

NEW HAMPSHIRE DEPARTMENT
OF HEALTH AND HUMAN
SERVICES

Bureau of Communicable Disease
Surveillance

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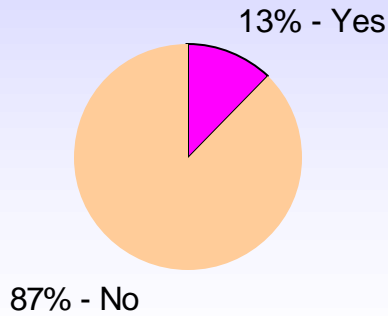
Emergency Department Syndromic Surveillance

- ◆ 16 out of 26 hospitals are currently participating or 60% of New Hampshire's total ED visits are being represented.
- ◆ Geographic representation includes all major communities in the state of New Hampshire.

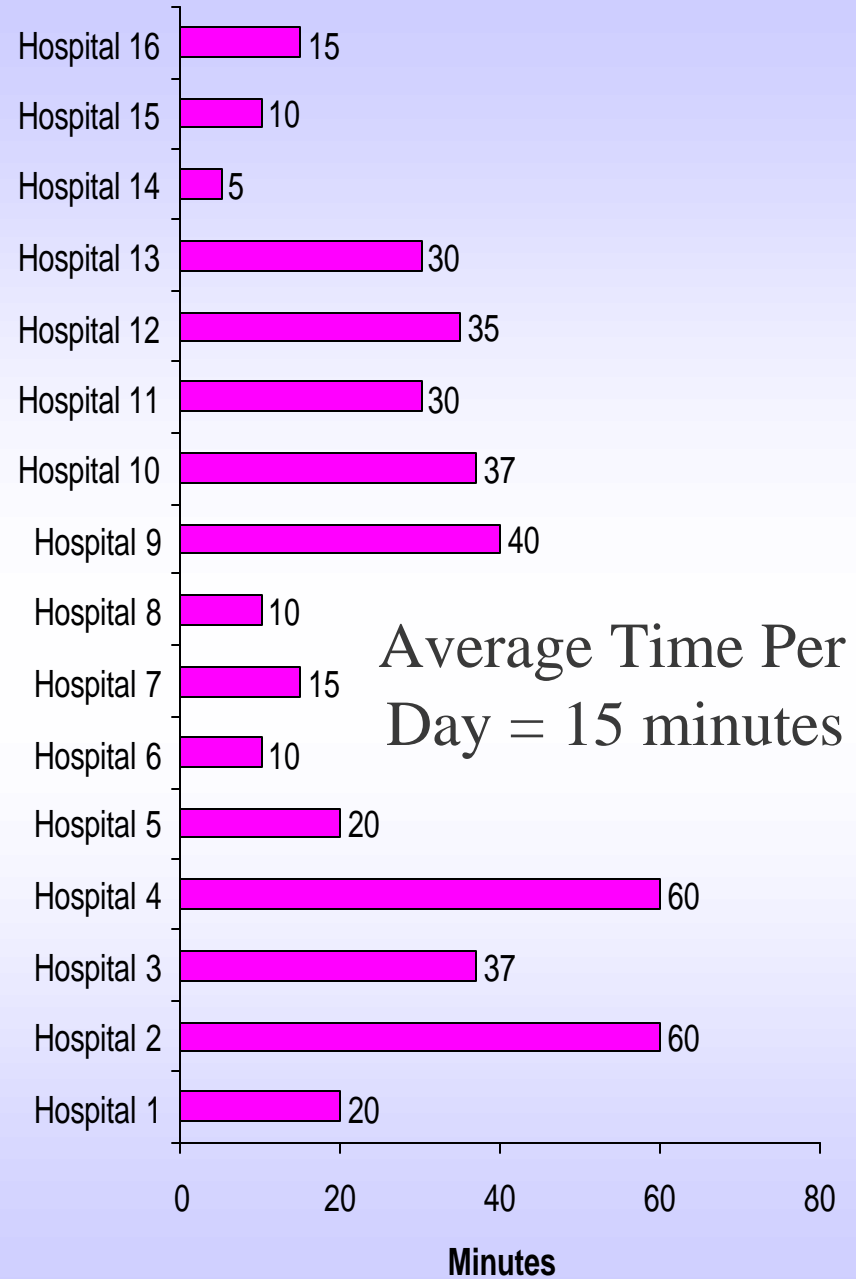
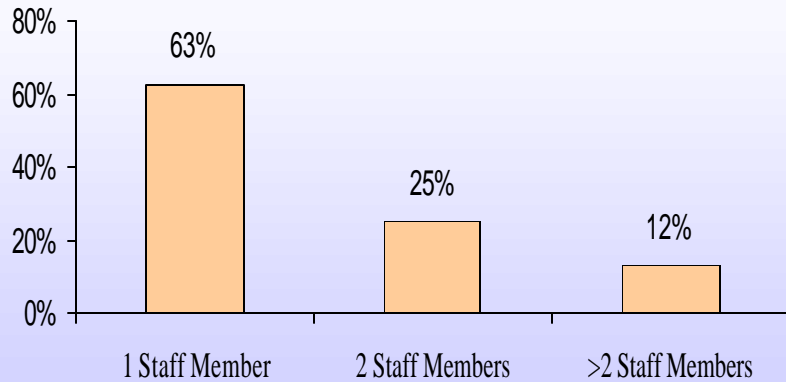
SURVEY OF HOSPITALS

