

**NEW JERSEY**  
Environmental Public Health Tracking Program

**NATIONAL**  
Environmental Public Health Tracking Program

**Environmental and Occupational Surveillance Activities at NJDOH:  
A New Use of Real Time  
Emergency Department Registration Data**

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NE Epidemiology Conference  
October 1, 2015

**NJ Health**  
New Jersey Department of Health

## Background – EpiCenter™

- Secure online system collecting emergency department (ED) registration data in real-time
- Developed by Health Monitoring Systems, Inc. (HMS)
- 97% of NJ ED facilities (78 out of 80) online
- Monitors key words in chief complaint field
- Ongoing statistical analyses
  - Detects anomalies
  - Triggers notifications
- Used for both communicable & non-communicable syndromic surveillance

## EpiCenter's Capabilities

- Real-time data for all ED visits
  - Minimal work for reporting facilities day-to-day
- Multiple analysis options
  - Charts, graphs, and mapping
- Alert e-mails
- Download capabilities
- Custom classifier development
- Anomalies can be filtered by region, time, classifier, home or facility location

## Surveillance Process

- Staff review case records with intake comments, patient status & ICD diagnostic codes
- If additional info needed, DOH contacts ED for details or clarification
- Comment section allows investigators to communicate notes to others

The current state of this investigation is **Concluding**. The investigator can change the investigation name, associate anomalies, add comments, edit permissions, view or edit interactions, or update the state of the investigation.

Latest Activity: 09/05/2013 1:00 PM  
"Conclude investigation"

**Resolve Investigation**

You have selected to resolve the investigation as severe weather event. Click OK below to assign the final state to all associated anomalies. If you wish to assign a different final state to one or more of the anomalies please select a new state in the corresponding drop down box before selecting OK.

12/15/2013 Ear, Nose, Throat by Exponential Floving Average in Miami County, OH: Indeterminate

12/18/2013 Emergency Department Registrations by Cusum EHA in Salem County, NJ: Naturally occurring disease

### Expanded Patient Record Display

- Line listing of patients detailing:
  - Date and time of ED visit
  - Sex and age of patient
  - Patient's residential zip code
  - Hospital and record number
  - Chief complaint/reason for visit

### Using EpiCenter for Sandy

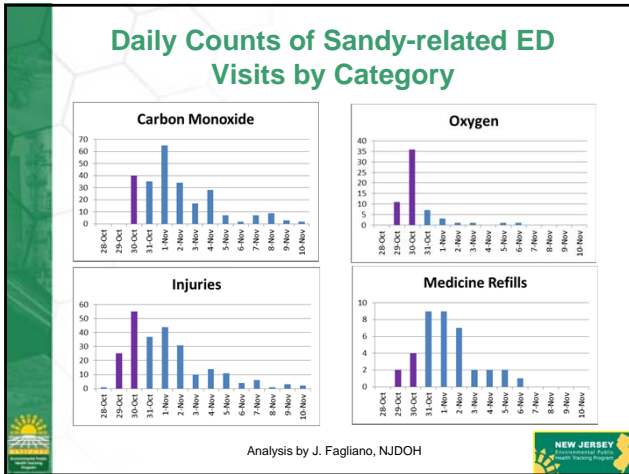
- Quickly established a "Hurricane" classifier
- Keyword examples: "flood", "storm", "Sandy", "hurricane", "carbon monoxide", "power outage"
- Facilities were requested to use "Sandy" or "storm" as a key word
- In Oct 2012, 75 facilities reporting - several key hospitals in Ocean & Monmouth counties were not using EpiCenter yet

### "HURRICANE" SYNDROME

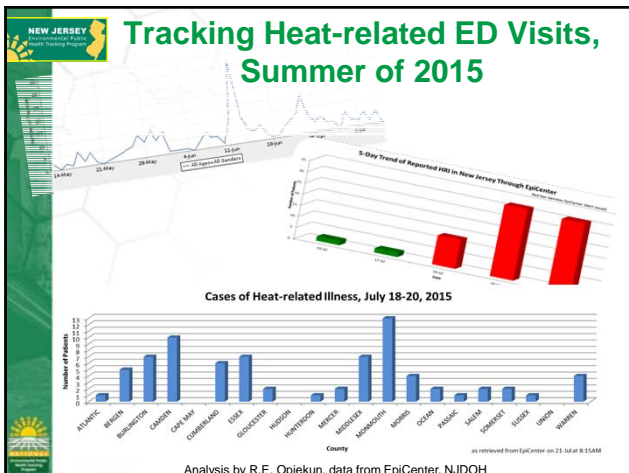
### Sandy-Related ED Visits by Category, 2012

Category	Number of Visits (Approximate)
Carbon Monoxide	250
Injuries	240
Respiratory/Chest	75
Mental Health	15
Hypothermia/Cold	10
Gastrointestinal	10
Infection/Fever	15
Other Symptoms	40
Oxygen	60
Medicine/Refill	40
Other Treatment	45
Unspecified	50

Data from EpiCenter Syndromic Surveillance System  
Oct. 28 – Nov 10, 2012; Analysis by J. Fagliano, NJDOH



- ### Development of Surveillance Suite for Extreme Weather Events
- Carbon monoxide exposure/ poisoning
  - Disrupted outpatient medical care
  - Cardiovascular
  - Tree-related injuries
  - Motor vehicle accident
  - Gastrointestinal illness
  - Respiratory illness
  - Mental-health related illness



### NJDOH's Heat-related Press Release and Tweets

**NJDOH @NJDeptofHealth - Jul 21**  
Beat the heat; 9 ways to avoid the dangers of extreme weather  
[bit.ly/1leKQKs](http://bit.ly/1leKQKs)

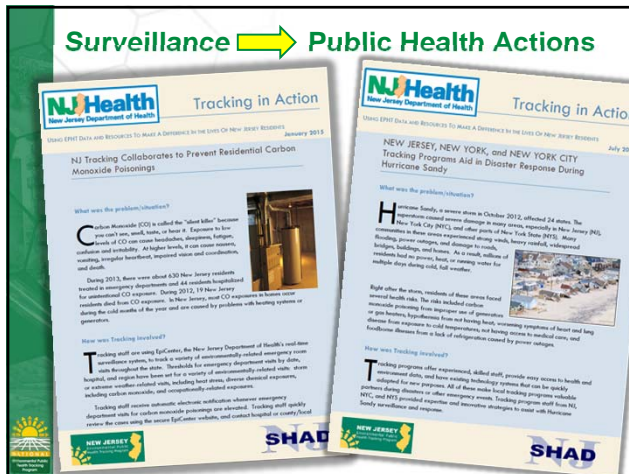
**NJDOH @NJDeptofHealth - Jul 30**  
Prolonged #heat & #humidity can present serious #health hazards. Stay cool, New Jersey! Here's how: [bit.ly/1leKQKs](http://bit.ly/1leKQKs)

## Additional Events Detected through EpiCenter Surveillance

- Chemical exposures
  - two children sickened by acute chlorine exposure in an apartment complex pool
- Occupational injuries, illnesses, & poisonings
  - exposure to toluene vapor at a nail polish manufacturing plant
  - six cases of pesticide exposure at a produce repacking facility
  - carbon monoxide poisoning of two police officers due to exhaust problems in their vehicle



## Surveillance → Public Health Actions



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