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Louisiana
Early Event Detection System

LEEDS

Emergency Department and Urgent Care Syndromic Surveillance for the State of Louisiana

Louisiana Office of Public Health
Infectious Diseases Epidemiology Section

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Appendices

The following information describing Syndromic Surveillance in Louisiana using the *Louisiana Early Event Detection System (LEEDS)* is designed to provide the reader with an understanding of syndromic surveillance, its use within the Louisiana Office of Public Health infrastructure, and the importance of participation by emergency department and urgent cares in provision of syndromic surveillance information.

1. Definition of Syndromic Surveillance

Syndromic Surveillance is the collection and analysis of pre-diagnostic and non-clinical disease indicators using pre-existing electronic data[1], typically collected on a daily basis, with the purpose of:

- rapidly detecting clusters of symptoms and health complaints that might indicate a disease outbreak or other public health threat, and
- monitoring trends in syndromes of public health importance.

In recent years, different types of syndromic surveillance systems have been developed using various data sources. Types of data sources that can be used by syndromic surveillance include clinical data, such as emergency department visits, laboratory testing orders, 911 calls, and emergency medical service (EMS) dispatches; and non-clinical data, such as prescription and over-the-counter drug sales, and school or workplace absenteeism. Unlike traditional surveillance, which uses actual diagnoses as indicators of disease, syndromic surveillance uses symptoms for clinical data, presumed symptoms for non-clinical data, and status of "present" or "absent" for absenteeism analysis.

2. Purpose of Syndromic Surveillance

Time is paramount in preventing outbreaks from spreading. Traditional surveillance relies on reported diagnoses confirmed by laboratory tests which require time to be completed. In contrast, syndromic surveillance utilizes the detection of well-defined syndromes as an indicator of the possible presence of a public health problem. By seeking to detect unusual increases in the occurrence of symptoms, syndromic surveillance augments traditional surveillance by providing earlier detection and awareness of outbreaks or disease trends of public health significance, natural or man-made, presumably allowing for a timelier public health response than that afforded by traditional surveillance.[2] In addition, if laboratory testing does not occur, syndromic surveillance may identify cases that might otherwise go undetected.

Potential purposes[3] for syndromic surveillance include:

- Characterizing outbreaks detected by traditional or syndromic surveillance (often referred to as "situational awareness"), including the
    - magnitude of unexpected high rates of symptoms or absences
    - geographic location and spread of unexpected high rates
    - temporal duration of unexpected high rates
- Monitoring for outbreaks or trends of public health significance during natural or man-made disasters and high-profile events, such as sports or political events
- Improving communication between public health practitioners and healthcare providers, such as infection preventionists (IPs), emergency medicine clinicians, occupational health professionals and school nurses
- Detecting non-infectious disease trends, such as asthmatic exacerbations during summer months
- Detecting seasonal infectious disease trends, such as influenza during winter months.

[1] Sosin DA. Biosecurity and Bioterrorism 2003; 1(4): 247-53.
[2] Buehler JW, Berkelman RL, Hartley DM, Peters CJ. Emerg Infect Dis 2003; 9(10):1197-1204).
[3] Layton M (for Mostashari F). Overview of Syndromic Surveillance, a Local Perspective. 2005 CSTE Annual Conference, Albuquerque, NM; June 7, 2005.

3. Authority

The Infectious Diseases Epidemiology Section (IDEpi) in the Louisiana Office of Public Health (OPH) has the authority under state law to conduct surveillance and investigations for any disease outbreaks or suspected outbreaks. OPH also has the authority to conduct investigations with the goal of effecting reduction in the incidence and proper control of disease, disorders and disabilities.

4. Privacy and Confidentiality

The Health Insurance Portability and Accountability Act of 1996 (HIPAA) protects the privacy of certain individually identifiable health information, called protected health information (PHI). In the interest of public health, the HIPAA Privacy Rule permits PHI to be shared for public health activities conducted by a legally authorized public health authority (45 CFR § 164.512(b)). OPH's Syndromic Surveillance System does not collect directly identifiable patient information and is administered by OPH solely for public health purposes. Data are transmitted and maintained in secure electronic formats.

5. Syndromic Surveillance is Reportable by the Sanitary Code of the State of Louisiana

In April 2013, syndromic surveillance data became reportable by the Sanitary Code of the State of Louisiana (LAC 51:II.105). All conditions seen at the Emergency Departments of Acute Care Hospitals are Class E reportable, whereas chief complaint text or International Classification of Disease Code (ICD) shall be reported to OPH within one business day of the visit by electronic means as specified by OPH.

