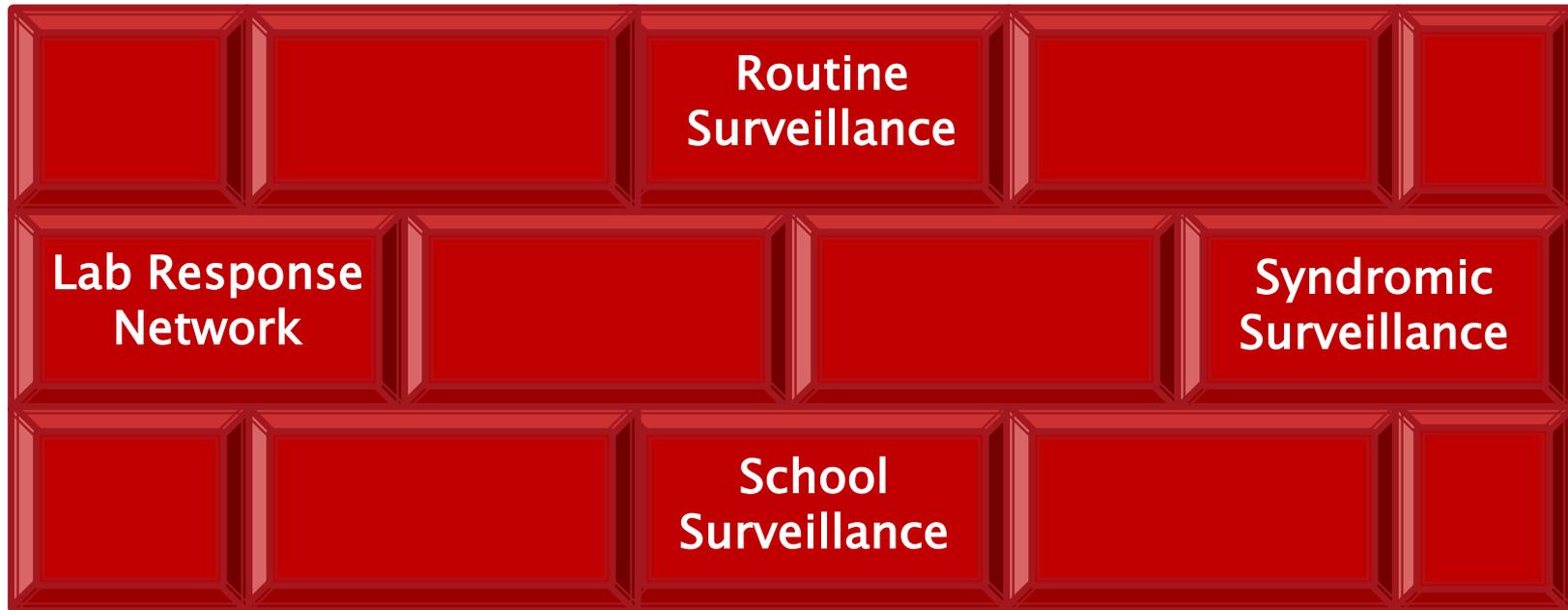


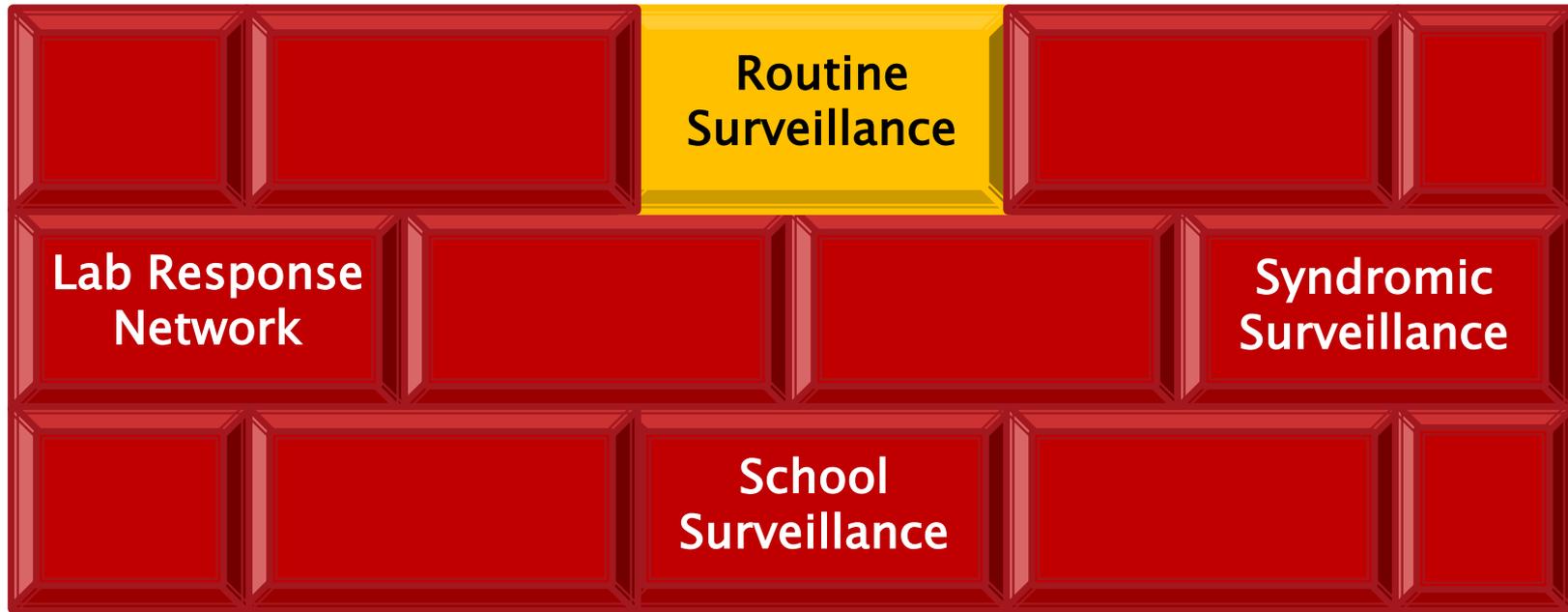
Surveillance Roles in Public Health Preparedness Response: The Local Level

