

Better, Stronger, Faster: Why Add Fields to Syndromic Surveillance? New Jersey, 2015



Pinar Erdogdu, MPH; Teresa Hamby, MSPH; Stella Tsai, PhD, CIH
New Jersey Department of Health, Communicable Disease Service



Objective

The aim of this study is to evaluate potential benefit of adding triage note field to a syndromic surveillance system to enhance communicable disease surveillance activities for diseases such as Ebola and to enhance overdose surveillance.

Introduction

- Emergency department (ED) data are currently received from 78 of 80 acute care and satellite EDs by Health Monitoring Systems Inc.'s (HMS) EpiCenter.
- EpiCenter receives chief complaint data and provides alerts to state and local health departments for surveillance anomalies.
- Chief Complaint field describes the primary reason of an ED visit in a few words. Triage notes provide details about the illness such as risk factors and travel history.
- The need for more specific information raises the possibility that other data fields from EDs such as triage notes can be of utility in detecting outbreaks without a significant delay.
- The New Jersey Poison Information and Education System (NJPIES) receives calls from ED staff for treatment advice on drug or poison related cases.
- In April 2015, NJPIES reported an increase in calls to their center regarding synthetic cannabinoid reactions in ED patients.
- This increase in calls resembled an outbreak, so the New Jersey Department of Health (DOH) surveillance staff used the opportunity to compare chief complaint data from 78 EDs and triage note data from 3 EDs to NJPIES call data.

Methods

- NJPIES received 50 calls from ED staff between March 27 - May 16.
- NJDOH staff created a custom classification using synthetic cannabinoid related keywords in EpiCenter to identify relevant ED visits.

Keywords used

Black magic, black mamba, cloud 9, cloud 10, incense, k2, legal high, pot potpourri, spice, synthetic, marijuana, voodoo doll, wicked x, and zombie which were obtained from the New York City Department of Health and Mental Hygiene. Staff also included the keywords: agitation, k-2, moon rocks, seizure, skunk, and yucatan.

- Using the custom classification, synthetic cannabinoid related ED visits were identified in chief complaint.
- Using a text search, synthetic cannabinoid related ED visits were identified in the triage note data from 3 EDs.
- NJPIES call data were compared with chief complaint and triage note data.

Results

- Keywords resulted in ED visits

Table 1: Comparison of Synthetic Cannabinoid related keywords resulted in ED visits between March 27, 2015 and May 16, 2015.

Keywords	Chief Complaint	Triage Notes	Keywords	Chief Complaint	Triage Notes
Agitation	Yes	No	Seizure	Yes	Yes
K2	Yes	Yes	Spice	Yes	Yes
Marijuana	Yes	Yes	Zombie	No	Yes

- Out of 50 NJPIES calls, 18 (36%) were identified via chief complaint data. The rest was not identified due to the non-specificity of the information in the chief complaint data.
- Of the 50 calls, 6 ED visits were admitted to hospitals that submitted triage notes data in EpiCenter. Using the same keywords in a triage notes query, 5 (83%) out of 6 ED visits were identified.
- For a better comparison, data is analyzed from only 3 hospitals that had both chief complaint and triage note data.
- Based on chief complaint and triage note data from these 3 EDs (figure 1 and table 1), triage notes are able to provide more information about ED visits related to synthetic cannabinoids.

Figure 1: Number of ED visits related to Synthetic Cannabinoids from 3 EDs, between March 27, 2015 and May 16, 2015 by date

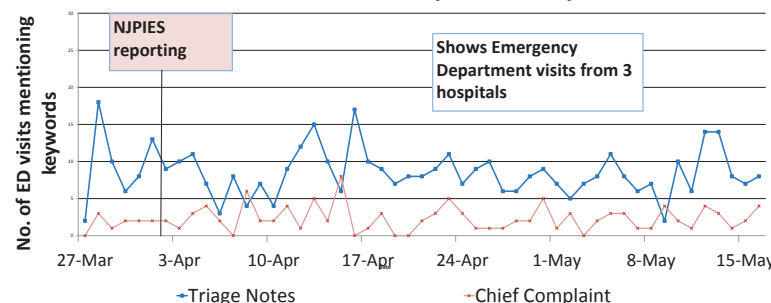


Table 2: Number of ED Visits related to Synthetic Cannabinoids from 3 EDs, between March 27, 2015 and May 16, 2015

	Triage Note Data	Chief Complaint Data
Hospital 1	96	0
Hospital 2	254	116
Hospital 3	84	0

Conclusions

- With the available data, majority of NJPIES calls from 3 hospitals were identified in triage notes. The percentage of ED visits identified from chief complaint data was lower (36%) than the percentage of ED visits identified through triage note data (83%).
- Review of NJPIES synthetic cannabinoid calls suggests that triage notes in syndromic surveillance system included more specific keywords than the chief complaints.
- Inclusion of new data fields such as triage notes has been initiated in New Jersey. These new data fields will provide additional information like travel history and added details on risk factors to syndromic surveillance, which is expected to lead to earlier detection and response to diseases like Ebola and drug overdose surveillance.

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