6. Meaningful Use

Under the Health Information Technology for Economic and Clinical Health (HITECH) Act, the U.S. Department of Health and Human Services (HHS) established incentive programs for eligible health care professionals and hospitals to receive Medicare and Medicaid incentive payments when they adopt certified Electronic Health Record (EHR) technology and use it to achieve "Meaningful Use" objectives. In an effort to improve health care quality, efficiency, and patient safety, meaningful use of EHR focuses on electronically recording health information in a coded format, using that information to track clinical conditions, communicating that information for care coordination purposes, and initiating the reporting of clinical quality measures and public health information[4].

Submission of electronic syndromic surveillance data to public health agencies is one of the Meaningful Use objectives in which a hospital can participate. This objective specifies the use of HL7 for reporting. Participation in syndromic surveillance helps the hospital gain meaningful use compliance, which qualifies the hospital for incentive payments.

7. Syndromic Surveillance in Louisiana

In 2002, the Infectious Disease Epidemiology Section in Louisiana's Office of Public Health introduced web-based reporting of nationally-notifiable infectious diseases to Louisiana medical care providers for reporting cases of diagnosed infectious diseases to the state. In 2004, IDEpi expanded its reporting capabilities to enable hospital emergency departments and emergency medical service providers to report individuals who have symptoms that match any of ten bioterrorism-related syndromes.

[4] Centers for Medicare & Medicaid Services. CMS Finalizes Definition of Meaningful Use of Certified Electronic Health Records (EHR) Technology. Available at: http://www.cms.gov/EHRIncentivePrograms/. Accessed October 5, 2011.

In recognition of the urgent need for early detection of disease outbreaks and unusual health conditions following Hurricanes Katrina and Rita in August/September of 2005, the Centers for Disease Control and Prevention (CDC) conducted detailed daily abstracts of emergency department records for all persons seen in permanent and temporary medical facilities in the New Orleans area in September 2005, and OPH conducted statewide surveillance of evacuee shelters until all shelter inhabitants were relocated to non-shelter housing.

After CDC discontinued its daily abstracting of New Orleans-area emergency department records in October 2005, OPH began piloting the use of the CDC's *Early Aberration Reporting System (EARS)*, a syndromic surveillance tool that requires manual processing of data extracted from pre-existing databases to identify and analyze the occurrence of cases that meet user-defined syndrome definitions.

The success of EARS as a pilot project utilized by hospital emergency departments (EDs) in OPH Regions 1, 3, and 9 led to the creation of the *Louisiana Early Event Detection System (LEEDS)*.

8. Louisiana Early Event Detection System (LEEDS)

LEEDS is a web-based reporting system that automatically processes hospital emergency department and urgent care data to identify records that are indicative of one or more of the syndromes tracked by OPH. Participating facilities submit daily files of all visits to LEEDS and an internal 'Text String Search' function is applied to the chief complaint, admit reason and diagnosis data to examine symptom information and flag records with symptoms indicative of a particular health syndrome.

LEEDS tracks numerous syndromes and is used by ID Epi for important public health surveillance activities including:

- Foodborne, waterborne and other gastrointestinal illness outbreak detection and surveillance
- Influenza-like illness surveillance
- Asthma surveillance
- Upper and lower respiratory tract infections surveillance
- Health effects due to air pollution – marsh fires, chemical disasters, etc.
- Healthcare-associated infections (HAI) surveillance
- Generic outbreak detection
    - Skin and soft tissue infections (SSTI)
    - Rashes – detection of vaccine-preventable diseases
- Bioterrorism agents surveillance
    - Botulism
    - Ricin
    - Viral hemorrhagic fevers
    - Pneumonias – Anthrax, Plague, etc.
- Zoonotic diseases surveillance
- Drug and alcohol abuse surveillance
- Special pathogens surveillance
- Special event surveillance

LEEDS has proven to be an invaluable tool in providing situational awareness during potential public health threats or high profile events. LEEDS has been used to monitor infectious disease and injury syndromes during events including hurricanes Katrina, Rita and Isaac, the Gulf Coast oil spill, yearly Mardi Gras festivities, 2013 Super Bowl, marsh fires and reported chemical leaks.

LEEDS is also a valuable tool for users at participating hospitals. Summary reports of six main syndromes can be viewed online by users at their convenience. Reports can be viewed at the hospital, regional, or state-wide level.

Syndromes presented in these reports include asthma, gastroenteritis, influenza-like illness (ILI), skin and soft tissue infections (SSTI), and upper and lower respiratory tract infections (URTI, LRTI).