Raouf R. Arafat, MD, MPH
Assistant Director, HDHHS
Director, OSPHP

The Building Blocks of Preparedness Response

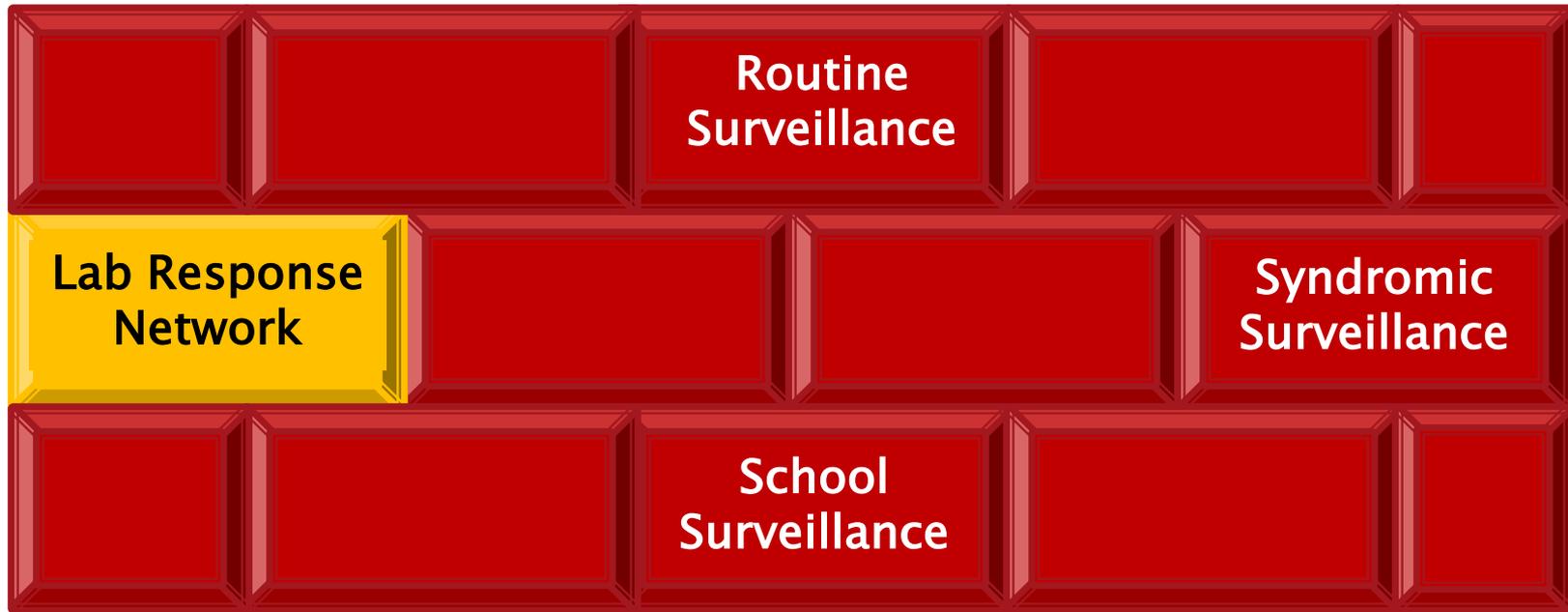


The Building Blocks of Preparedness Response





The Building Blocks of Preparedness Response



Laboratory Response Network (LRN) Mission

– To maintain an integrated national and international network of laboratories that can respond quickly to acts of chemical or biological terrorism, emerging infectious diseases and other public health threats and emergencies.