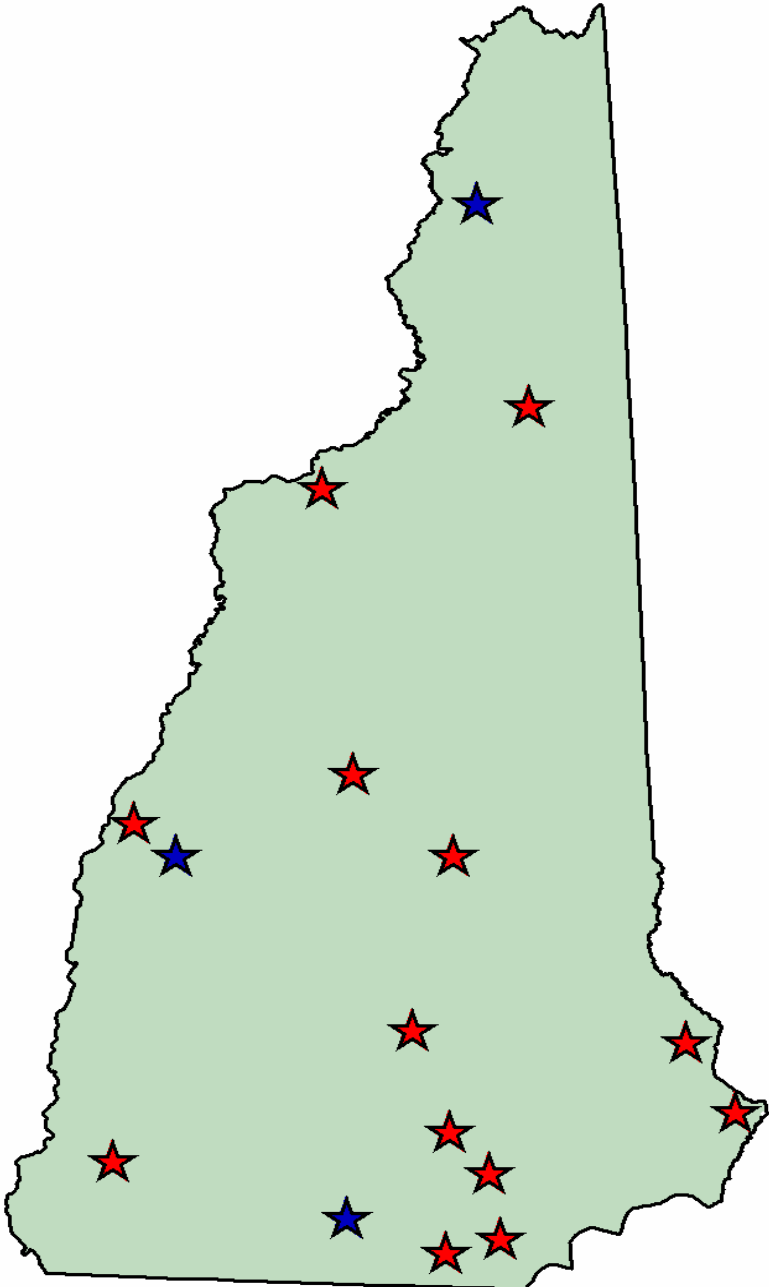
- ◆ Is your hospital ED data computer-based?
- ◆ Is your hospital currently working on a bioterrorism preparedness plan?
- ◆ How many minutes does it currently take you to compile the daily requested data?
- ◆ How many staff members are working on this request?

