptible
- One of 3 high-risk groups
- Impact rest of household
- Flu-friendly environment



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ILI data's importance

- Aggregated data can mask trends
- Total absenteeism is insufficient
- Reveals reasons for absenteeism
- More precisely characterizes flu
- Provides actionable information



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All-cause "total" absenteeism

- Heterogeneity within this category
- Diminishes "effects" across these collapsed categories through aggregation
- May still provide some indication but ILI may serve as a better indicator of flu because...



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Homogeneity within categories

- Consider ILI as a subcategory of all-cause absences
- Want categories to be homogeneous (similar risks or definitions of reasons for absence)
- May not always be appropriate to use collapsed category (i.e. total absences) to detect trends



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Why school surveillance?

- Absences may precede visits to providers or ED
- Source of data from those who do not seek medical care
 - Mild illness
 - Barriers to access to care



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Child health surveillance

Helps:

- Monitor flu activity across region
- Assess impact of disease on youth
- Detect pandemic/epidemic early
- Slow flu with increased awareness
- PH appropriately allocate resources



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Pilot project objectives



1. Apply biosurveillance to ph practice
2. Respond to surveillance clues
3. Target flu shots, specimen sampling
4. Campus data, not just district data
5. Daily rather than weekly data
6. No vacuum cleaner approach



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Project, technical requirements

- Web-based for easy data sharing
- Role-based security for personalization
- Easy to use CMS and custom modules
- Open source software
- Scalable for expansion
- Jargon-free content



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System elements

- Electronic reporting via Web portal
 - Student absences, flu-related absences
 - Nurse perception of ILI
 - School closure and reasons, when relevant
 - Faculty absences and ILI
 - Comment box and feedback support
- Maps, resources and data for nurses
 - Appropriate for a flu prevention campaign



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Flu prevention resources

- Prompt use of preventive measures
- Identify, post useful content for:
 - School nurses
 - Students and parents
 - Childcare facilities and clients
 - Physicians
 - Media



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Flu prevention resources

From authoritative sources:

- CDC: www.cdc.gov/flu/school/
- Cough Safe: www.coughsafe.com/index.html
- Families Fighting Flu: www.familiesfightingflu.org/
- Say Boo to the Flu: www.sayboototheflu.com/
- Faces of Influenza: www.facesofinfluenza.org/
- Prevent Influenza: www.preventinfluenza.org/

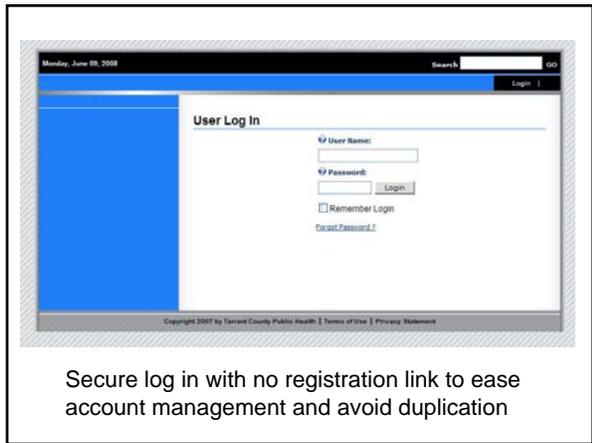
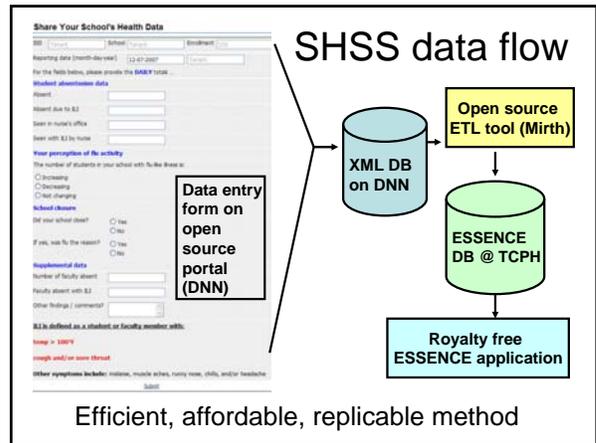