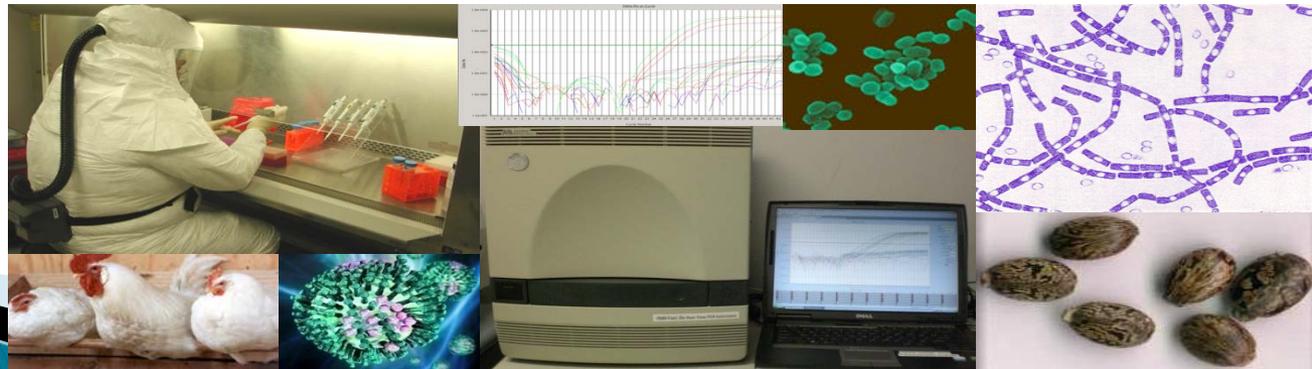
Benefits of Having a Local LRN Member

As a member of the CDC Laboratory Response Network (LRN), HDHHS uses state-of-the-art molecular techniques for rapid detection of agents including:

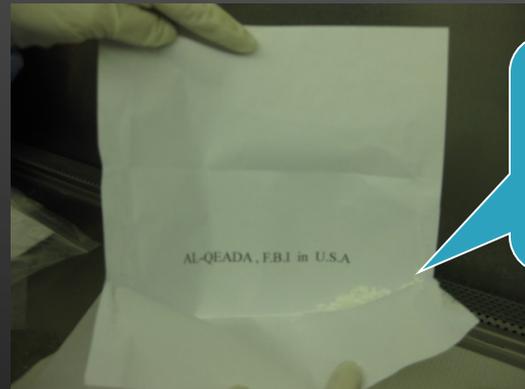
Bacterial Agents: *Bacillus anthracis*, *Brucella* spp., *Burkholderia mallei* & *pseudomallei*, *Francisella tularensis*, *Yersinia pestis*

Toxins: Ricin toxin and Botulinum toxin

Viral Agents: Non-variola orthopoxvirus and orthopoxvirus (environmental samples only)
Influenza viruses.