**Percent of Hospitals with Computer-Based
Emergency Visit Information Systems**



Number of Staff Required





Map provided by BHS DM, 10/31/01, JH

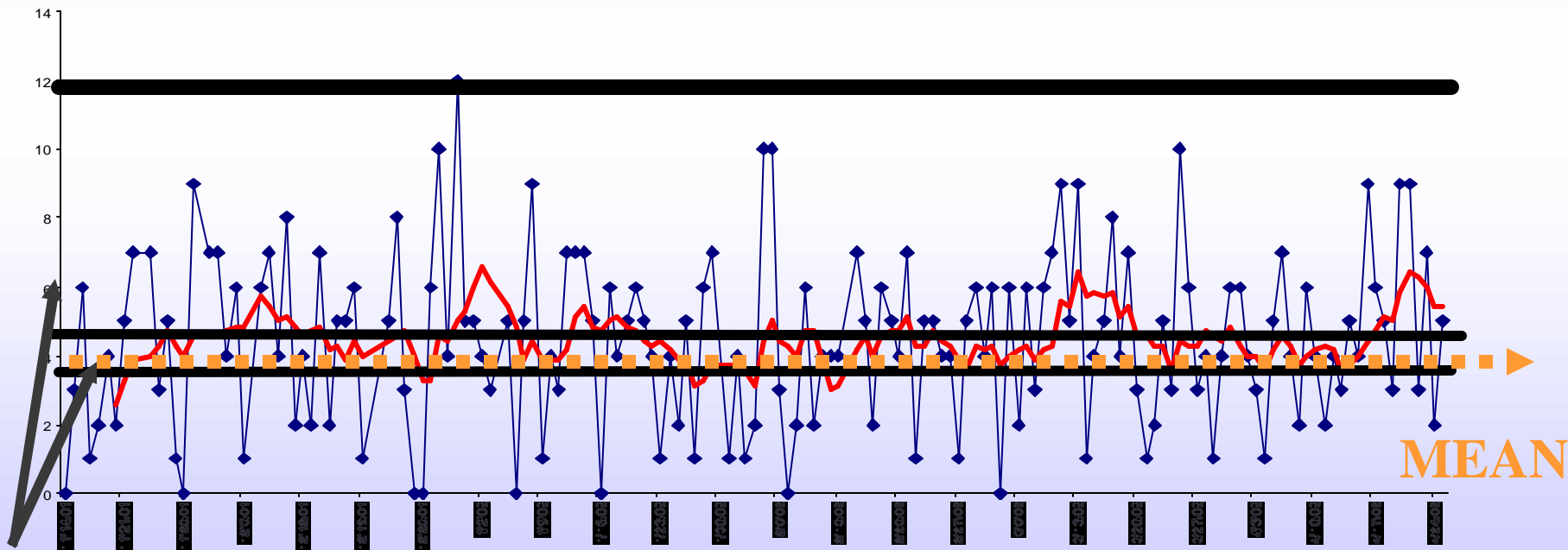
Syndromes and Current Case Definitions

- ◆ Total number of ED patients
- ◆ Fever equal to or greater than 100.4 degrees Fahrenheit
- ◆ Gastroenteritis- vomiting, diarrhea, or abdominal cramps
- ◆ Rash- any skin eruption whether due to an infectious disease or not
- ◆ Respiratory complaints- any medical condition that results in difficulty breathing

Data Analysis

Innovative variation on Shewhart's Control Chart evaluating individual count data and overall trends at the same time

Upper Control Limit or 3s or Individual Data Points



99.7% Confidence Intervals for Mean

Criteria used to evaluate the data points and triggers for action

- single or multiple data points falling outside the control limits (**outside of the third sigma line**).
- at least six points in a row steadily increasing, **anywhere on graph**.
- at least eight points in a row **on one side of centerline**.
- at least fourteen points alternating up and down, **anywhere on graph**.
- moving average curve expanding over the confidence limits around the centerline mean, in an upward trend, shall signify special cause variation especially if this trend continues for **three or more seven-day time periods (21 days)**.

