

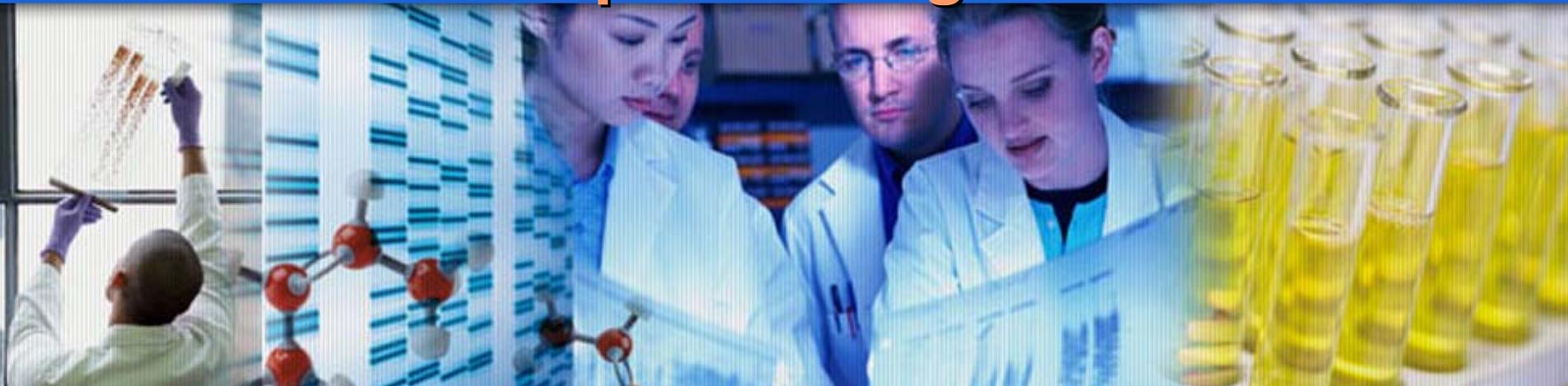


Syndromic Surveillance

Fresno County

Lyndon Badcoe PhD

Epidemiologist



Syndromic Surveillance In Fresno County

➤ **Integrated Seasonal Influenza Surveillance**

- HMS Inc EpiCenter
- BioSense
- Sentinel Physicians
- School Absenteeism
- American Ambulance Patient Transports

➤ **Health Monitoring Systems EpiCenter**

➤ **Emergency Medical System**

- DataWatch911

➤ **BioSense**

➤ **“Twelfth Sense”**

BioSense Flu Module

➤ Selection Options: Time Series - Local Geography

Select Data:

- DoD/VA Diagnosis
- BioSense Hospitals Diagnosis
- BioSense Hospitals Chief Complaint
- Sentinel Providers
- WHO/NREVSS Labs
- State and Territorial Epidemiologists

Map of:

- United States
- DHHS
- Census
- State
- Health District
- County

Shade by:

- Facility

Select State

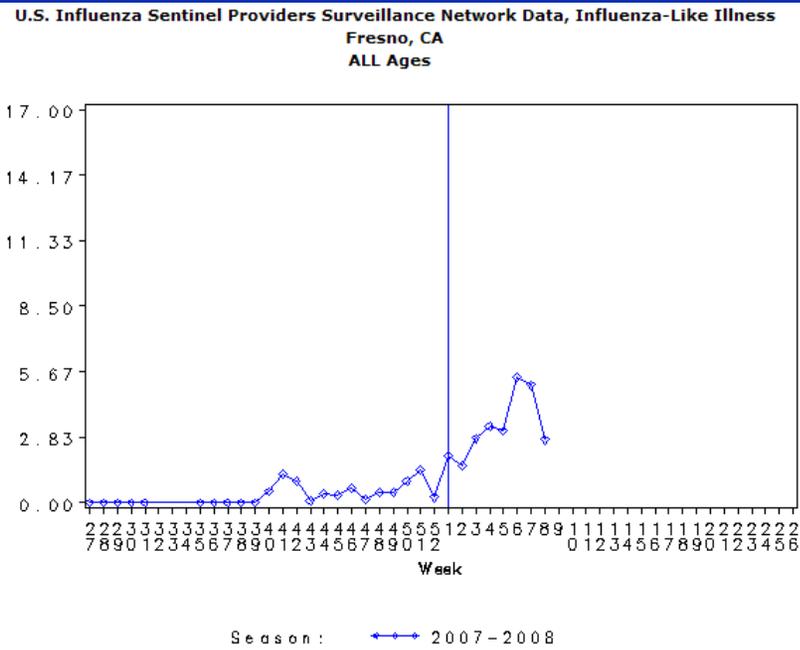
- California
- Colorado
- Connecticut
- Delaware
- District of Columbia
- Florida