9. Data Collection

LEEDS accepts data only from Emergency Departments and Urgent Care facilities. Participating facilities submit daily CSV or HL7-formatted data files to LEEDS using secure SSH file transfer protocol (SFTP), with SFTP providing point-to-point encryption of data delivered via a public network. OPH provides, free of charge, a Windows SFTP client for the transfer of these data. To ensure timeliness, daily data transfer is automated by the sender. Because the goal of syndromic surveillance is to identify outbreaks in their very early stages, OPH values timeliness of data submission above data quality or ability to obtain additional variables.

The required data format follows PHIN messaging standards (see Appendix 1 for file format details). To assure patient confidentiality, OPH does not ask for patient name or street address. However, because of the potential need to investigate an outbreak or cluster detected through LEEDS, OPH requests that participating facilities assign a unique, facility-defined identifier (ID) for each individual for whom a record is submitted. This identifier should be usable by personnel in the submitting facility, such as Infection Preventionists, in investigation of individuals associated with an event of public health significance.

10. Follow-up of Aberrations Identified by LEEDS

In situations where LEEDS identifies a syndrome cluster that might be of public health significance, the State Epidemiologist will authorize further investigation of patients whose 'Chief Complaint' data has been flagged as meeting the syndrome definition. OPH staff will contact submitting-facility personnel, provide them with the information originally submitted by the facility, and ask for further information for the flagged cases.

11. Viewing LEEDS Reports

LEEDS reports can be viewed at any time by authorized users via password-protected web-based accounts. Access to these accounts is restricted to users in the submitting facility to meet their privacy and security needs.

Reports present weekly syndrome counts and percentage of total visits at statewide, regional, or facility levels within user-specified time periods. Syndromes presented are asthma, gastroenteritis, influenza-like illness (ILI), skin and soft tissue infections (SSTI), and upper and lower respiratory tract infections (URTI, LRTI). Reports include: 1) a table of counts of weekly visits reported, counts of each type of syndrome, and percentages of visits attributable to each syndrome broken down by each week selected; and 2) graphs for each syndrome representing the percent of total visits indicative of that syndrome. Reports can be exported to an Excel or Adobe PDF file for further use. A sample LEEDS report is found in Appendix III.

12. BioSense – National Syndromic Surveillance

Aggregated state-level LEEDS data is shared with CDC's BioSense, a national syndromic surveillance system. Hospital users are welcome to view this data on the BioSense website. Sharing this data on a national level strengthens national public health infrastructure and enables both CDC and other jurisdictions to better monitor health status of their populations by comparing trends in other jurisdictions and at a national level. Sharing syndromic surveillance data nationally also improves the standardization of syndromic surveillance methods and use, strengthening this type of surveillance overall.

Appendix I

LEEDS File Specifications

File transfer process:

- Batch files should be sent daily before 8:00am and should contain all of the previous day's ED or Urgent Care visits (12:00 a.m. to 11:59 p.m. of the previous day).

- Files should be transmitted to the OPH public internet FTP site via secure SSH FTP (SFTP).
    - Host, username, and password will be provided.
    - Facility can use any SFTP client that supports SFTP or SSH2.

File Format Specifications:

- Files can be in CSV (comma delimited with CR/LF line termination) or HL7 format (2.3.1 or 2.5.1), and should adhere to the formats specified in the tables below.

- One single record or message should be sent for each patient seen in the ED or Urgent Care.

- If using HL7, transmission of A04 (patient registration) events only is preferred, but inclusion of A03 (patient discharge) may be considered on a case by case basis upon discussion with LEEDS coordinator.

- If submitting HL7 files, the following specifications outline the minimal elements required by LEEDS and are based on the PHIN guidelines for syndromic surveillance data. Please reference the PHIN Guidelines (see resources below) to ensure your facility's compliance with meaningful use requirements for syndromic surveillance data.

- If submitting CSV files, the following specifications outline the only data elements accepted by LEEDS. CSV files do not comply with meaningful use requirements.

- File naming convention should be the following:
    - x…xYYYYMMDD.csv or x…xYYYYMMDD.hl7, where 'x…x' is a self determined 5-15 character filename (containing no spaces, periods, etc.) that identifies the facility providing data in the file and YYYYMMDD is the year, month and day that the file was generated
    - e.g. MyHospital20060915.csv or MyHospital20060915.hl7

Resources:

- PHIN Messaging Guide for Syndromic Surveillance: Emergency Department and Urgent Care Data, Release 1.1, August 2012
- PHIN Message Quality Framework (MQF) is an online testing tool that can be used to check message format against PHIN standards
- The National Institute of Standards and Technology's HL7 Validation Tool is another online testing tool to validate message format and is specific to syndromic surveillance messaging
- PHIN Vocabulary Access and Distribution System (VADS) promotes the use of standards-based vocabulary to support the exchange of consistent information among Public Health partners, including value sets specific to syndromic surveillance