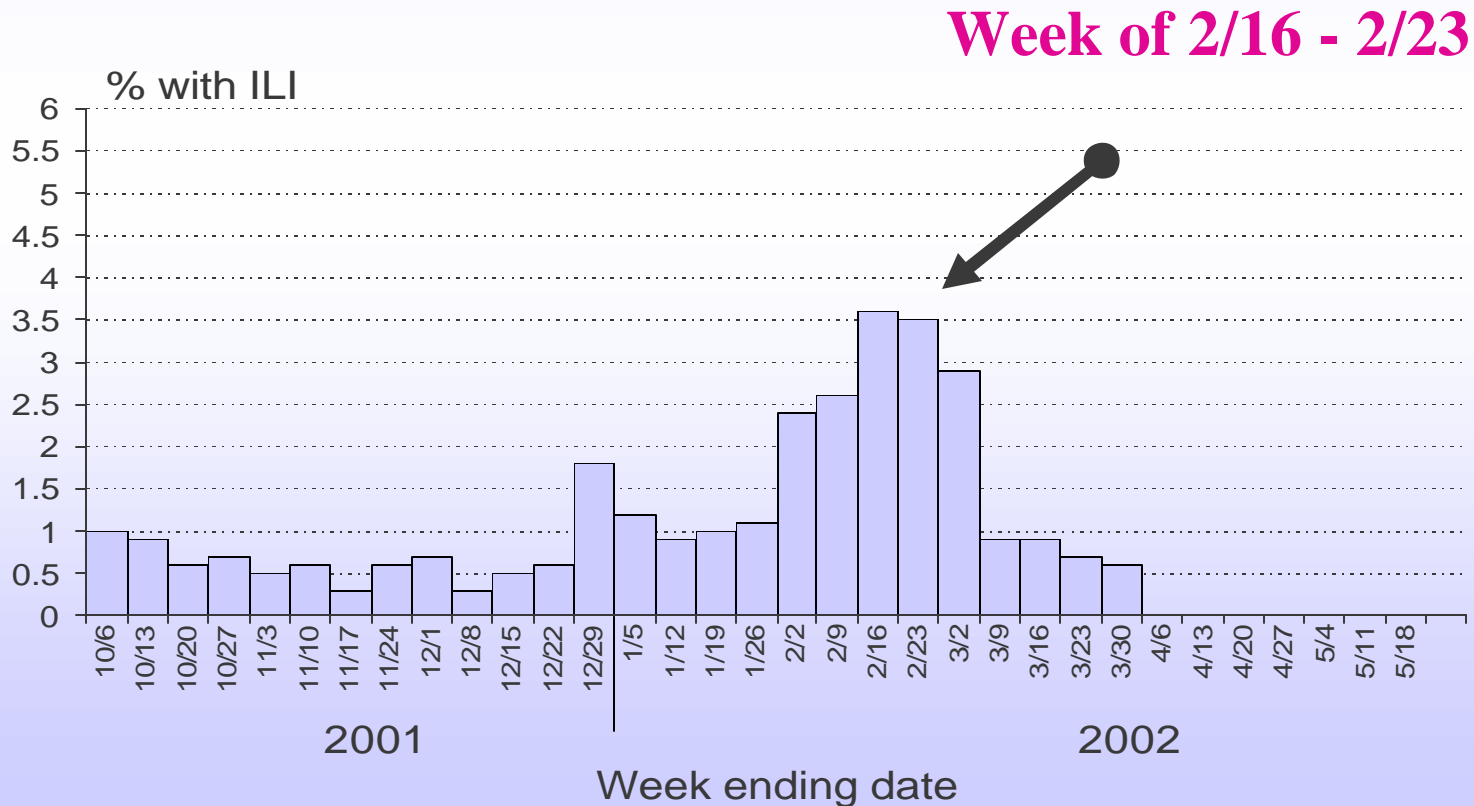
BCDS Actions

- ◆ BT Coordinator will contact the Infection Control Practitioner (ICP) at the hospital and ask that person to review the medical records that were part of the daily trigger.
- ◆ If an increasing trend in the data cannot be explained by either the hospital or the BT Coordinator, the State Epidemiologist will be notified and an Outbreak Team meeting may be initiated.
- ◆ Actions by the BCDS are still in development and are open to further revisions/additions if necessary.

Results to date.....

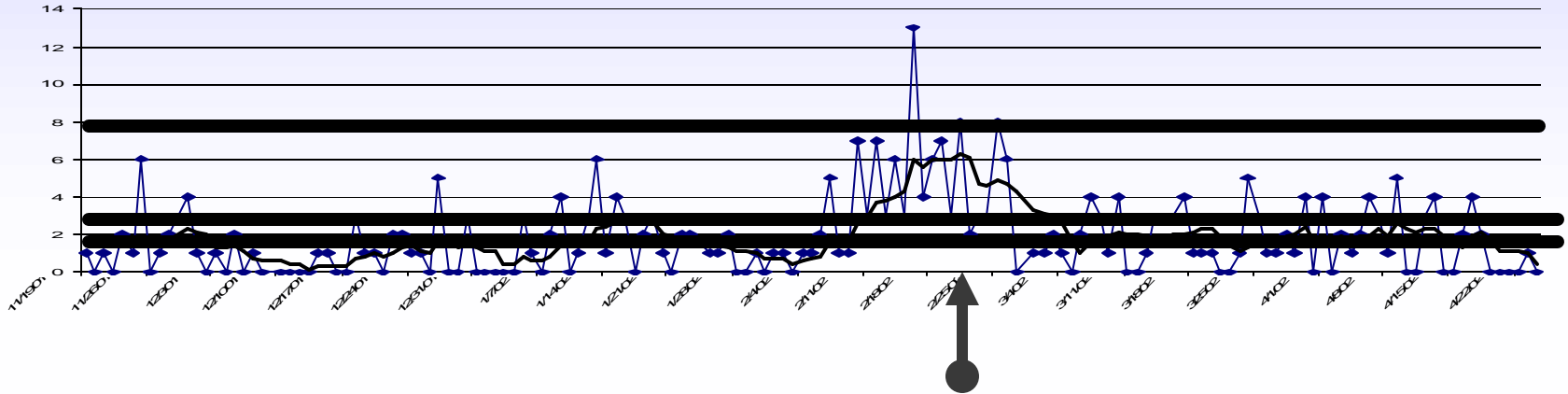
Syndromic Surveillance system mirrors the influenza sentinel site participants in the detection of New Hampshire's influenza season.