CIDRAP: Promising Practice - Pandemic Flu Preparedness

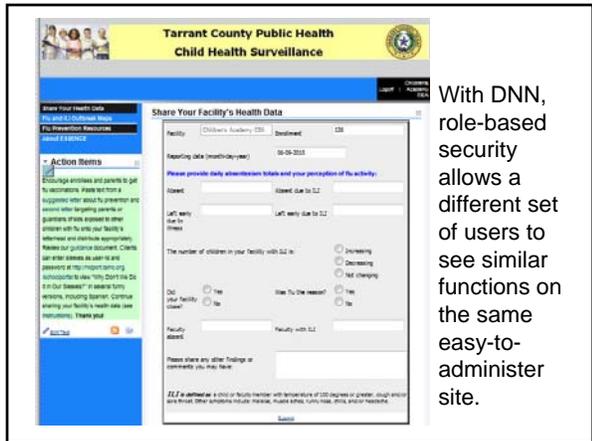
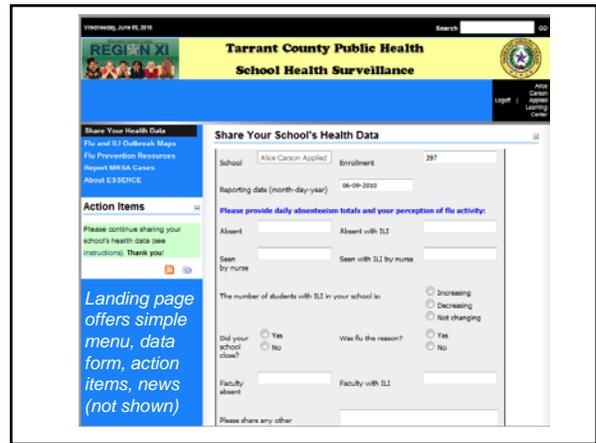
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ESSENCE integration

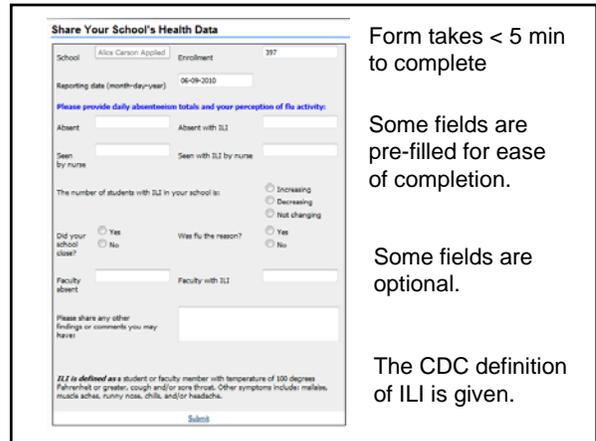
- Used to create ILI maps
- Accepts DotNetNuke (DNN) data
 - But transfer process is homegrown
 - And it only analyzes total absences



Secure log in with no registration link to ease account management and avoid duplication



With DNN, role-based security allows a different set of users to see similar functions on the same easy-to-administer site.



Form takes < 5 min to complete

Some fields are pre-filled for ease of completion.

Some fields are optional.

The CDC definition of ILI is given.

Fort Worth ISD
Share Your School's Health Data
Flu and ILI Outbreak Maps
Flu Prevention Resources
Access ESSENCE
About ESSENCE

Regional Outbreak Maps for Influenza-Like Illness

All Albums > Regional Outbreak Maps for Flu and ILI, 11-6-07

Regional Outbreak Maps for Flu and ILI, 11-6-07

1-DFW_Region_11-6-07 2-Tarrant_County_11-6-07
3-Northeast_Tarrant_County_11-6-07 4-Southeast_Tarrant_County_11-6-07
5-Southwest_Tarrant_County_11-6-07 6-Northwest_Tarrant_County_11-6-07

ESSENCE maps of flu and ILI patterns by region. You can click on each image to see a larger view.

< PREV
2-Tarrant_County_11-6-07
Image 2 of 6

Next / previous = other images.
Close = back to main maps page.

NEXT >
CLOSE X

All resources listed alphabetically:
A Horror Story

Resources in Spanish
For Immediate Use:
Be a Germ Stopper

Tools to Share with Your Teachers
PK-2
Be a Germ Stopper

Grades 3-5
Be a Germ Stopper

Grades 6-8
Cover Your Cough

Grades 9-12
Cover Your Cough

This page provides access to flu prevention resources school nurses can use.

More resources or topics can be added easily.

RSS is supported and applied

Data management

- Daily data extraction w/ weekly analysis*
 - Total schools reporting & students (adjusted for # participating)
 - Total % absent & % absent for ILI
 - Average daily % absent for week
 - Average daily % ILI absent for week

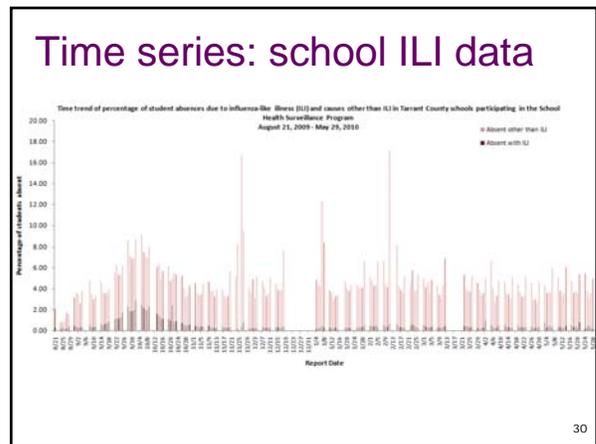
* TCPH's current practice is for weekly analysis, but the system allows more frequent analysis.