CSV Format

(Does not comply with Meaningful Use file format specifications)

*****Only the fields specified in this table should be sent in a CSV** file.***

Order	Fieldname	Data Type	*Format*	Max Length	Description	Required*/ Requested**
1	Facility Name	text		30	Text string that Identifies each facility in the file. The value should be repeated for every row in the file.	**Required**
2	Patient ID	text		15	Text string that uniquely identifies record of patient visit to ED/UCC. Any unique record identifier in the facility's local system can be used to populate this field.	**Required**
3	Triage Date	date	MM-DD-YYYY or MM/DD/YYYY	10	Day of ED/UCC Visit. Data is 2-digit month (01-12), 2-digit day (01-31) and 4- digit year separated by dashes (-) or slashes (/)	**Required**
4	Triage Time	time	HH:MM	5	Time of ED/UCC Visit. Data is 2-digit hour of day (00-23) and 2-digit minutes of the hour (00-59) in eastern standard time separated by a colon (:).	**Required**
5	Age	text		8	Age of patient in years. If child is less than one year old, use '0' as the age.	Required if Birth Date is not provided
6	Birth Date	Date	MM-DD-YYYY or MM/DD/YYYY	10	Date of Birth. Data is 2-digit month (01-12), 2-digit day (01-31) and 4- digit year separated by dashes (-) or slashes (/).	Required if Age is not provided
7	Gender	text	'M' or 'F'	8	Gender of patient	Requested
8	Zip Code	text	00000	5	Patient's Residence Zip Code (do not include plus 4).	Requested
9	Chief Complaint	text		100	Patient's chief complaints expressed as text string. Multiple Chief Complaints must be separated by a semicolon.	**Required if Chief Complaint Code is not provided**
10	Chief Complaint Code	text		100	ICD9 or ICD10 Code for Patient's chief complaint. Codes must be sent without periods. Multiple Codes must be separated by a semicolon.	**Required if chief Complaint is not provided**
11	Discharge Disposition	text		200	Patient's Discharge Disposition at ER departure; no standard has yet been set	Requested
12	Discharge Diagnosis	text		400	Patient's diagnosis upon discharge. (Multiple diagnoses should be separated by a double pipe '||')	Strongly Requested
13	Extra Information	text		400	Any additional information included in the submission for this record will be captured in one data field. This data field must be positioned as the last field in the record.	Strongly Requested

***Required –** these variables must be present for every record

**Requested – these variables are requested in order to make analysis of data more relevant, but may be omitted when not available. If a given variable is not available, the file should still preserve the overall format using empty delimiters for variables that are not available.

HL7 Format

Field Name	Segment	Usage*	Description/Comments
Facility			
Facility name	MSH-4.1	R	Name of facility
Universal ID	MSH-4.2	O	Number specific to facility, such as NPI
Universal ID Type	MSH-4.3	O	See PHVS UniversalIDType_SyndromicSurveillance table
Date/Time of Message	MSH-7	O	Date/time message created by sending source. Format: *yyyymmddhhmm*
Message Type			ADT^A04^ADT_A01 preferred; ADT^A03^ADT_A03 also accepted upon discussion with LAOPH
Message Code	MSH-9.1	R	
Trigger Event	MSH-9.2	R	
Structure	MSH-9.3	R	
HL7 Version ID	MSH-12	O	2.3.1 or 2.5.1. 2.5.1 required for Stage 2 Meaningful Use
Message Recorded Date/Time	EVN-2	O	Date/time message created at original source. Format: *yyyymmddhhmm*
Patient ID	PID-3.1	R	Unique identifier, such as MR#
Patient Date of Birth	PID-7	R	Format: *yyyymmdd*
Patient Gender	PID-8	R	See PHVS_Gender_SyndromicSurveillance table
Patient Race			
Identifier	PID-10.1	O	See PHVS_RaceCategory_CDC table
Text	PID-10.2	O	
Name of coding system	PID-10.3	O	
Patient Address			Do not include patient street address
Patient city	PID-11.3	R	
Patient zip code	PID-11.5	R	
Patient parish	PID-11.9	O	Parish text or use PHVS_County_CDC table
Patient Account Number	PID-18	O	
Patient Ethnicity			
Identifier	PID-22.1	O	See PHVS_EthnicityGroup_CDC table
Text	PID-22.2	O	
Name of coding system	PID-22.3	O	
Patient Class	PV1-2	R	E=Emergency
Assigned patient location	PV1-3	O	
Admission Type	PV1-4	O	
Visit number	PV1-19.1	R	Unique number assigned to each patient visit
Discharge disposition	PV1-36	C	Required if trigger=A03
Visit date/time	PV1-44	R	Date and time of visit. Format: *yyyymmddhhmm*
Discharge date/time	PV1-45	C	Required if trigger=A03. Format: *yyyymmddhhmm*
Admit Reason			Description of reason for patient's registration
Identifier/code	PV2-3.1	O	
Text	PV2-3.2	R	
Name of coding system	PV2-3.3	O	
Patient Age			
OBX Identifier	OBX-3.1	C	Required if age value is populated. "21612-7"
	OBX-3.2	C	Required if age value is populated. "AGE TIME PATIENT REPORTED"
Numeric value	OBX-5.1	O	Numeric value of patient's age
Age Units	OBX-6.2	C	Required if age value is populated. "Years", "Months", or "Days"
Chief Complaint			Patient's reason for visit
OBX Identifier	OBX-3.1	R	"8661-1"
	OBX-3.2	R	"CHIEF COMPLAINT"
Free text	OBX-5.9	R	Free text description of reason for visit
Diagnosis			Primary Diagnosis
Identifier/code	DG1-3.1	O	
Text	DG1-3.2	O	
Name of coding system	DG1-3.3	O	
Diagnosis Date/Time	DG1-5	O	Format: *yyyymmddhhmm*