Select County

- Alameda, CA
- Amador, CA
- Butte, CA
- Calaveras, CA
- Contra Costa, CA
- Del Norte, CA
- El Dorado, CA
- Fresno, CA
- Glenn, CA

Flu Season

- 2003-2004
- 2004-2005
- 2005-2006
- 2006-2007
- 2007-2008

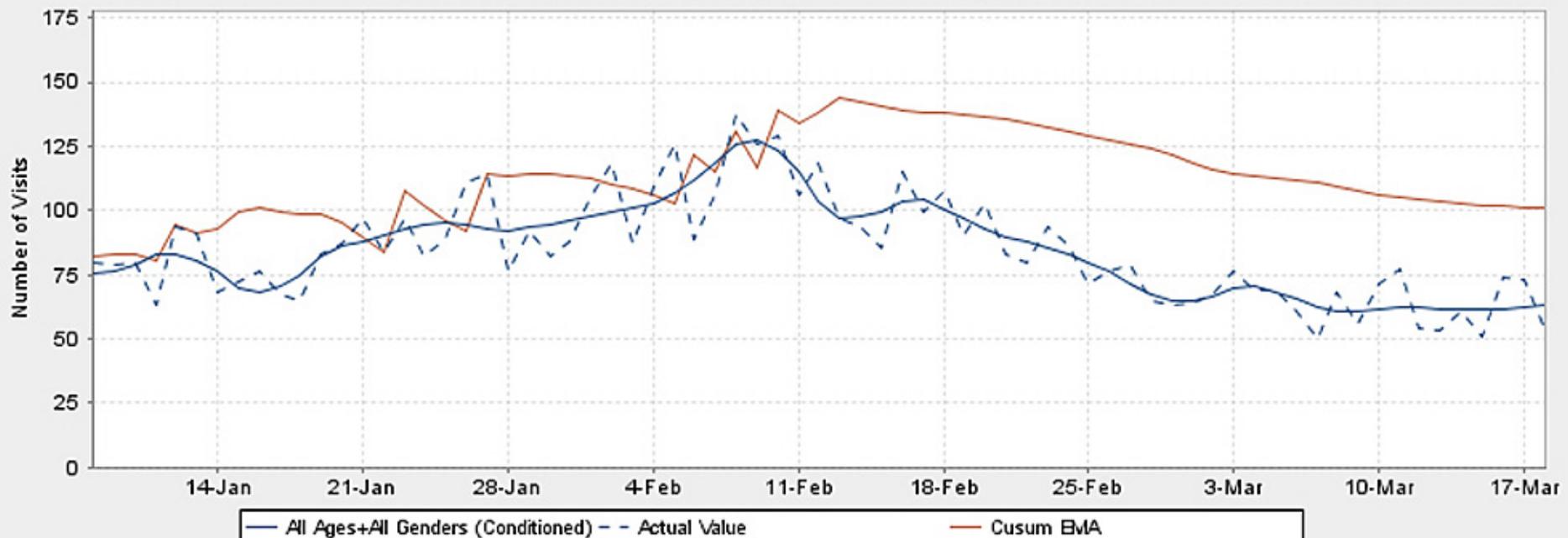


Fresno, CA Sentinel Providers					
Season					
2007-2008					
Week No	End Week Date	No. of Facilities	ILI Visits	Total Visits	Weighted % ILI Visits
27	07/07/2007	1	0	40	0.000
28	07/14/2007	1	0	58	0.000
29	07/21/2007	1	0	59	0.000
30	07/28/2007	1	0	54	0.000
31	08/04/2007	1	0	39	0.000
35	09/01/2007	1	0	22	0.000
36	09/08/2007	1	0	49	0.000
37	09/15/2007	1	0	78	0.000
38	09/22/2007	1	0	87	0.000
39	09/29/2007	1	0	75	0.000
40	10/06/2007	6	4	823	0.486
