

**Syndromic Surveillance for Bioterrorism in
Santa Clara County, California:
October 1, 2001 to September 30, 2003**

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Background

- On October 1, 2001, the Santa Clara County Public Health Department instituted a syndromic surveillance system for the early detection of bioterrorism-related illness.
- No published guidelines for methods of collection, analysis, and presentation of syndromic surveillance data.

Objective

The purpose of this study is to present the results from the first 24 months of data collection and to compare the syndromic surveillance data with regional infectious disease data to evaluate the timeliness and sensitivity of the syndromic surveillance system.

Methods: Data Collection

- Triage nurse data
- 911 Calls
- Animal morbidity/mortality

Triage Nurse Data

- Each patient triaged
- 12 EDs, 1 telephone care center
- None, 1, or more than 1 of 6 clinical syndromes associated with bioterrorism-related illnesses
 - Influenza-like symptoms
 - Fever with mental status changes
 - Fever with a rash
 - Diarrhea and dehydration
 - Visual changes or swallowing difficulties
 - Acute respiratory distress

Data Collection Sheet

County of Santa Clara

Public Health Department
Disease Prevention and Control
2220 Moorpark Avenue
San Jose, California 95128
Ph (408) 885-4214
Fax (408) 885-4249



Early Warning System Syndromic Surveillance Tally Sheet

Facility: _____
Date: ___/___/___

Shift (check one): Days
 Evenings
 Nights

For each patient that you evaluate in triage, please place a tally mark for one (or more) of the categories listed below. If the patient does not have any of the syndromes listed, place a tally mark next to "none of the above." At the end of the shift, enter the shift totals and fax the information to 408-423-0737. Thank you for your cooperation.

Syndrome	Tally	Shift total
Flu-like symptoms		
Fever with mental status change		
Fever with skin rash		
Diarrhea with dehydration		
Visual or swallowing difficulties, drooping eyelids, slurred speech or dry mouth.		
Acute respiratory distress		
None of the above		