* R=Required; O=Optional; C=Conditional

Sample HL7 message for records sent to IDEpi, based on A04 Emergency Department or Urgent Care Registration; no Updates

MSH|^~\&| |Acme Hospital^000011112222^NPI| | |201301012311| |ADT^A04^ADT_A01| | |2.5.1
EVN|A04|201301010245| | | |Acme Hospital
PID|1| |20060012168| | | |20040923|F| | |^^Metairie^^70001^^^^Orleans| | | | | |048294
PV1| |E|ED|E| | | | | | | | | | | | |A93082958| | | | | | | | | | | | | | | |01^HOME| | | | | | |201301010342
PV2| | |^CUT ON ARM^
OBX|1|NM|21612-7^AGE TIME PATIENT REPORTED^LN| |2|a^YEAR^UCUM
OBX|2|CWE|8661-1^CHIEF COMPLAINT:FIND:PT:PATIENT:NOM:REPORTED ^LN|
|^^^^^^^^CUT ARM^
DG1|1| |913.1^ABRASION FOREARM-INFECT^I9CDX| |201301010330

Appendix II

Select Syndrome Definitions for Clinical Visits

Asthma – Any text resembling asthma or wheezing.

Gastroenteritis – Any text resembling diarrhea, bloody diarrhea, loose bowels/stool, gastroenteritis, stomach flu/virus. Attempts are made to exclude chronic conditions (e.g., cancer) and non-infectious acute conditions related to stomach distress (e.g., gi bleeding, appendicitis).

Influenza-Like Illness (ILI) – Any text resembling chest cold/congestion/breathing difficulties with fever. Attempts are made to exclude upper respiratory conditions.

Skin and Soft Tissue Infections (SSTI) – Any text resembling abscess, cellulitis, and skin infections.

Lower Respiratory Tract Infections (LRTI) – Any text resembling chest cold/congestion/tightness, bronchitis, shortness of breath. Attempts are made to exclude chronic conditions related to LRI (e.g., asthma, angina, cancer, gastric problems).

Upper Respiratory Tract Infections (URTI) – Any text resembling ear infection, allergy-related eye problems, nasal (not injury or pain), stuffy (not stuffy chest), sneezy, congestion (not chest congestion), runny (not running), sore throat, strep throat, sinus, cold, or upper respiratory.