41	10/13/2007	6	11	889	1.237
42	10/20/2007	6	10	1,068	0.936
43	10/27/2007	6	1	1,065	0.094
44	11/03/2007	5	3	803	0.374
45	11/10/2007	6	3	935	0.321
46	11/17/2007	6	5	785	0.637
47	11/24/2007	6	1	619	0.162
48	12/01/2007	6	4	915	0.437
49	12/08/2007	6	4	867	0.461
50	12/15/2007	5	7	737	0.950
51	12/22/2007	5	9	636	1.415
52	12/29/2007	5	1	424	0.236
1	01/05/2008	5	9	447	2.013
2	01/12/2008	5	14	869	1.611
3	01/19/2008	6	28	1,006	2.783
4	01/26/2008	5	22	692	3.324
5	02/02/2008	6	33	1,064	3.102
6	02/09/2008	7	76	1,400	5.429
7	02/16/2008	6	46	902	5.100
8	02/23/2008	6	29	1,064	2.726

Fresno_Madera - Respiratory



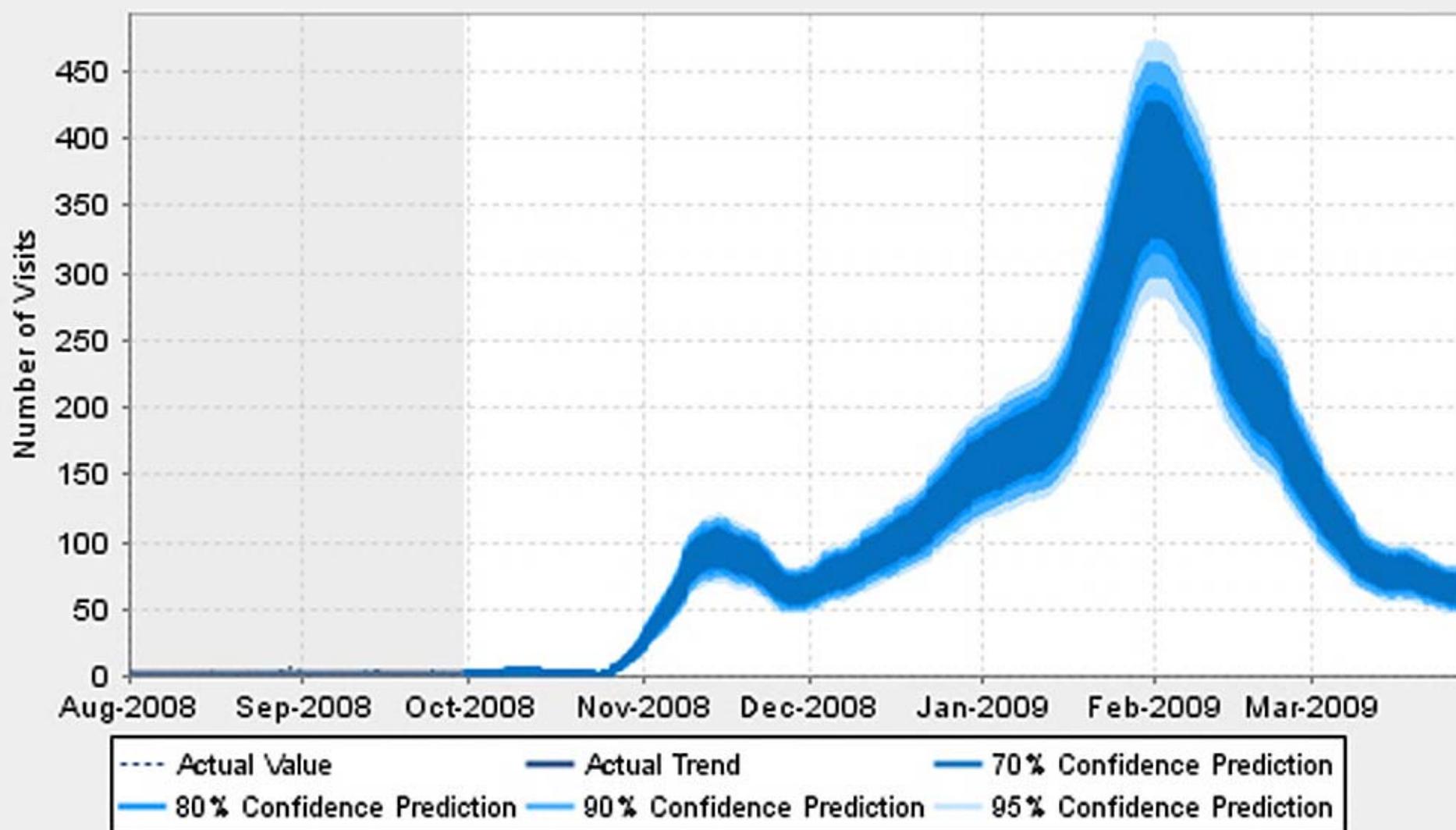
Fresno_Madera - Aggregate Keyword, Fever Conditional, Specific Complaints