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Program participation

Schools					
Date range	05/23-05/29	05/16-05/22			
MMWR	21	20	Cumulative*		
			2009-2010	2008-2009	2007-2008
Total # reports	147	182	11207	4821	4217
Total # of schools	37	45	177	168	159
Total # Districts (% of Tarrant County districts)	7 (43.8)	8 (50.0)	9 (56.3)	10 (62.5)	7 (43.8)
Private	0	0	1	1	1
Charter schools	0	0	2	0	0
*cumulative totals are based on academic school year					
Everman ISD has discontinued reporting					

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Childcare facility strategy

- No prior data from childcare centers
- Discussed feasibility via focus groups
- Results: true partnership needed first
- Action plan developed by TCPH
- Students engaged in implementation
- Collaborating with CampFire USA



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Childcare facility strategy

- Trainings start in July, go all year
- Cover various public health topics
- Fit CampFire's schedule, approach
 - Child Dev. Associate classes (7-8 & 10)
 - Kindergarten readiness program (10)
 - Community training workshop (11)



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Current participation

- Limited but expected to increase
- 100+ user accounts of 550 centers

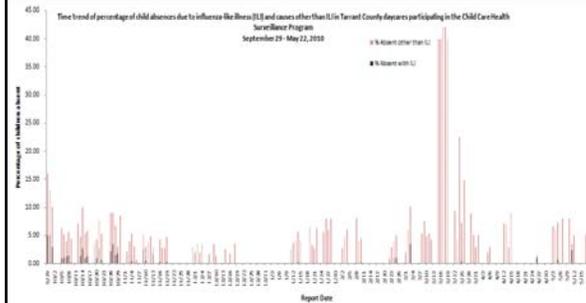
Child Care Centers				
Date range	05/23-05/29	05/16-05/22	Cumulative*	
MMWR	21	20		
			2009-2010	2008-2009
Total # reports	0	6	313	30
Total # of centers	0	3	14	5

*cumulative totals are based on academic school year



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Time series: childcare ILI data



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System evaluation approach

- Followed CDC guidance*
- Applied a logic model
- Used a process outcomes focus
 - Have not focused on impact
- Complied with IRB rules
 - Confidentiality via summary data
 - Security via TCPH best practices



* Updated Guidelines for Evaluating Public Health Surveillance Systems



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Evaluation methodology

- Surveys of system users
- Key informant interviews
- System logs and reports
- Report form data



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Some evaluation findings

- Simple design, minimal data worked
 - Collected in < 30 min., sent in < 5 min.
- Difficulty with “reason for absence”
- Participation steadily growing
 - Now 177 schools, 9 ISD, 11,000+ reports
- TCPH responsive to user inputs
 - MRSA form added w/ mutual benefits



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Summary evaluation findings

- System has been largely successful
- H1N1 pandemic resulted in more use
- Complements other surveillance data
- Continuous enhancements needed
- Child health system more challenging
- Child health feasible with action plan



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Replicability demonstrated

Agencies copying Tarrant – work done:

- Sedgwick County, KS (Wichita area)
- Hamilton County, OH (Cincinnati area)

Agencies copying Tarrant – nearly done:

- Harris County, TX (Houston area)
- Texas Assoc. of Local Health Officials



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Replicability considerations

Variables that influence replicability:



- Agency size
- Experience
- IT resources
- # of schools
- Time constraints
- School relationships
- Jurisdictional issues

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Forthcoming Guidance Kit

- Overview: Turn-key solution for school/child health surveillance
- Partners: APC, Tabatha Powell, Ingen Systems, Texas DSHS
- Significance: Packages all insights and resources in single offering
- Deliverable: CD/DVD and Website



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Forthcoming Guidance Kit

- Evaluation: APC-identified SMEs at sites that have similar systems
 - Taking additional reviewers*
- Delivery: October 1, 2010
- More information: www.texasapc.net

* We also seek agencies we can partner with to implement similar systems for our 2010-2011 grant work. Send suggestions to Dean Lampman: (817) 321-5372 or via e-mail: dflampman@tarrantcounty.com.



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Thank you very much for your participation and attention.

What questions may we answer?



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