Appendix III

LEEDS Report

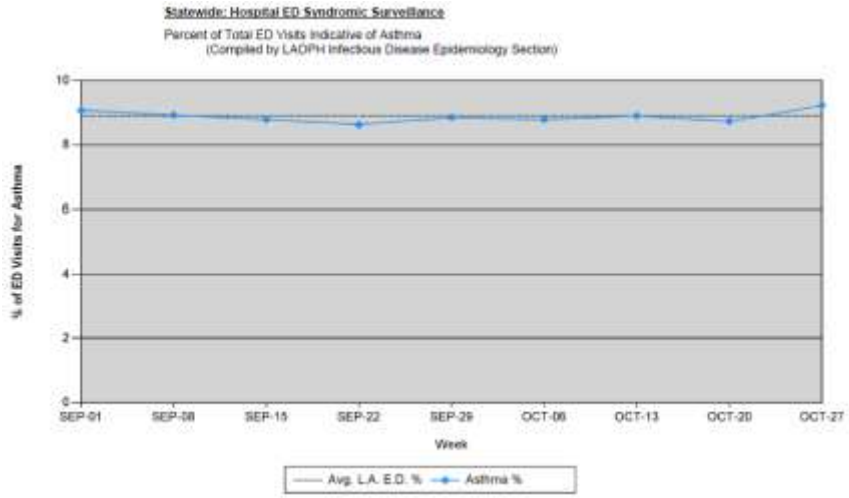
Below is a sample of the LEEDS summary report. The reports can be filtered to present data on a state level, OPH region level, or facility level. Syndromes presented are asthma, gastroenteritis, influenza-like illness (ILI), skin and soft tissue infections (SSTI), and upper and lower respiratory tract infections (URTI, LRTI). The reports contain the following information:

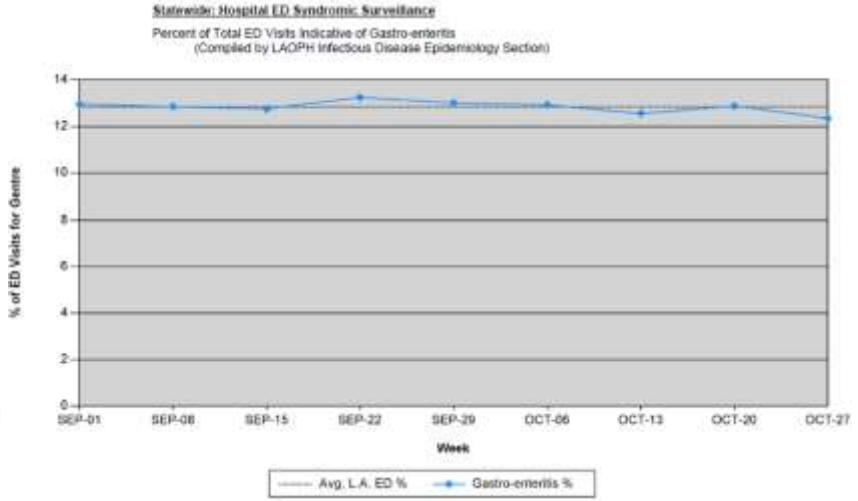
- Counts of the total number of emergency department or urgent care visits reported through LEEDS
- Counts and percentages of the number of emergency department or urgent care visits that meet each individual syndrome criteria.

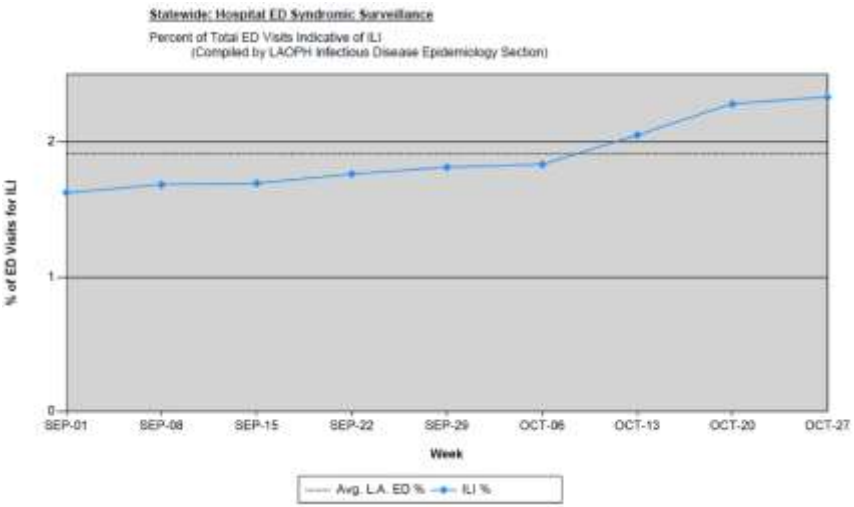
Statewide: Emergency Department Surveillance for Specified Syndromes