Weekly percentage of visits to New Hampshire sentinel sites for influenza-like illness (ILI), 10/1/01 - 3/30/02



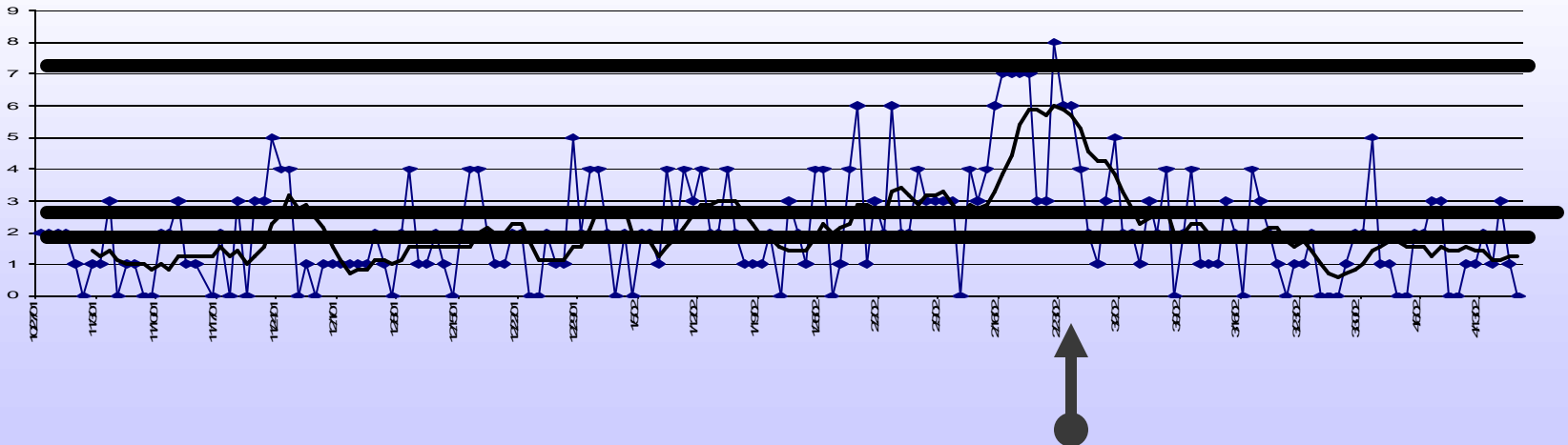
Seacoast Area, NH