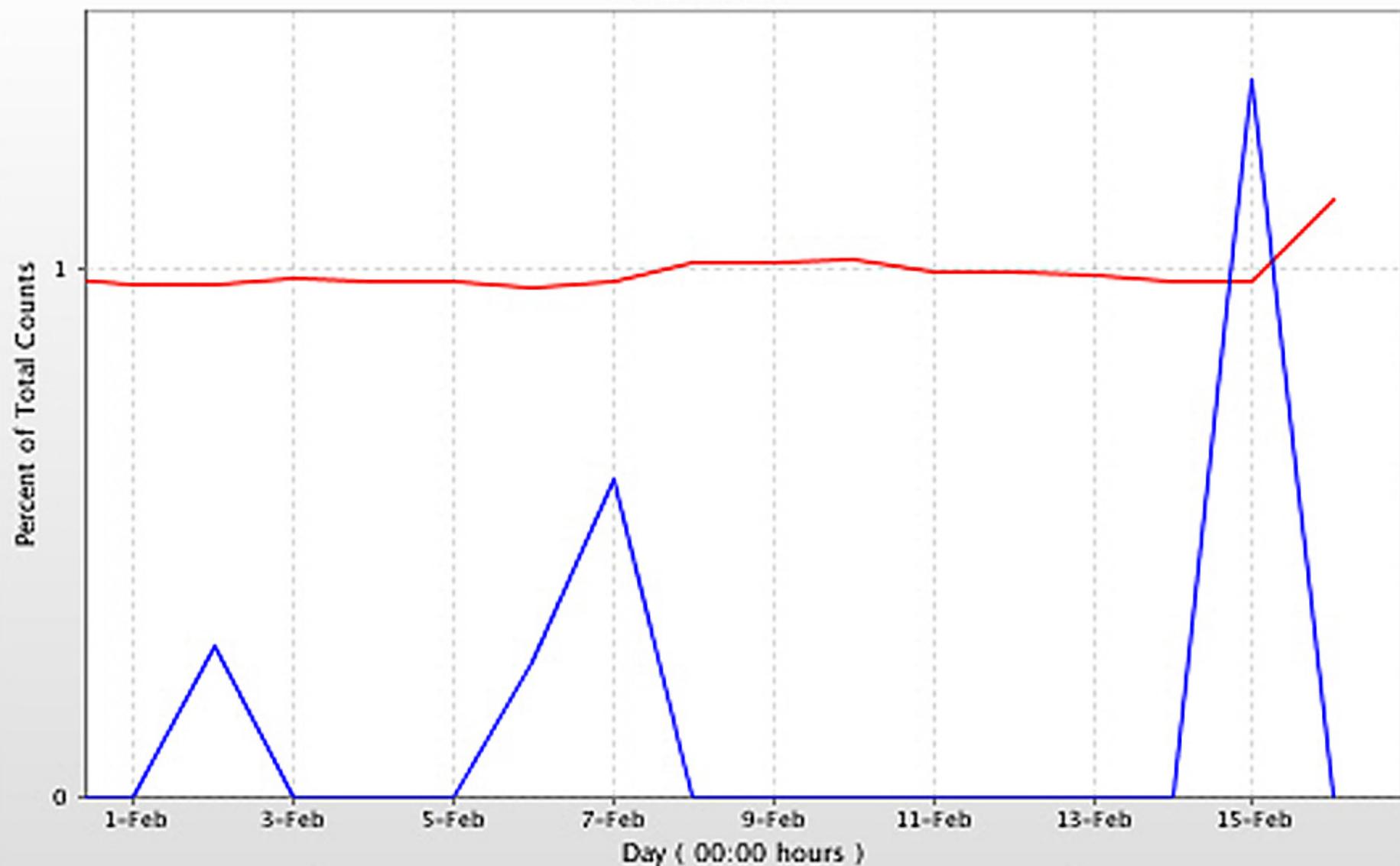
Fresno County School ILI Absenteeism



Fresno_Madera - Fever Conditional - Seasonal Forecast



Healthcare Registrations- CA_FRESNO_MADERA Botulinic



— All Genders+All Ages — Threshold

RODS

Test Time to Follow-up on an Alert

Date Admitted	Age	Gender	Home Zip code	Hospital name	Visit No	Chief Complaint	Syndrome
02/14/2008 17:50:00	49	F	93705	Community Regional Medical Center	111674912	SWALLOWING PROBLEM	Botulinic
02/14/2008 17:33:00	71	F	93644	Community Medical Center - Oakhurst	111674901	DOUBLE VISION, CHEST PAIN	Botulinic
02/14/2008 13:01:00	86	M	93626	Clovis Community Medical Center	111674021	BIBA/DIZZINESS DBL VISION	Botulinic
02/14/2008 11:29:00	53	F	93702	Community Regional Medical Center	111673694	UNCONT L SIDE MOVEMENT	Botulinic

Response time 37 minutes

1. 49 Y F; complains of choking while eating dinner; Hx of esophagus strictures; possible foreign body (food) caught in throat/esophagus.
2. 71 Y F; discharge dx = elevated blood pressure, resolved.
3. 86 Y M; pt brought in by ambulance complaining of dizziness and double vision; patient left AMA prior to triage.