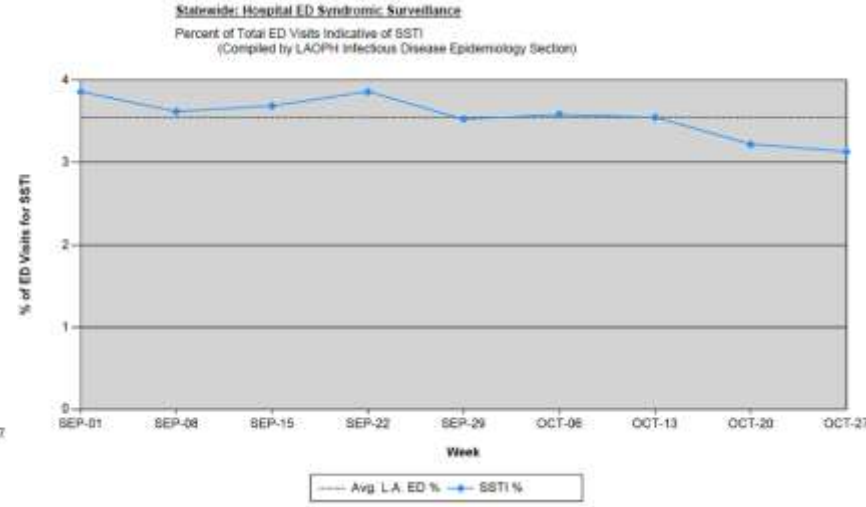
(Compiled by LAOPH Infectious Disease Epidemiology Section)

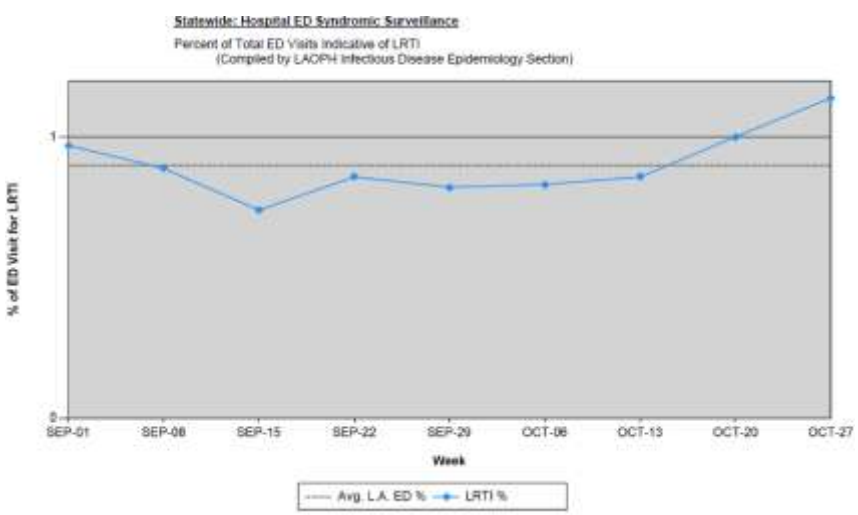
				Number of ED Visits Associated with Each Syndrome						Percent of Total ED Visits Associated with Each Syndrome					
MMWR WEEK	Week	Number of Partici-pating Hospitals	Total No. of ED Visits	Asthma	Gastro-Enteritis	Influenza - Like Illness (ILI)	Skin and Soft Tissue Infections (SSTI)	Lower Respiratory Tract Infection (LRTI)	Upper Respiratory Tract Infection (URTI)	Asthma	Gastro-Enteritis	Influenza - Like Illness (ILI)	Skin and Soft Tissue Infections (SSTI)	Lower Respiratory Tract Infection (LRTI)	Upper Respiratory Tract Infection (URTI)
44	10/27/2013-11/02/2013	43	27670	2558	3412	646	868	316	1652	9.24%	12.33%	2.33%	3.13%	1.14%	5.97%
43	10/20/2013-10/26/2013	43	27691	2421	3564	633	893	279	1693	8.74%	12.87%	2.28%	3.22%	1%	6.11%
42	10/13/2013-10/19/2013	43	28303	2524	3556	583	1005	244	1601	8.91%	12.56%	2.05%	3.55%	.86%	5.65%
41	10/06/2013-10/12/2013	40	26761	2356	3459	491	963	223	1425	8.8%	12.92%	1.83%	3.59%	.83%	5.32%
40	09/29/2013-10/05/2013	43	27726	2459	3609	502	981	228	1497	8.86%	13.01%	1.81%	3.53%	.82%	5.39%
39	09/22/2013-09/28/2013	44	28267	2442	3745	498	1092	244	1488	8.63%	13.24%	1.76%	3.86%	.86%	5.26%
38	09/15/2013-09/21/2013	43	29360	2584	3742	498	1085	220	1589	8.8%	12.74%	1.69%	3.69%	.74%	5.41%
37	09/08/2013-09/14/2013	43	29796	2663	3829	502	1079	266	1591	8.93%	12.85%	1.68%	3.62%	.89%	5.33%
36	09/01/2013-09/07/2013	44	29660	2696	3841	483	1145	288	1730	9.08%	12.95%	1.62%	3.86%	.97%	5.83%
	Syndrome Definitions are revised several times a year, based on periodic review of chief complaint data submitted by hospitals.														
	MMWR week is a CDC reporting week during which the reported ED visits occurred. For example, the counts reported for MMWR week '04' are a tally of ED visits that occurred in the fourth week of the indicated year.														