Hospital A



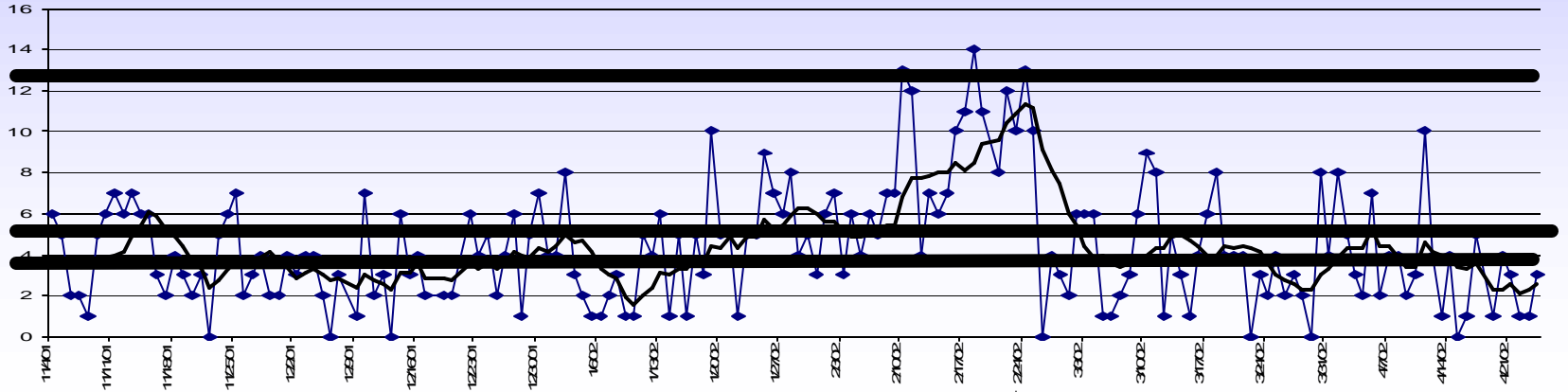
Week of 2/16 - 2/23

Hospital B



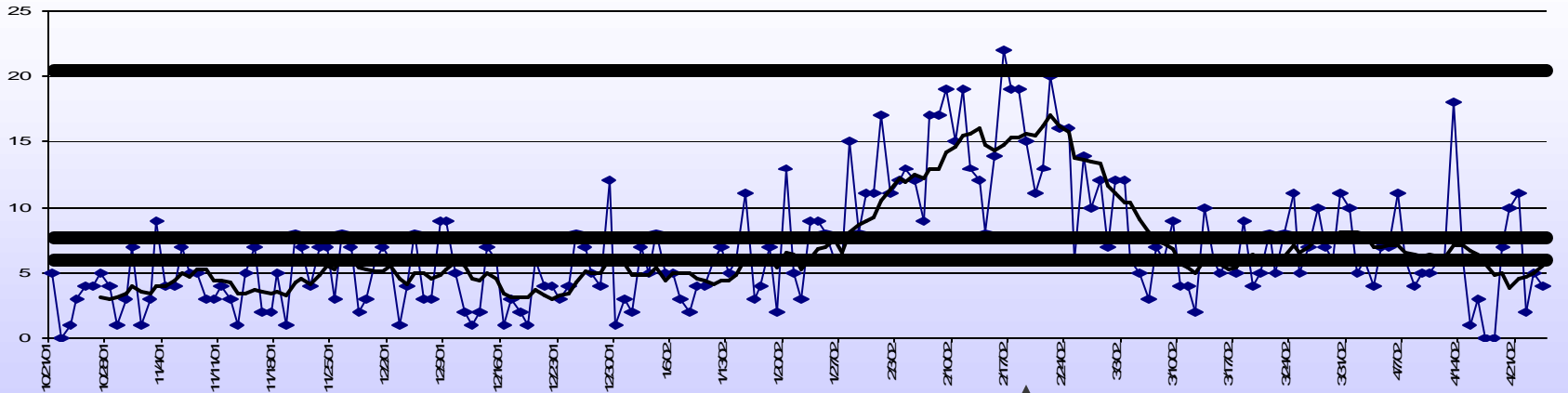
Southern NH

Hospital A

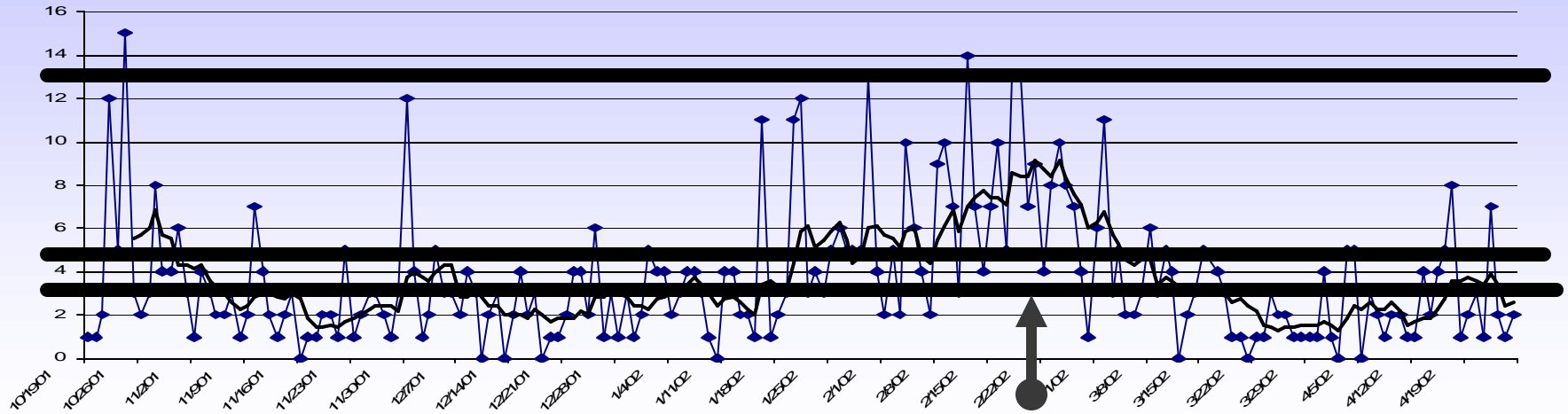