FAX to 408.423.0737

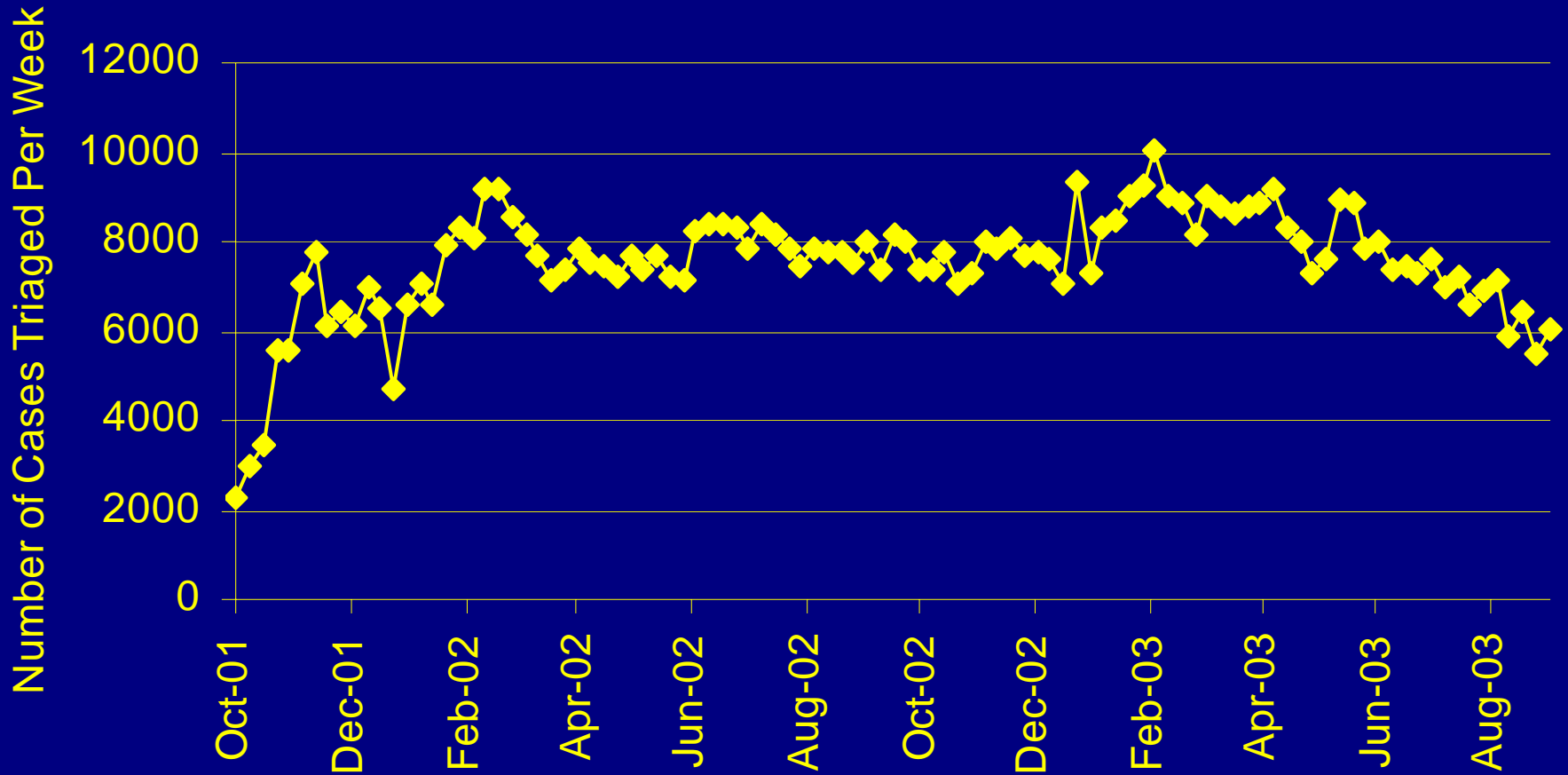
Signature _____



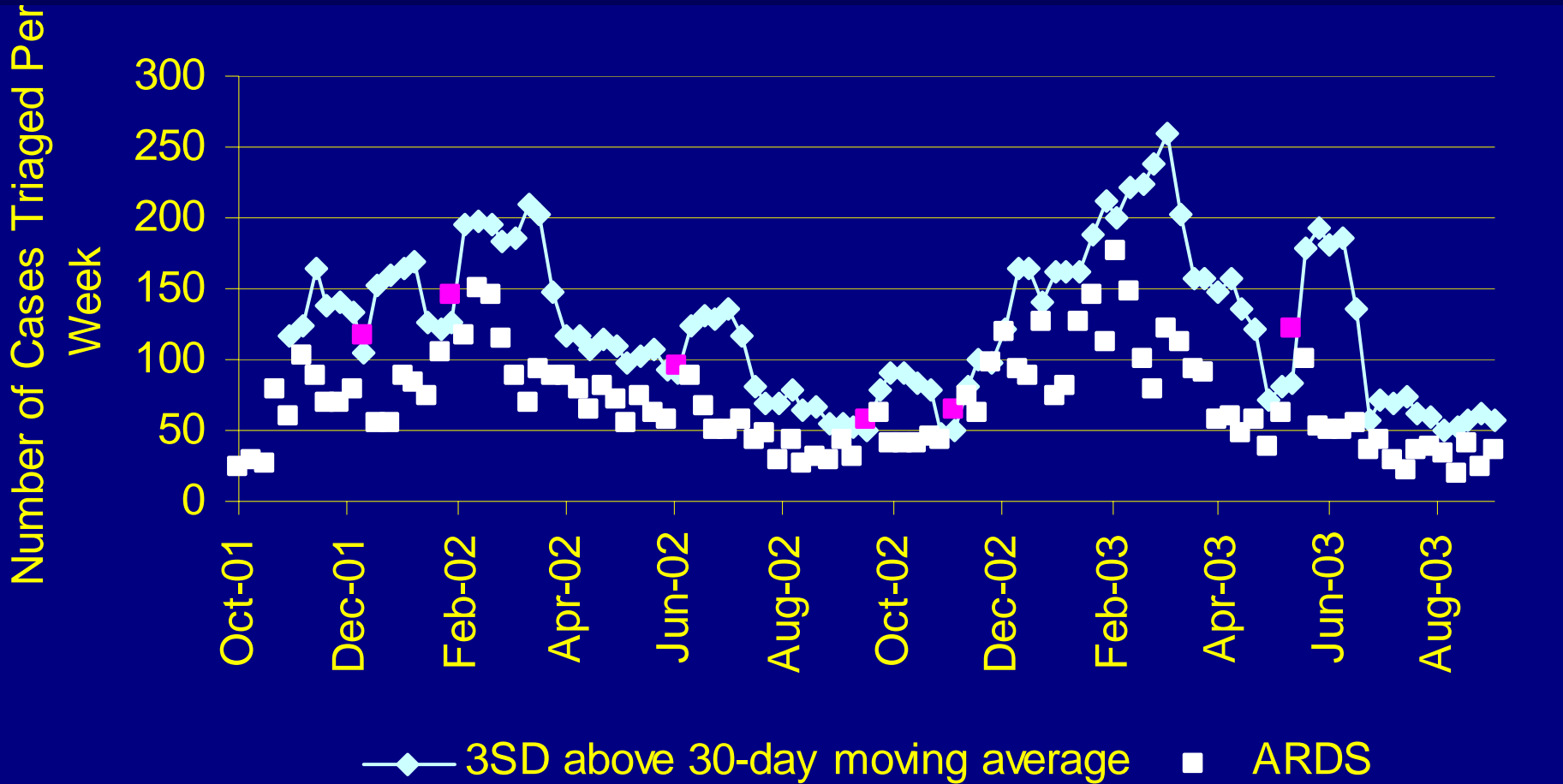
The Public Health Department is a division of the Santa Clara Valley Health & Hospital System.
Dedicated to the Health of the Whole Community. Owned and operated by the County of Santa Clara.