4. 53 Y F; admitting diagnosis = intracranial hemorrhage and renal failure.

Rash in Fresno County, CA on 09/16/2008 (2439)

Monitoring of emergency department admissions for residents of Fresno County, CA identified 17 interactions classified as Rash by the Syndromes classifier. All interactions occurred between 7:00 pm PDT on September 15, 2008 and 7:00 pm PDT on September 16, 2008 and were totaled by patient location.

Using Exponential Moving Average analysis, these 17 interactions exceeded the predicted value of 7.3 and the maximum threshold of 15.36.

The percentage of all records for Fresno County, CA was 7.36% with a maximum of 5.62%.

The anomaly was detected at 8:00 pm PDT on September 16, 2008.

This anomaly is currently part of the following investigations:

- 09/16/2008 [Rash Fresno](#) (Fresno County Department of Community Health)

The current disposition of this anomaly is [New](#).

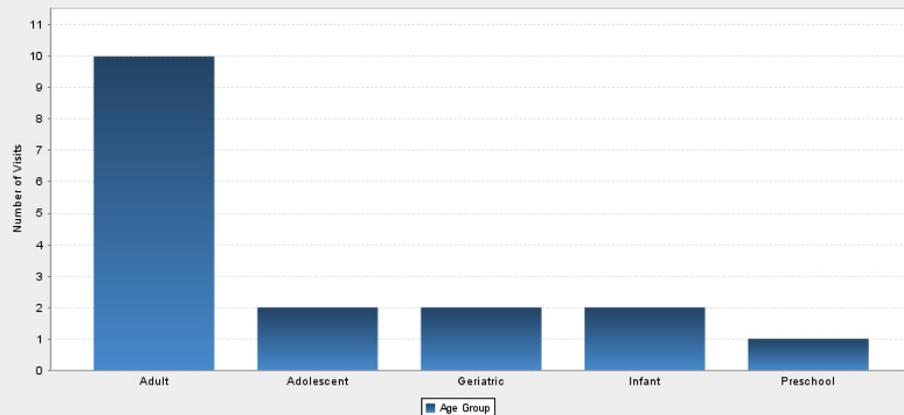
This anomaly is available for a [new investigation](#), or inclusion in an [existing investigation](#).