Week of 2/16 - 2/23

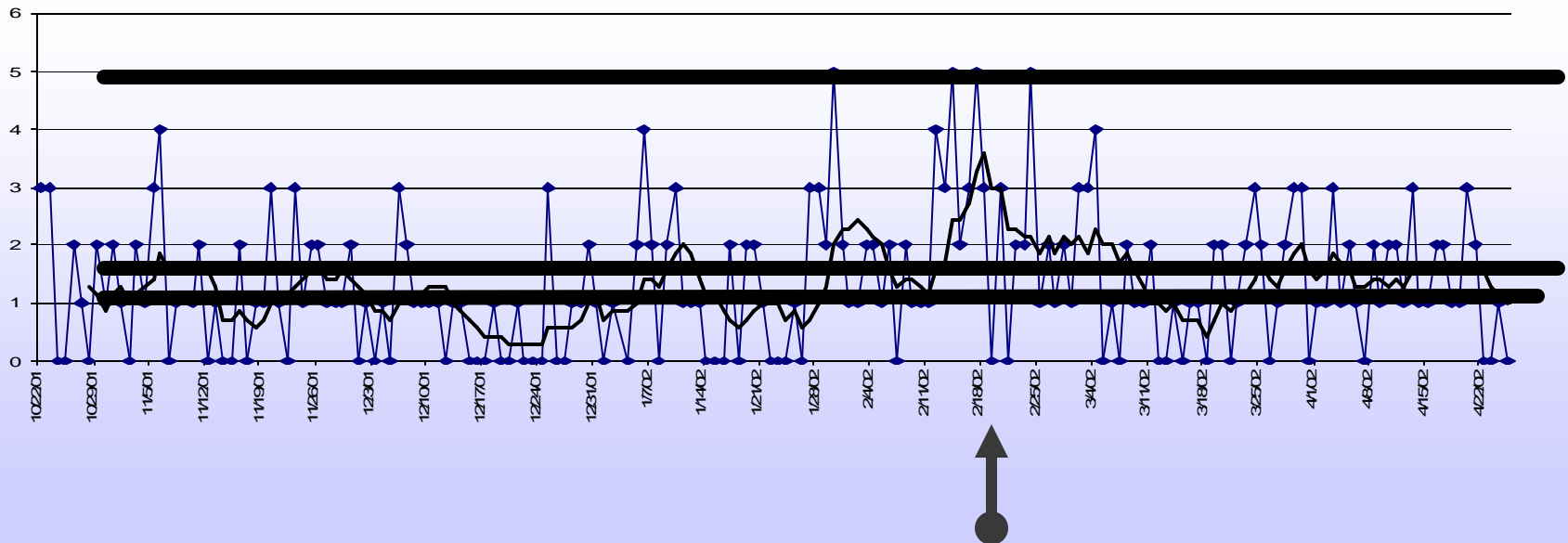
Hospital B



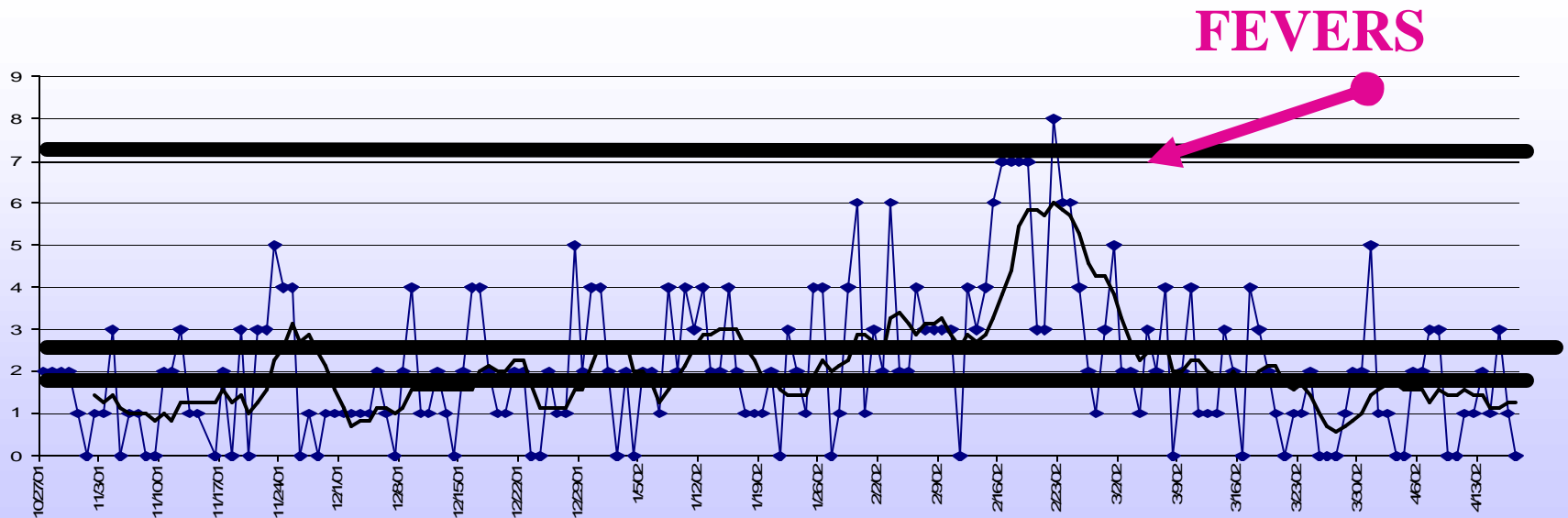
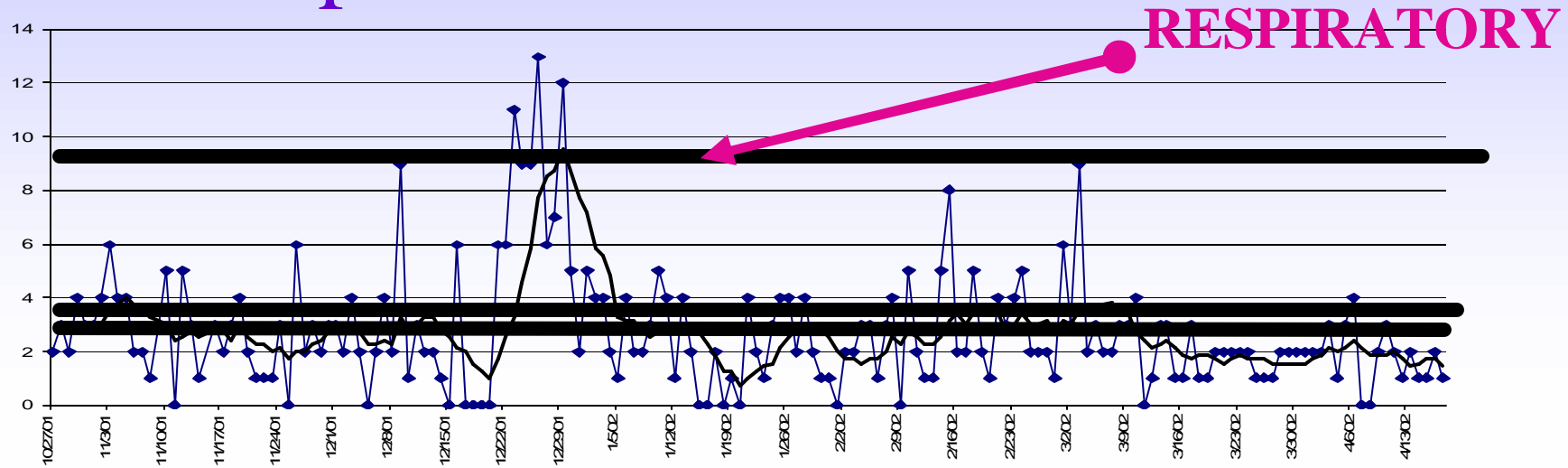
Central NH