Results: Data Collected

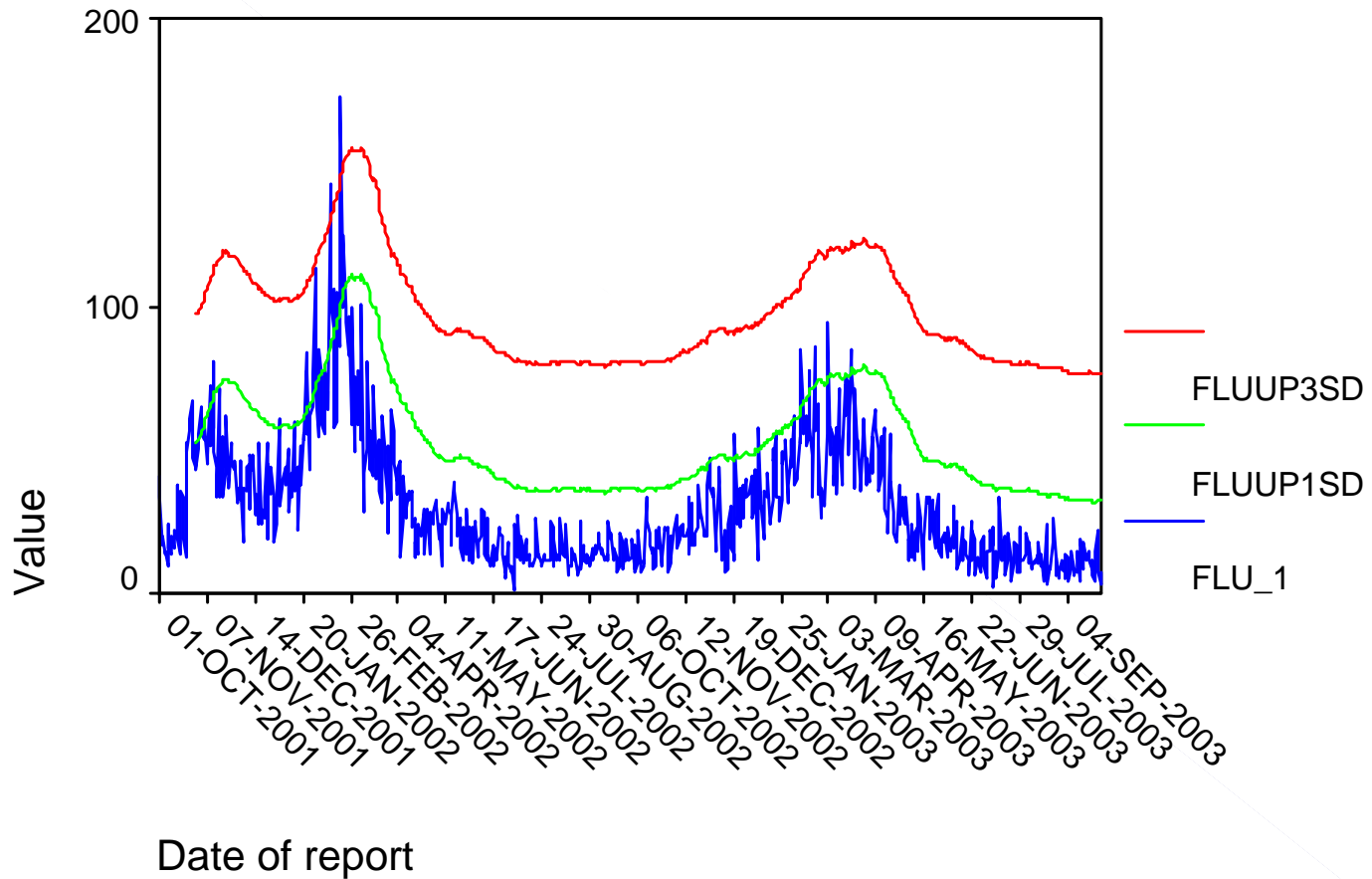


Setting Thresholds



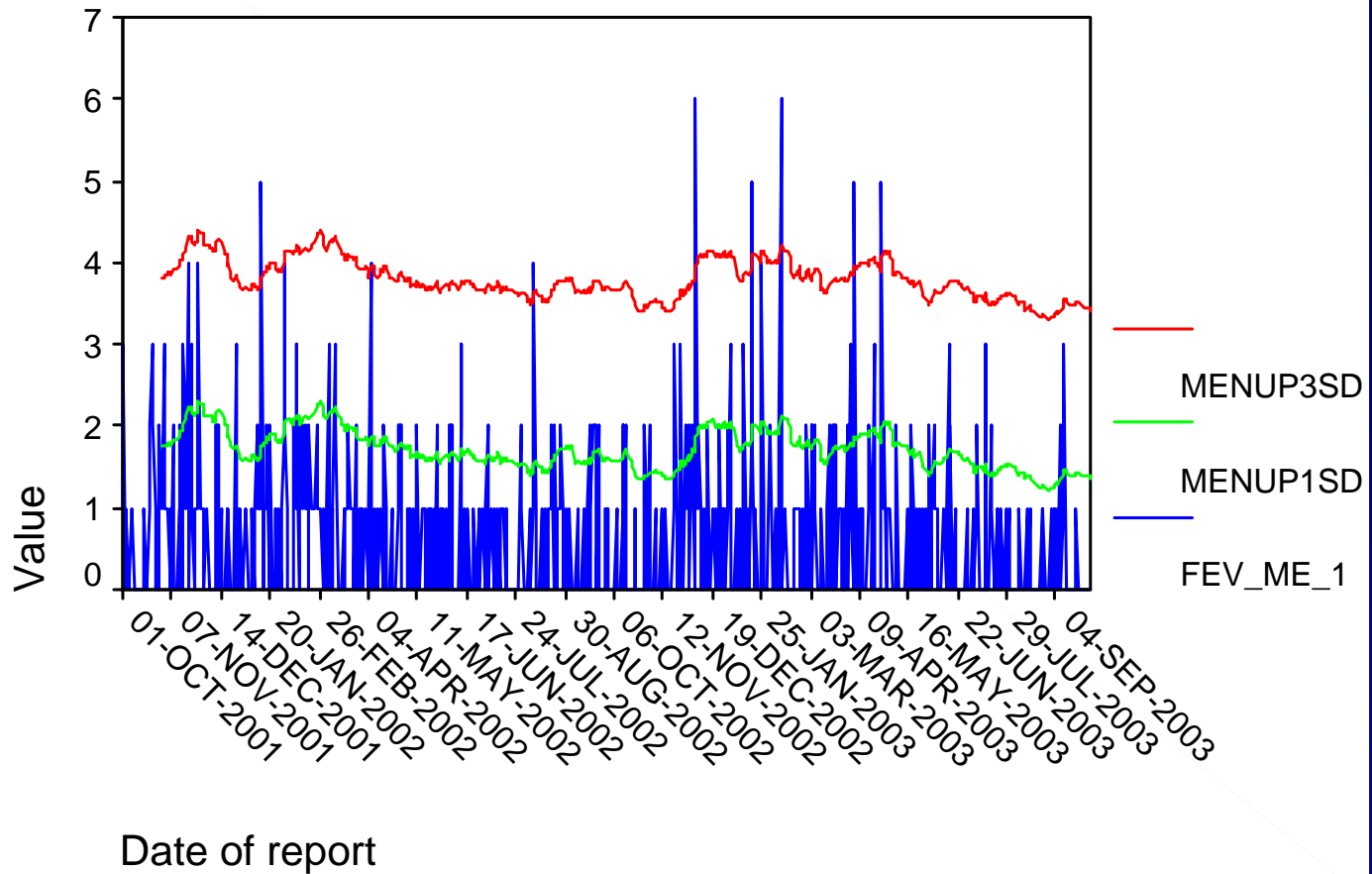
Flu Like Symptoms

30-day Moving Averages