Laboratory Triage Trailer

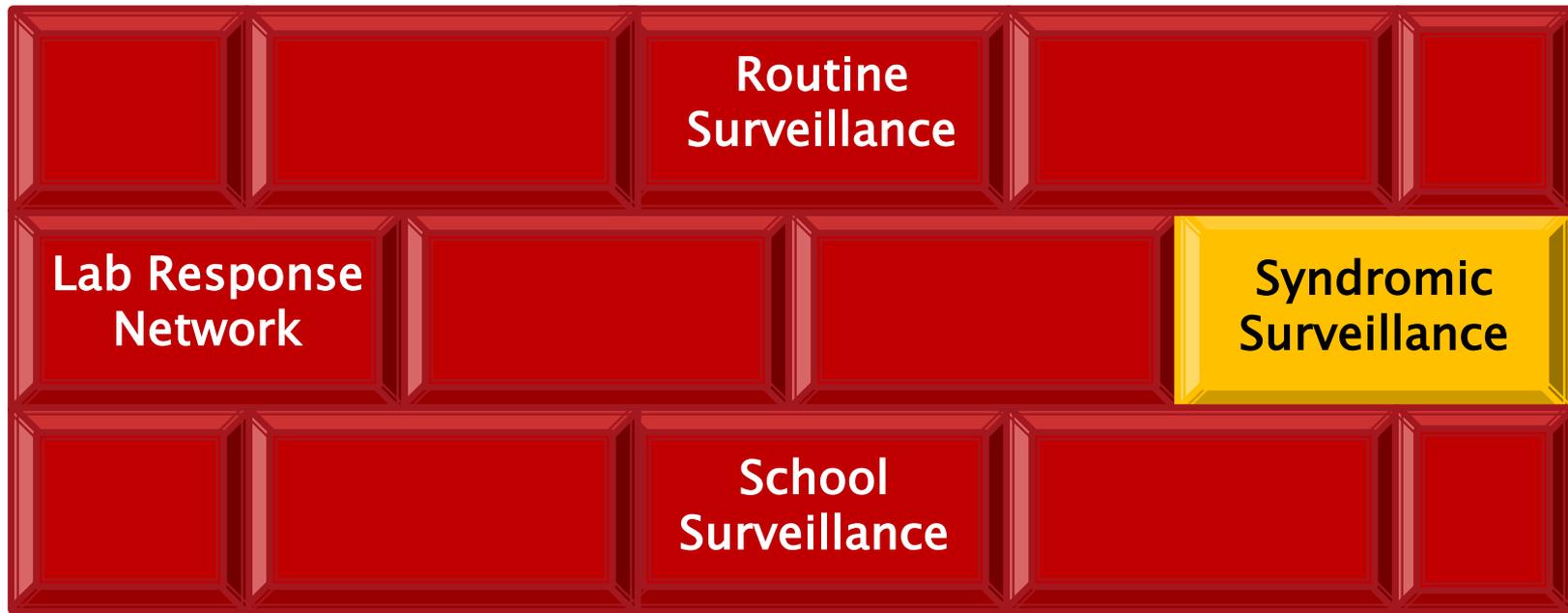


Probably not your grandma's talcum powder



In collaboration with OEM and Hazmat

The Building Blocks of Preparedness Response



Real-time Outbreak and Disease Surveillance (RODS)

- ▶ Visits are classified into one of seven syndrome categories:
 - Gastrointestinal
 - Hemorrhagic
 - Constitutional
 - Botulinic
 - Respiratory
 - Neurological
 - Rash
- ▶ Syndromes are monitored for unusual occurrences that may indicate outbreaks or other public health emergencies

RODS Views

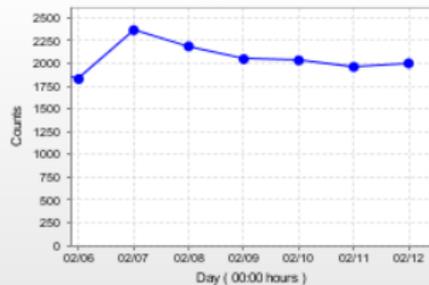


Houston Real-time Outbreak and Disease Surveillance
Copyright 2012 University of Pittsburgh

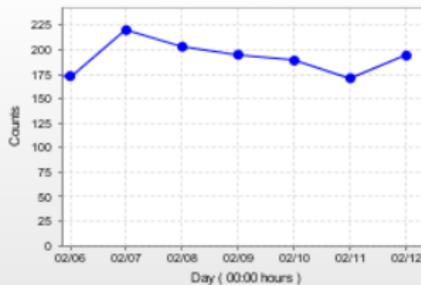
kshort/Logof

Main Epiplot Mapplot Alerts (11) Tools Options Help Contact

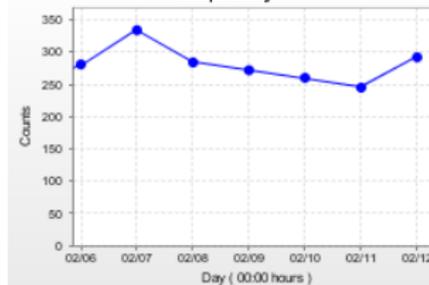
Emergency Department Visits- Harris, TX
All



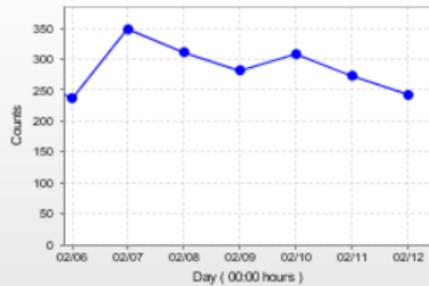
Emergency Department Visits- Harris, TX
Constitutional



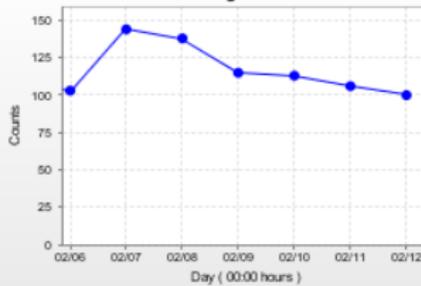
Emergency Department Visits- Harris, TX
Respiratory



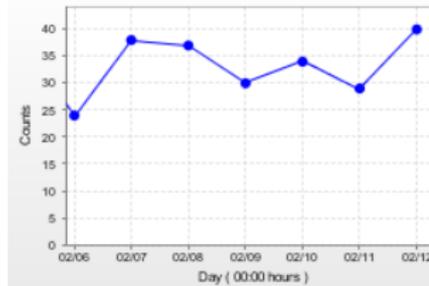
Emergency Department Visits- Harris, TX
Gastrointestinal



Emergency Department Visits- Harris, TX
Neurological



Emergency Department Visits- Harris, TX
Rash



Data Type **Emergency Department Visits**

Auto Switch

Jurisdiction **TX**

County **Harris**

Aggregate By **Home Location**

Normalize

Set as Default

Uses of RODS

- ▶ Early Event Detection
 - Monitor emergency department activity
 - Alert is generated once threshold is exceeded
 - Possibility of identifying outbreaks
- ▶ Situational Awareness / Biosurveillance