Probability of Outbreak: 0.00

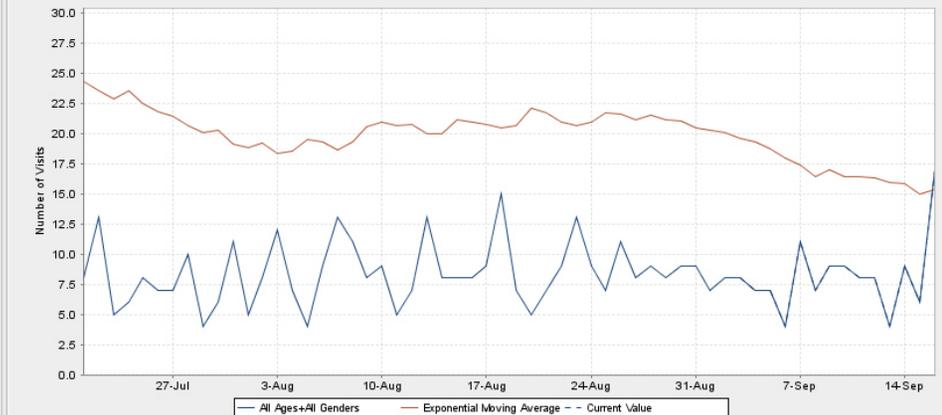
Spatial Scan County Terrain



Distribution of Patient Records by Age Group



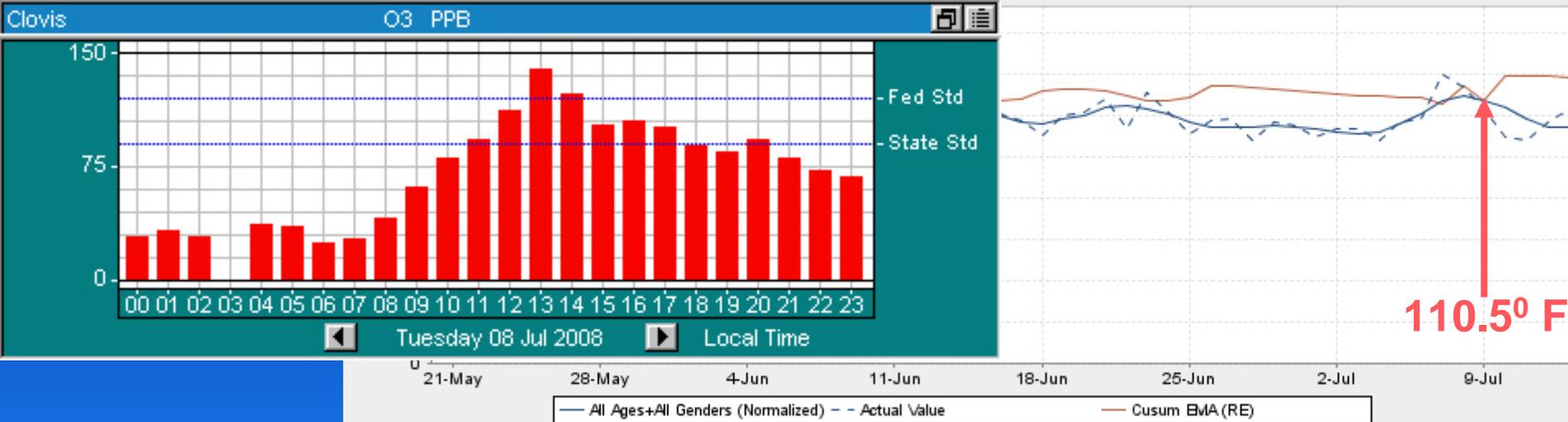
Fresno County, CA - Rash (Actual Value)



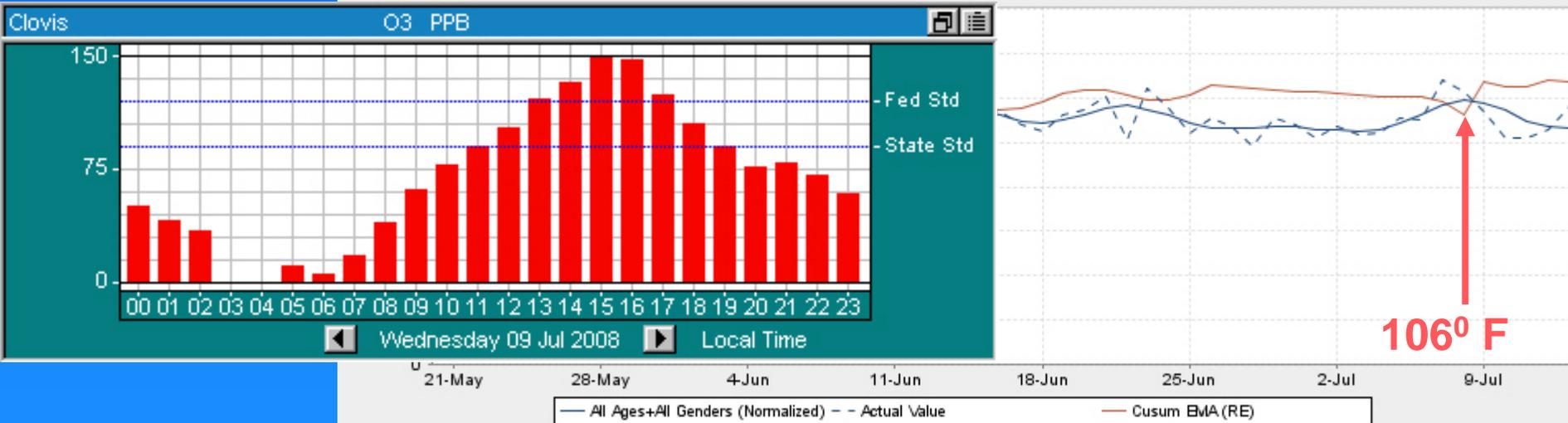
Surveillance for Health Effects of Wildfires, Extreme Heat and Air Pollution with EpiCenter