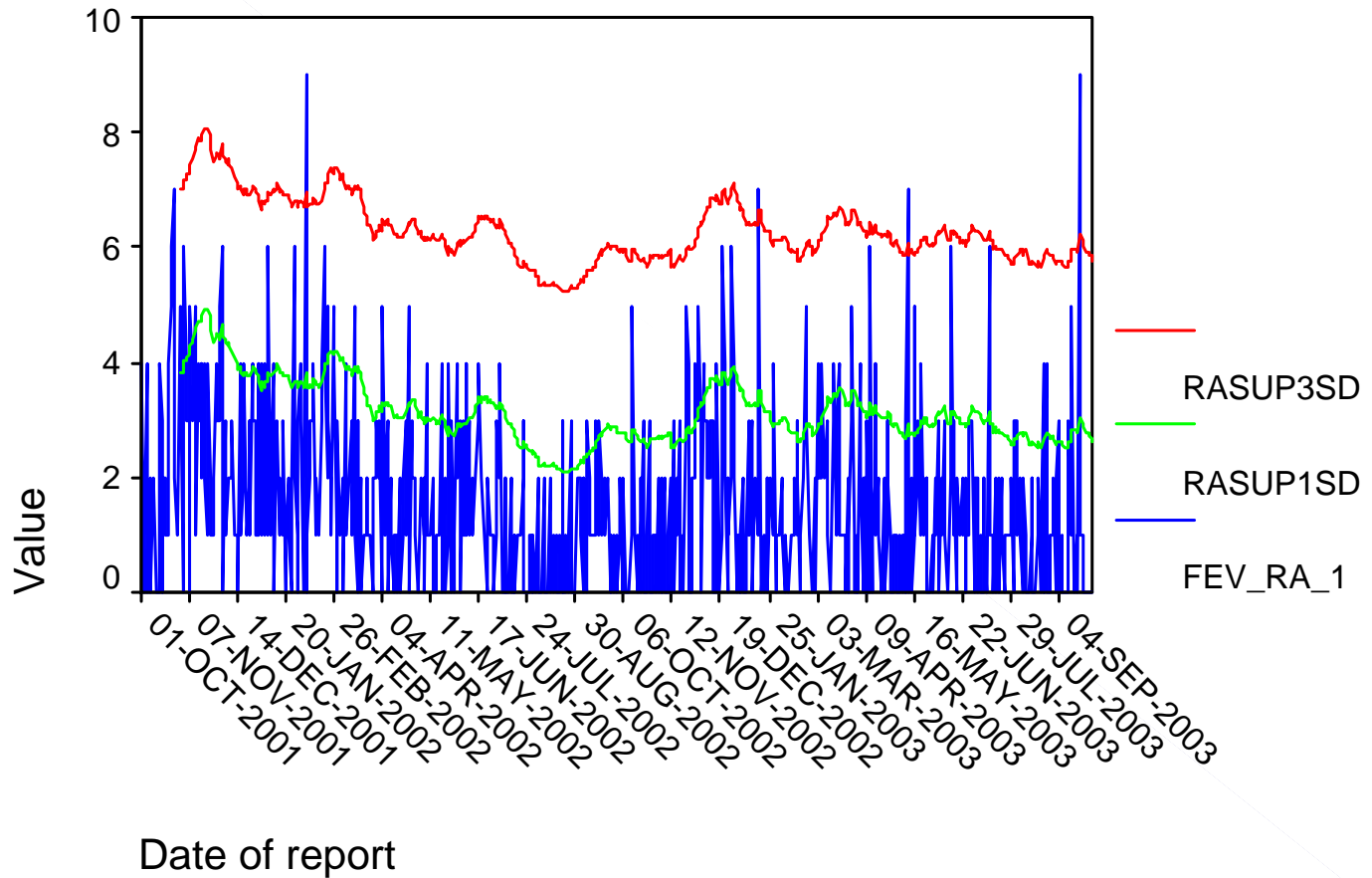
Fever & Mental Status Change

30-day Moving Averages



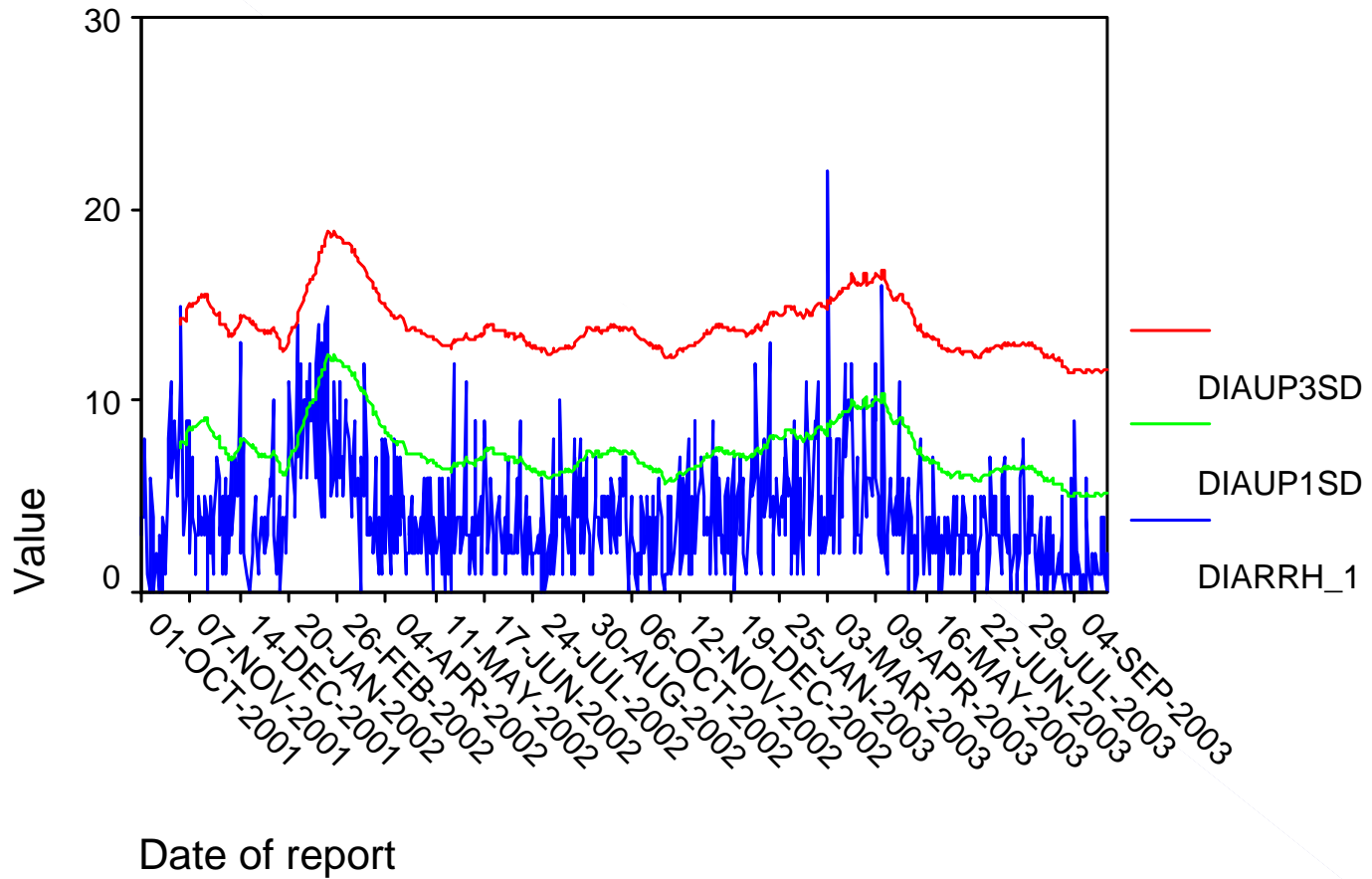
Fever & Rash

30-day Moving Averages