Early Event Detection

Registered	Age	Gender	Zipcode	Hospital	Visit No.	Chief Complaint	Syndrome	
01/30/2012 12:38:00	73	M	77099	[REDACTED]	1203000607^^^C	FEVER HIGH BP	Constitutional	
01/30/2012 11:46:00	1	M	77099		0968EAC45101640C992E	Fever; Bacteria in Blood	Constitutional	
01/30/2012 08:36:00	3	M	77099			FEVER X 3 DAYS	Constitutional	
01/29/2012 20:40:00	24	F	77099			DIZZINESS	Constitutional	
01/29/2012 20:15:00	26	F	77099			FEVER	Constitutional	
01/29/2012 19:20:00	27	F	77099			FEVER	Constitutional	
01/29/2012 18:38:00	1	M	77099		1202900374^^^C	FEVER	Constitutional	
01/29/2012 18:35:00	2	F	77099		1202900370^^^C	FEVER	Constitutional	
01/29/2012 17:40:00	95	F	77099			NOT EATING TODAY	Constitutional	
01/29/2012 16:53:00	1	M	77099			FEVER	Constitutional	
01/29/2012 15:38:00	53	F	77099			WEAKNESS	Constitutional	
01/29/2012 14:40:00	14	F	77099			0296883712029	FEVER/CHILLS /THROAT PAIN	Constitutional
01/29/2012 13:38:00	5	M	77099			0968EAC4510B4FA12DF2	FEVER/ HX ALL	Constitutional

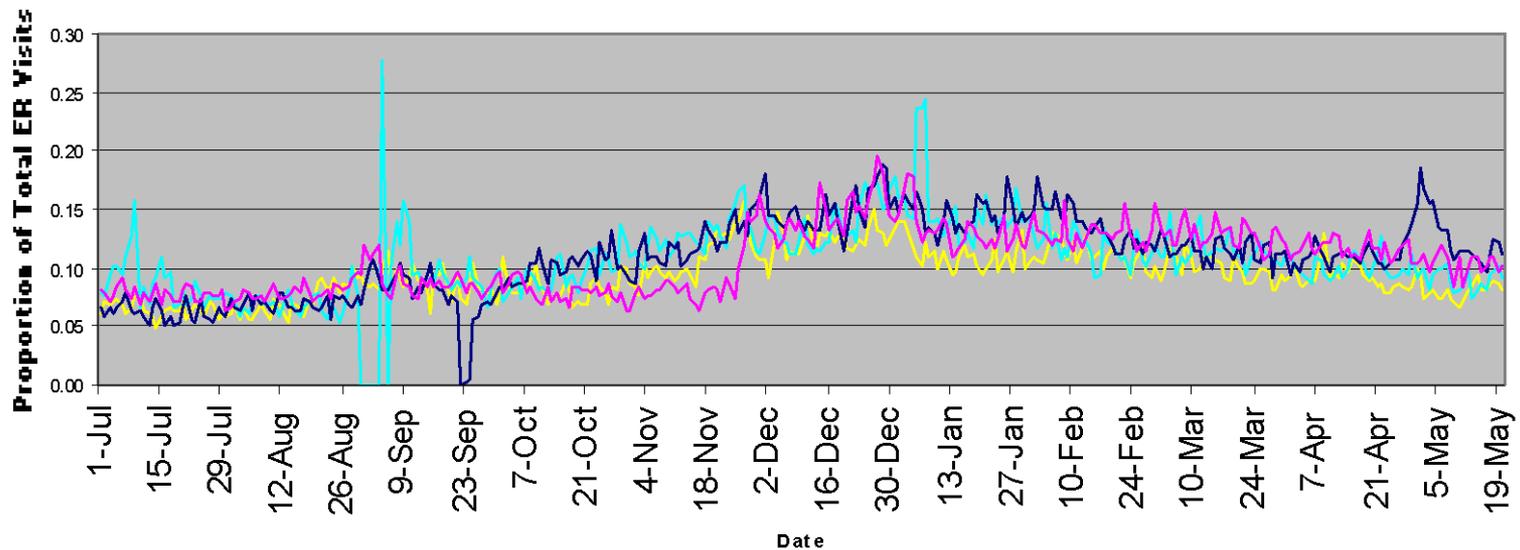
Constitutional Alert in 77099

Uses of RODS

- ▶ Early Event Detection
- ▶ Situational Awareness / Biosurveillance
 - Heat-related illness
 - Influenza-like illness (ILI)
 - Natural disasters