Daily Total Emergency Room Patient Visits

Fresno_Madera - Emergency Department Registrations



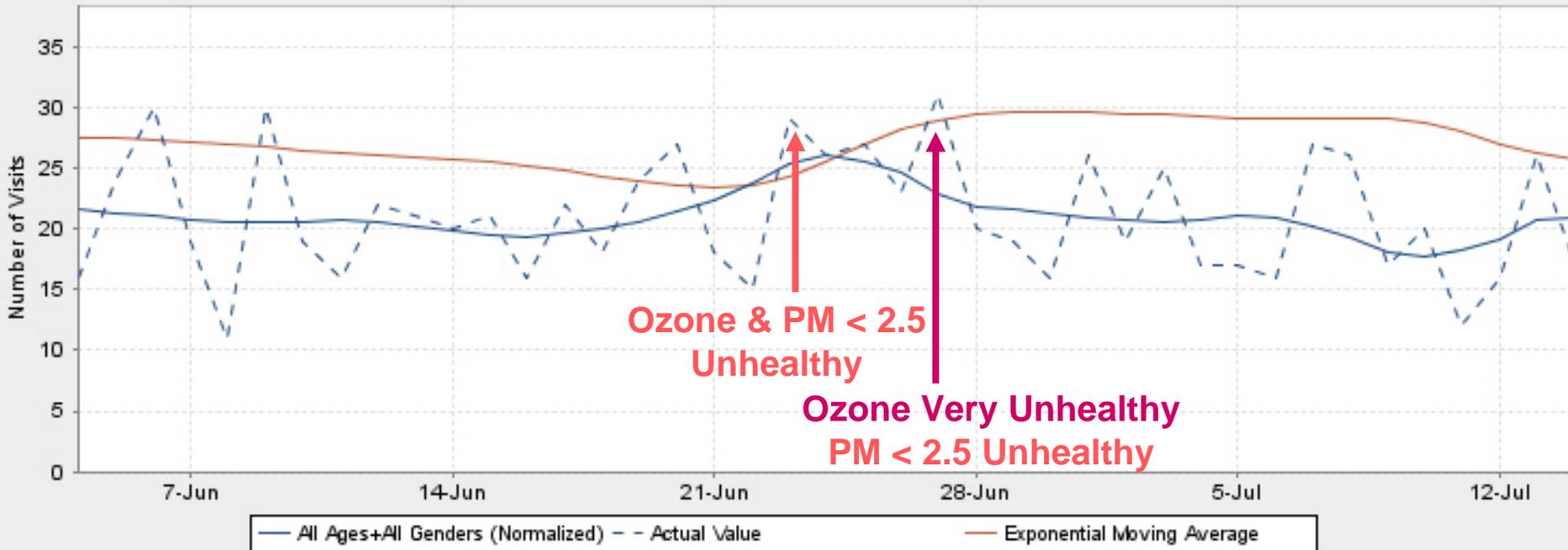
Fresno County, CA - Emergency Department Registrations



Maximum Apparent Temperature 7/9/2008, 110.5° F

Surveillance for Health Effects of Wildfires, Extreme Heat and Air Pollution with EpiCenter Emergency Room Patient Visits for Respiratory Syndrome

Fresno County, CA - Respiratory



Unhealthy Ozone and Particles < 2.5 μm

Maximum Apparent Temperature 6/25/2008, 89° F

Maximum Apparent Temperature 6/26/2008, 90° F

The following groups should avoid prolonged outdoor exertion:

- People with lung disease, such as asthma
- Children and older adults
- People who are active outdoors

Everyone else should limit prolonged outdoor exertion.