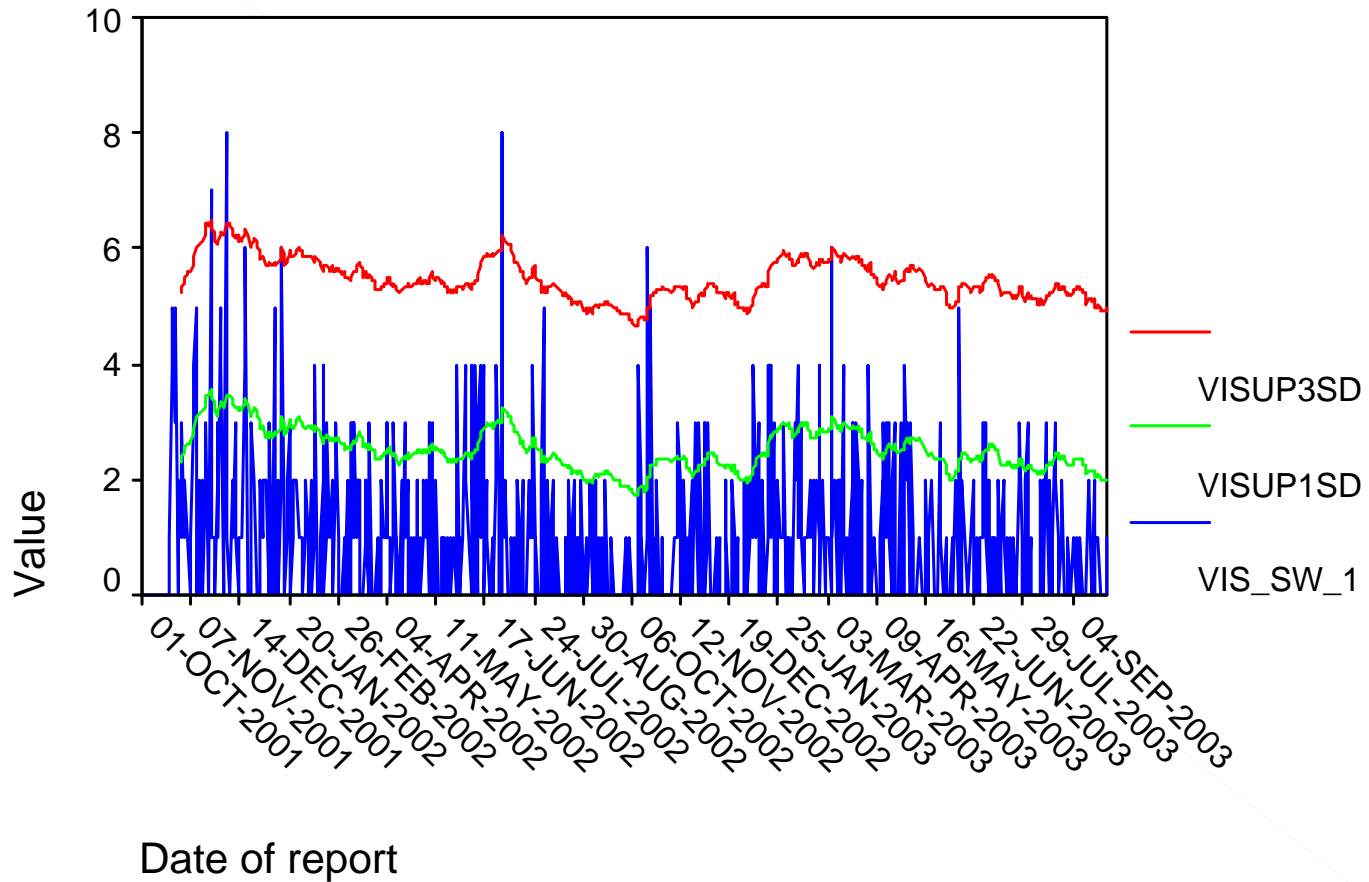
Diarrhea & Dehydration

30-day Moving Averages



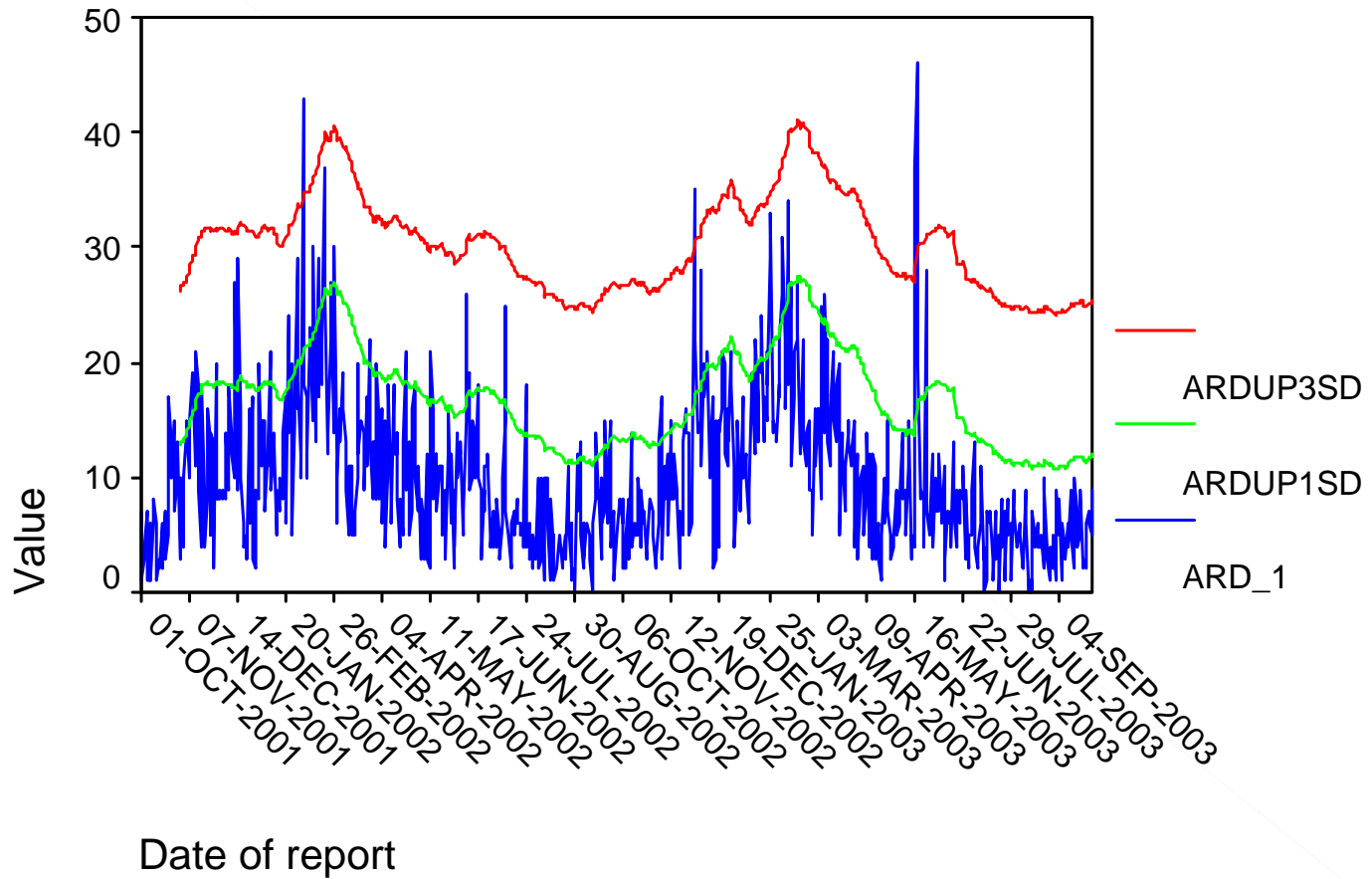
Visual and Swallowing Difficulty