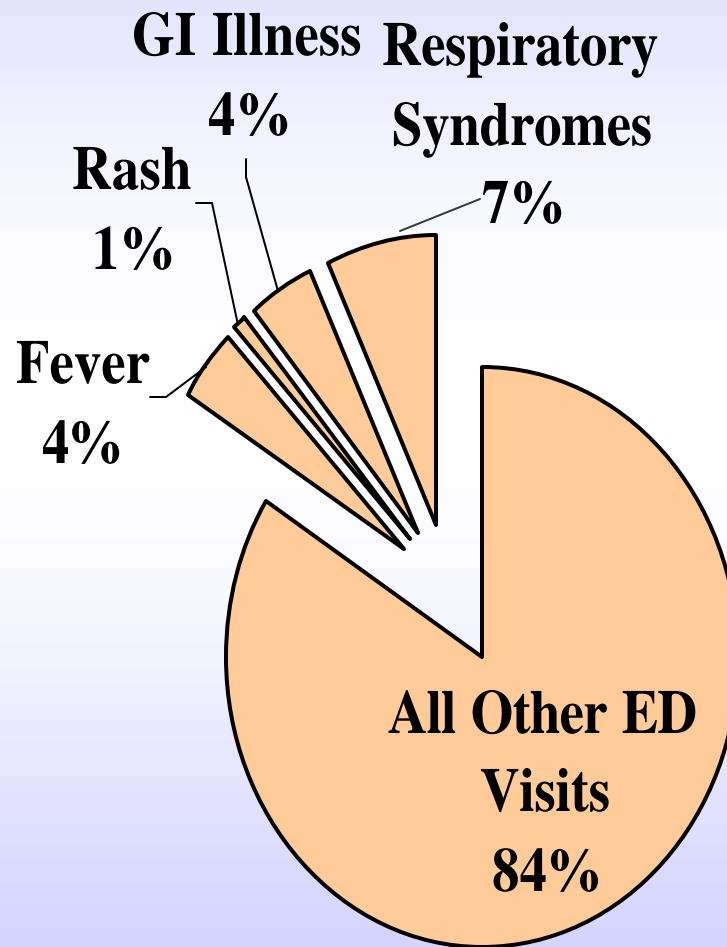
Northern NH Week of 2/16 - 2/23



Fever Reports Compared to Respiratory Reports - Different Trends



All Hospitals



Conclusions

1. Syndromic Surveillance is able to detect increases in illness in New Hampshire.
2. BCDS addressed hospital communication issues and facilitated a new partnership between State DHHS and First Responders.

Ongoing evaluation.....

- ◆ 9/16 hospitals showed an increase in rashes in the summer months.
- ◆ No large community-based outbreaks in NH, to date, to test ability of system to detect naturally occurring disease outbreaks.
- ◆ October 2002 will complete one year of data – **solid baselines.**

Next Steps...

- ◆ Web-based automation of data collection using off the shelf web application to ease data entry
- ◆ Use of quarter/seasonal averages for calculations of mean and confidence limits
- ◆ Increased detail in data collected (gender, age, location)
- ◆ A formal surveillance system evaluation will be conducted after one year of data is received