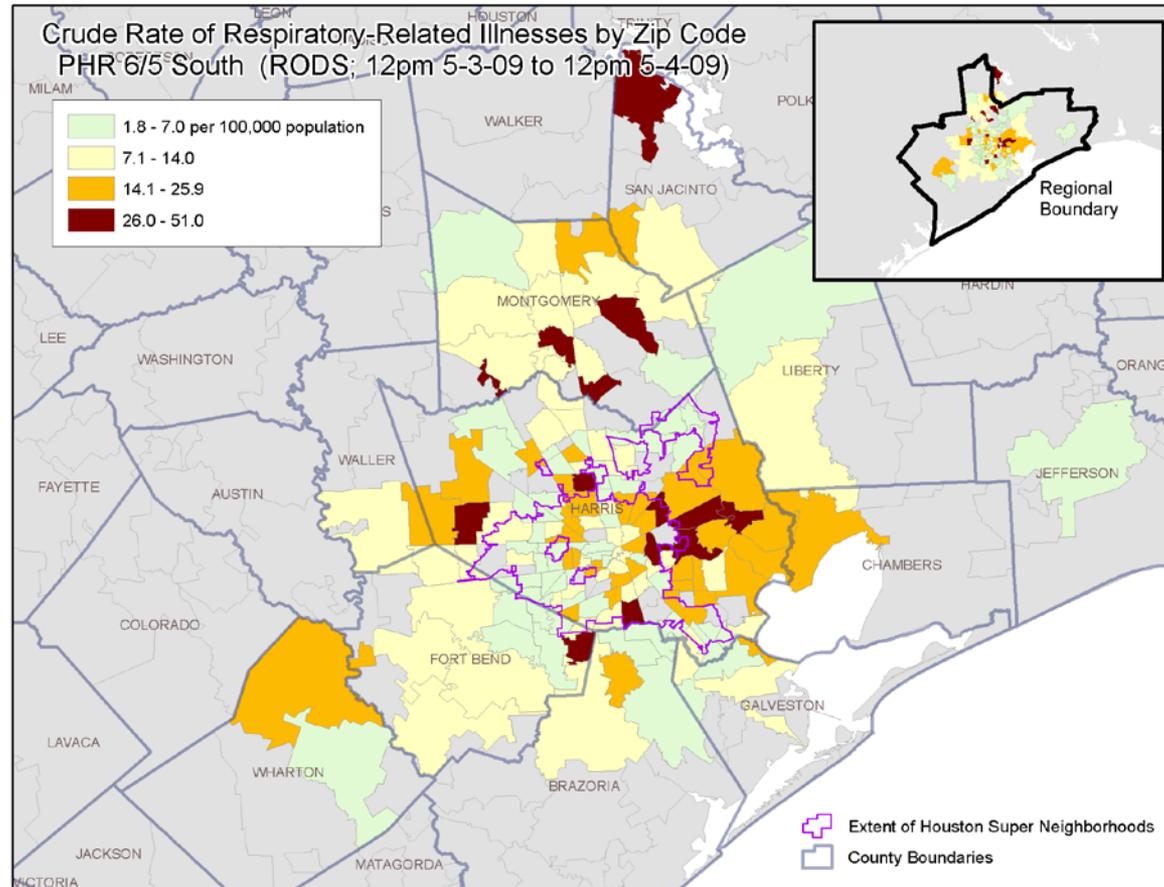
Monitoring Influenza-like Illness

Respiratory-Related ER Visits

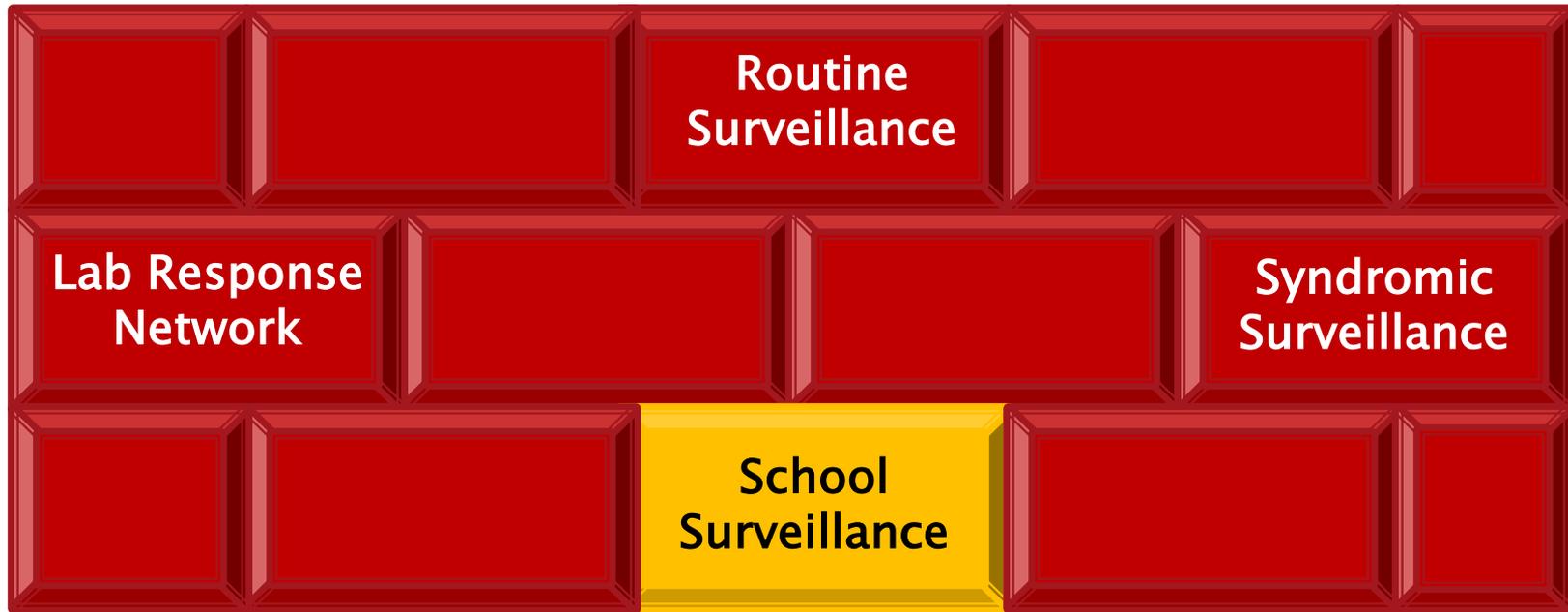


— 2006-2007 flu season — 2007-2008 flu season
— 2008-2009 flu season — 2009-2010 flu season

Monitoring Influenza-like Illness



The Building Blocks of Preparedness Response



HISD Shuts Down Third School

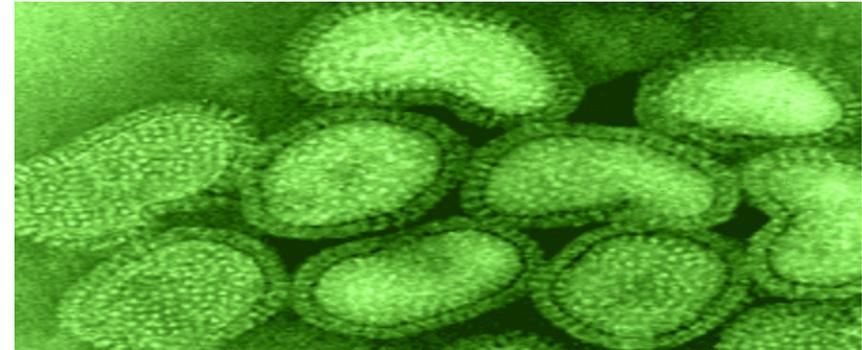
POSTED: Thursday, April 30, 2009
UPDATED: 6:44 pm CDT April 30, 2009



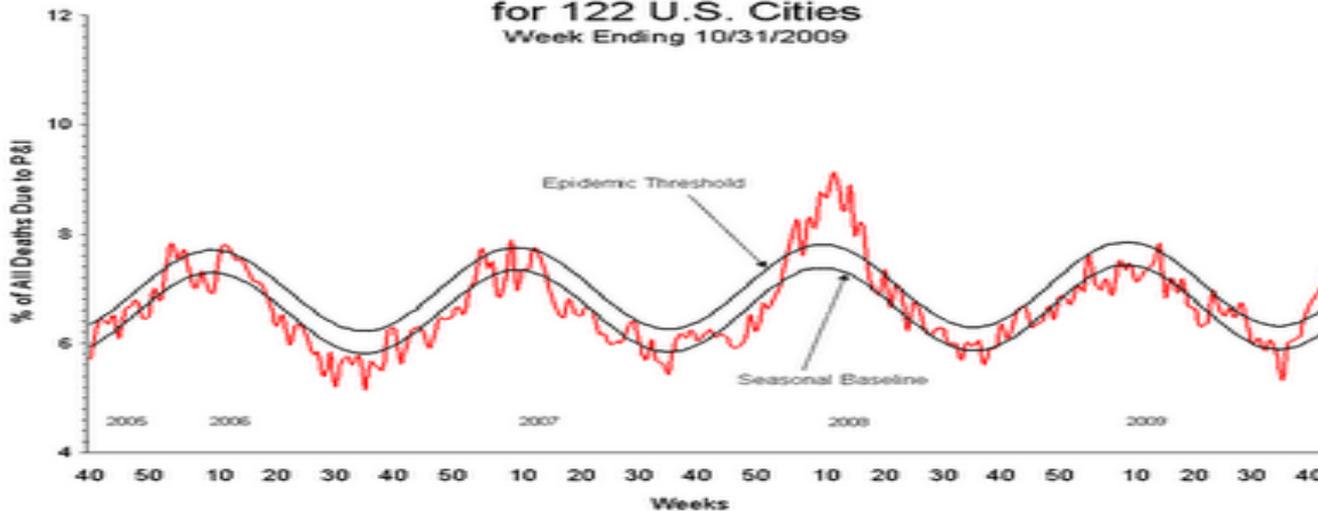
HISD Prepares For Swine Flu

Vaccine Available Mid-October

POSTED: Wednesday, September 2, 2009
UPDATED: 6:43 pm CDT September 2, 2009



**Pneumonia and Influenza Mortality
for 122 U.S. Cities**
Week Ending 10/31/2009



School-Based Surveillance: Roll Call

- ▶ Internet-based
 - ▶ School surveillance system
 - ▶ Est. 2009
 - ▶ Collects real-time absenteeism data on HISD schools
 - ▶ Developed in collaboration between HDHHS, TALHO, and HISD
- 

Alarms

There are currently no Alarms.