30-day Moving Averages



Respiratory Distress

30-day Moving Averages



Comparing Data Sources

Data Elements

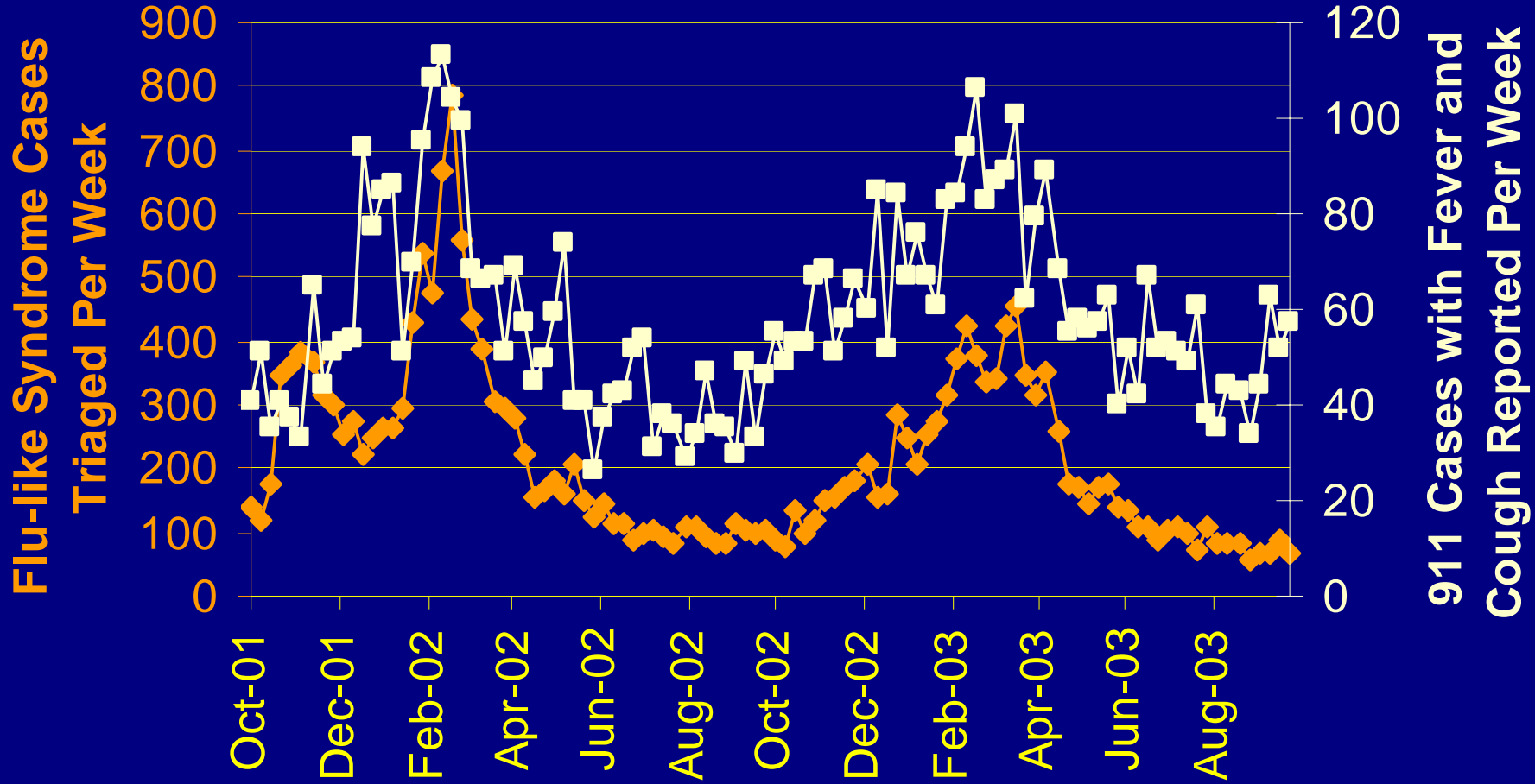
Tally Sheet

- Flu like symptoms
- Fever with rash
- Fever with mental status changes
- Diarrhea and dehydration
- Visual and swallowing difficulty
- Acute respiratory distress syndrome (ARDS)