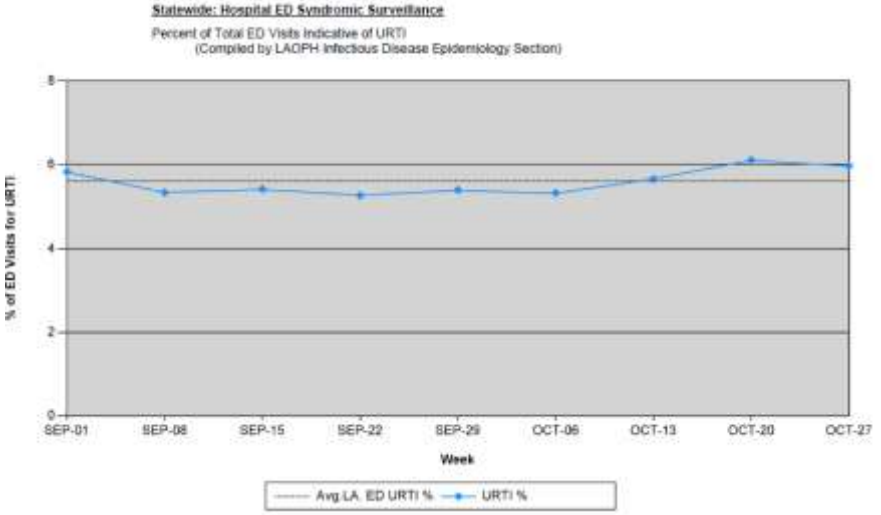

Statewide: Hospital ED Syndromic Surveillance
Percent of Total ED Visits Indicative of Asthma
(Compiled by LAOPH Infectious Disease Epidemiology Section)
% of ED Visits for Asthma
0
2
4
6
8
10
SEP-01
SEP-08
SEP-15
SEP-22
SEP-29
OCT-06
OCT-13
OCT-20
OCT-27
Week
Avg. L.A. E.D. %
Asthma %


Statewide: Hospital ED Syndromic Surveillance
Percent of Total ED Visits Indicative of Gastro-enteritis
(Compiled by LAOPH Infectious Disease Epidemiology Section)
% of ED Visits for Gentre
0
2
4
6
8
10
12
14
SEP-01
SEP-08
SEP-15
SEP-22
SEP-29
OCT-06
OCT-13
OCT-20
OCT-27
Week
Avg. L.A. ED %
Gastro-enteritis %


Statewide: Hospital ED Syndromic Surveillance
Percent of Total ED Visits Indicative of ILI
(Compiled by LAOPH Infectious Disease Epidemiology Section)
% of ED Visits for ILI
0
1
2
SEP-01
SEP-08
SEP-15
SEP-22
SEP-29
OCT-06
OCT-13
OCT-20
OCT-27
Week
Avg. L.A. ED %
ILI %


Statewide: Hospital ED Syndromic Surveillance
Percent of Total ED Visits Indicative of SSTI
(Compiled by LAOPH Infectious Disease Epidemiology Section)
% of ED Visits for SSTI
0
1
2
3
4
SEP-01
SEP-08
SEP-15
SEP-22
SEP-29
OCT-06
OCT-13
OCT-20
OCT-27
Week
Avg. L.A. ED %
SSTI %


Statewide: Hospital ED Syndromic Surveillance
Percent of Total ED Visits Indicative of LRTI
(Compiled by LAOPH Infectious Disease Epidemiology Section)
% of ED Visit for LRTI
1
0
SEP-01
SEP-08
SEP-15
SEP-22
SEP-29
OCT-06
OCT-13
OCT-20
OCT-27
Week
Avg. LA. ED %
LRTI %


Statewide: Hospital ED Syndromic Surveillance
Percent of Total ED Visits Indicative of URTI
(Compiled by LAOPH Infectious Disease Epidemiology Section)
% of ED Visits for URTI
8
6
4
2
0
SEP-01
SEP-08
SEP-15
SEP-22
SEP-29
OCT-06
OCT-13
OCT-20
OCT-27
Week
Avg LA. ED URTI %
URTI %

Appendix IV

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Appendix V

Acknowledgements

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