ADST

Legend: Raw Average Average 30 Day Average 60 Day Standard Deviation Cusum

Submit Reset Form Export Result Set Create Alarm from Result Set Generate Report from Result Set



Refresh GIS

Page 1 of 1

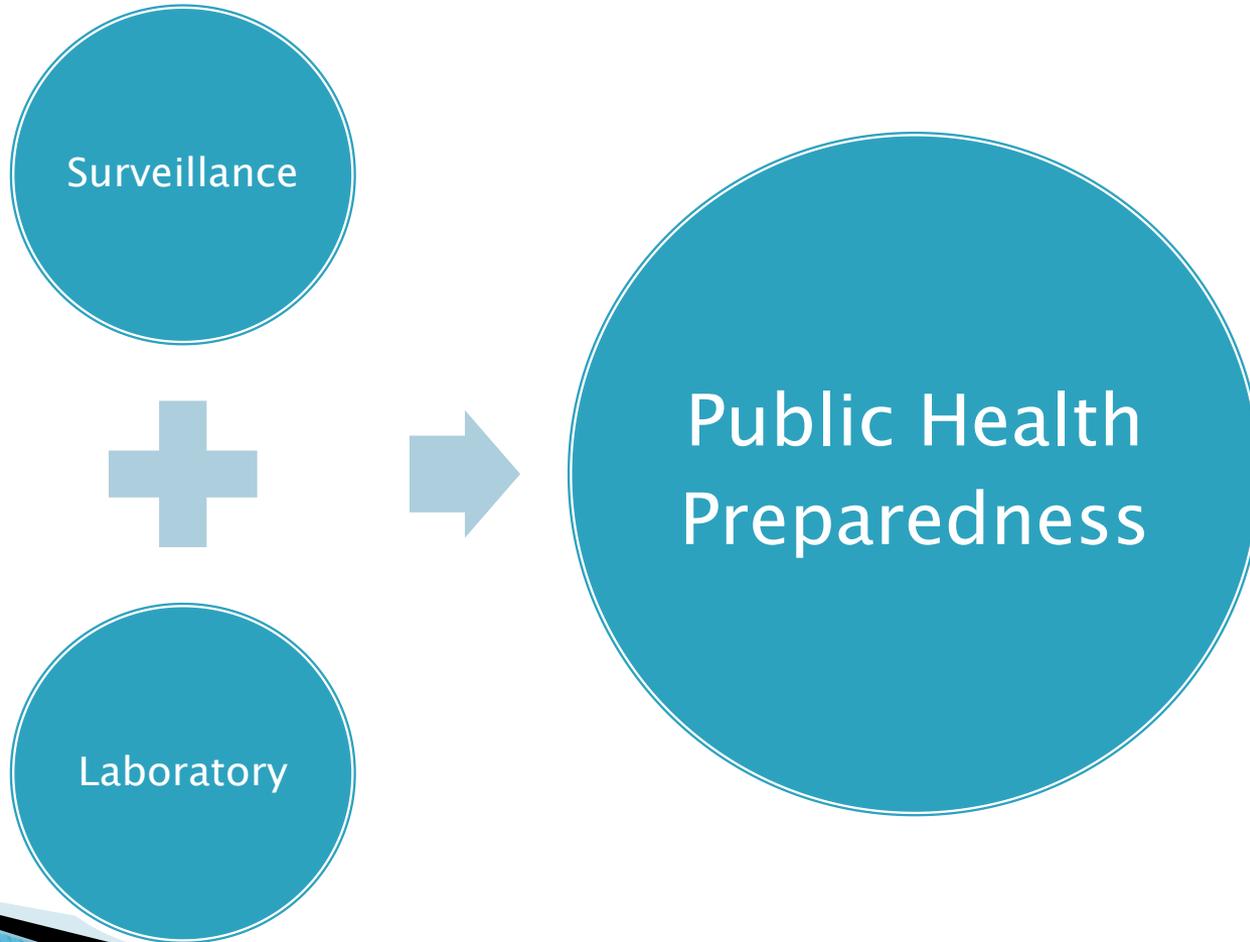
Alarm Queries

There are no alarm queries.

Benefits of Roll Call

- ▶ Information is transmitted in real-time
 - ▶ Provides the ability to track attendance over time and look for deviations that may be indicative of a possible public health emergency
- 

Surveillance and Laboratory Testing Provide Information for Local Action



Thank You

- ▶ Contact Information:

Raouf R. Arafat, MD, MPH
Assistant Director, HDHHS
832-393-5062

Raouf.Arafat@houstontx.gov

- ▶ For disease reporting please call the Bureau of Epidemiology at **832-393-5080**