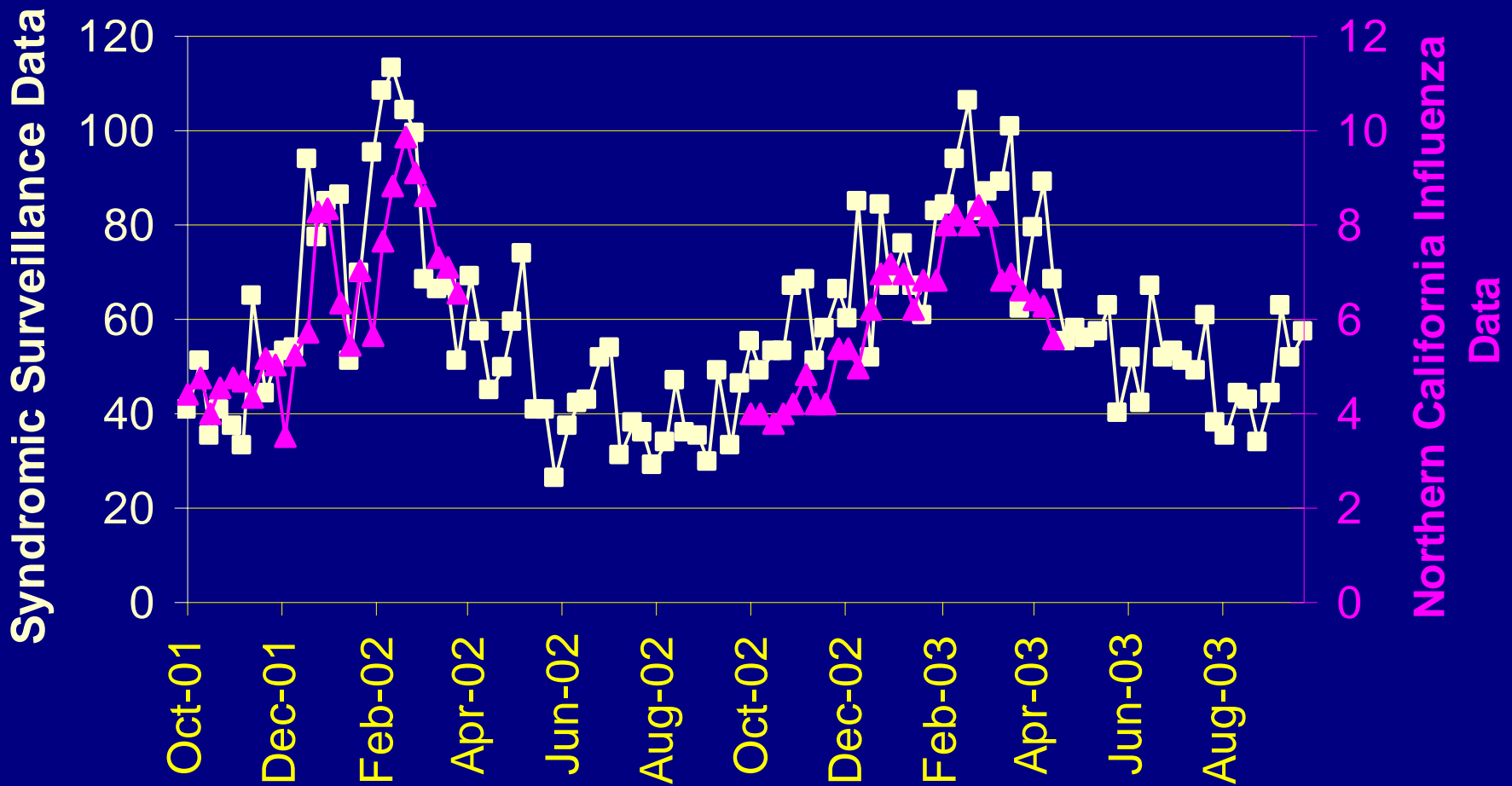
911 call

- Cough
- Fever
- Rash
- GI Pain
- Nausea
- Seizure symptoms
- Shortness of breath

Comparing Data Sources



Comparison to Regional Data



Conclusions

- We rapidly developed and deployed a system using existing fax technology to collect incidence data from triage nurses across the county and have sustained it for 2 years
- We have developed partnerships that have enabled us to collect and analyze complementary data sets on a daily basis

Conclusions (contd.)

- We conclude that such a syndromic surveillance system can detect influenza-like illness with timeliness and sensitivity similar to traditional infectious disease surveillance data
- Whether the syndromic surveillance system can detect bioterrorism-related illness is unknown.

Acknowledgements

- Triage nurses of Santa Clara County
- Paramedics of the San Jose Fire Department
- Members of Santa Clara Humane Society
- Steven Hintsa
- The California Department of Health Services