Lessons Learned

- *Independent state and local health department SyS systems used in tandem with CDC's NSSP BioSense Platform (ESSENCE application) allow comparison of data related to a spike in ED visits and chief complaints.* Such comparison enhances opportunities for health departments to either rule out or confirm incidents of public health concern within their community.

- *Routine SyS activities can be enhanced through collaboration.*

Contact

**Teresa Hamby, Analyst 2,
  Research and Evaluation**
New Jersey Department of Health
teresa.hamby@doh.nj.gov

Centers for Disease Control and Prevention
Center for Surveillance, Epidemiology, and
  Laboratory Services
Division of Health Informatics and Surveillance
www.cdc.gov/nssp

This success story shows how NSSP:

  Improves Data Representativeness
✓ **Improves Data Quality, Timeliness, and Use**
✓ **Strengthens Syndromic Surveillance Practice**
✓ **Informs Public Health Action or Response**

Two Unique Syndromic Surveillance Systems: State and Federal Collaboration to Identify Spike in "Visits of Interest"

The New Jersey Department of Health (NJDOH) uses Health Monitoring Systems' EpiCenter to collect, manage, and analyze real-time emergency department (ED) data acquired from acute care hospitals and satellite EDs. NJDOH integrates these data into a comprehensive surveillance system, relying on prediagnostic data such as chief complaints from people seeking acute care to identify emerging trends. Public health and hospital practitioners can use EpiCenter to access syndromic surveillance (SyS) data via a desktop application in a secure browser. NJDOH uses EpiCenter to monitor the level of influenza-like illness during flu season, identify illnesses and injuries associated with natural or man-made disasters, and detect infectious disease symptoms or emerging outbreaks and issues of public health concern. NJDOH also participates in the National Syndromic Surveillance Program (NSSP) and submits SyS data to CDC's NSSP BioSense Platform.

Public Health Problem

In April 2017, a CDC NSSP syndromic surveillance expert identified a spike in the NJDOH's hospital ED "Visits of Interest" category based on chief complaint and discharge diagnosis while reviewing HHS Region 2 data within the Electronic Surveillance System for the Early Notification of Community-based Epidemics (ESSENCE). ESSENCE is an application housed on the NSSP BioSense Platform.

Actions Taken

CDC notified the NJDOH surveillance team that NSSP ESSENCE identified an uptick in ED "Visits of Interest." NJDOH's data analyst assessed the results of the ESSENCE query and confirmed the increase in "Exposure" and "School Exposure" chief complaints in two contiguous counties. Although these visits had prompted an alert in NJDOH's SyS system for total visits, the alert was not sustained. Without a communicable disease connection, the alert was closed. To identify the origin of the spike detected by ESSENCE, the NJDOH staff searched local news reports for alert date and determined the visits resulted from a dormitory fire at a university in one of the counties where the visits occurred.

Outcome

This event was neither an outbreak nor a communicable disease, yet it provided an opportunity for NSSP and NJDOH staff to work together, combining data from both NJDOH's EpiCenter and CDC's BioSense Platform to determine whether this event required further investigation. For NJDOH staff, this was a real-world event that combined use of the BioSense Platform with ESSENCE technology. Although the BioSense Platform is not NJDOH's primary SyS system, having access to alternate algorithms associated with ESSENCE allowed NJDOH the opportunity to compare and confirm incidents of public health concern. Also, the BioSense Platform has different classifications and keyword groupings that could enhance NJDOH's EpiCenter data.