DataWatch 911

14:55:04

26 September 2008

Sun	Mon	Tue	Wed	Thu	Fri	Sat
	1	2	3	4	5	6
7	8	9	10	11	12	13
14	15	16	17	18	19	20
21	22	23	24	25	26	27
28	29	30				

9/26/2008 9/26/2008

Enter Date(s)

Today

Cancel Process

Report Preview

Export Report

Connection Settings



Bio Alert Settings

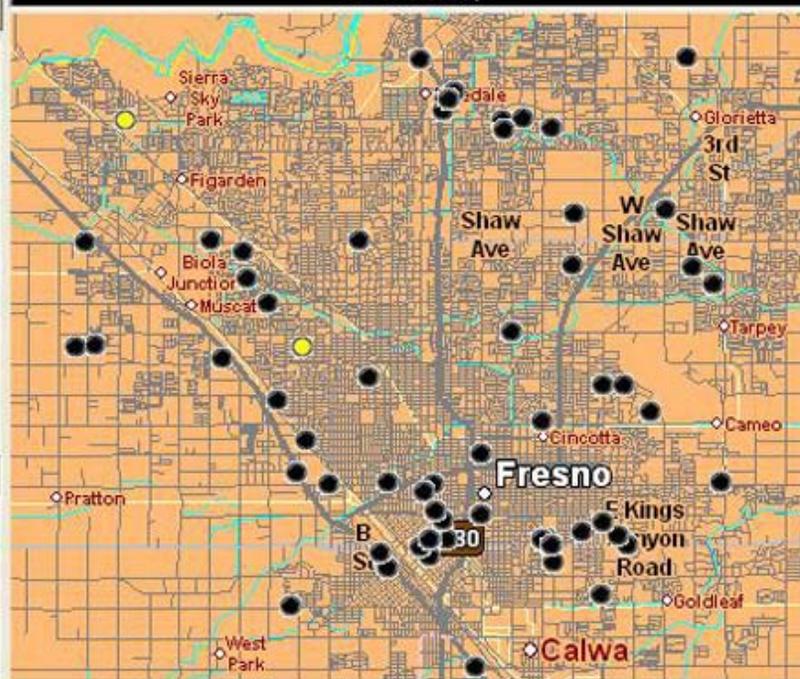
Graph Report

- *Breathing Problems-D1
- *Chest Pain-D1
- *Heat/Cold Exposure-B2
- *Sick Person-B1
- Heat/Cold Exposure-A1
- Heat/Cold Exposure-B1
- Heat/Cold Exposure-C1
- Heat/Cold Exposure-D1
- Sick Person-A1
- Sick Person-C1
- Other

Map Click Bio Buffer

Radius: 2

Bio Alert Map



Homeland Security Advisory Level

ELEVATED

Significant Risk of Terrorist Attacks.

*Breathing Problems-D1 (09/26/2008)

Problem	Address	Unit	ClockStart	Depart	At Hospital	Hospital
*Breathing Problems-D1	W Olive Ave & N Warren Ave...	112	00:13:49			
*Breathing Problems-D1	2810 Willow Ave Clovis	142	01:29:28	01:45:42	01:53:17	St. Agnes Medica
*Breathing Problems-D1	4150 E Dwight Way Fresno	150	01:53:45	02:10:27	02:25:04	St. Agnes Medica
*Breathing Problems-D1	1723 W Shields Ave Fresno	093	03:19:38	03:32:45	03:45:25	Regional Medical
*Breathing Problems-D1	3975 Marcus Ave Friant	115	03:27:25	03:52:33	04:10:44	St. Agnes Medica
*Breathing Problems-D1	11618 Kay Ln Hanford	624	05:54:56	06:18:16	06:27:21	Central Valley Ger
*Breathing Problems-D1	3003 N Mariposa St Fresno	139	06:18:19	06:45:57	06:56:52	Regional Medical
*Breathing Problems-D1	6105 N...	111	06:21:21	06:58:04	07:11:41	Keiser Hospi...