

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

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Objective

Describe the inclusion of triage notes into a syndromic surveillance system to enhance population health surveillance activities.

Introduction

In New Jersey, real-time emergency department (ED) data are currently received from EDs by Health Monitoring Systems Inc.'s (HMS) EpiCenter, which collects, manages and analyzes ED registration data for syndromic surveillance, and provides alerts to state and local health departments for surveillance anomalies.

EpiCenter receives pre-diagnostic chief complaint data from 78 of 80 acute care and satellite EDs. The need for more specific information raises the possibility that other data elements from EDs such as triage notes can be of utility in detecting outbreaks without a significant delay [1]. This study evaluates the inclusion of triage notes in EpiCenter to detect a recent increased usage of synthetic cannabinoids. At the time of this evaluation, three New Jersey hospitals were providing triage notes in their EpiCenter data.

Methods

In April 2015, the New Jersey Poison Information and Education System (NJPIES) reported an increase in calls to their center for consultation regarding synthetic cannabinoid reactions in ED patients. This increase in calls resembled an outbreak [2], so the Department of Health (DOH) surveillance staff used the opportunity to compare chief complaints and triage notes to call data provided by NJPIES.

NJDOH created a custom classification in EpiCenter to detect synthetic cannabinoid-related ED visits using chief complaint data. DOH staff included the keywords "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" to characterize the related event.

NJDOH performed a text search comparison using the same keywords in the triage notes field from three EDs currently providing that data to evaluate the synthetic cannabinoid related ED visits.

Results

Using the keywords, out of 50 NJPIES calls, 18 (36%) were identified via chief complaint data and 32 (64%) of the ED visits were not captured due to the non-specificity of the keywords used. Among the 18 visits, the most common keywords were "seizure" and "marijuana".

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. The most common keywords were "k2" and "marijuana".

Overall, based on the chief complaints and triage notes from these three EDs (figure 1 and table 1), triage notes are able to provide more information about ED visits related to synthetic cannabinoid between March 27 and May 16, 2015.

Conclusions

Review of NJPIES synthetic cannabinoid calls suggests that triage notes in syndromic surveillance systems included more specific keywords than the chief complaints and captured most of the calls related to synthetic cannabinoid. Triage notes inclusion has been initiated in New Jersey. This new data source will provide vital information to syndromic surveillance, which is expected to lead to earlier detection and response to health events like Ebola, Enterovirus D68, and drug overdose surveillance.

Table 1: Number of ED visits from 3 hospitals submitted both triage notes and chief complaint data between March 27, 2015 and May 16, 2015. Triage notes captured more ED visits compared to chief complaints.

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

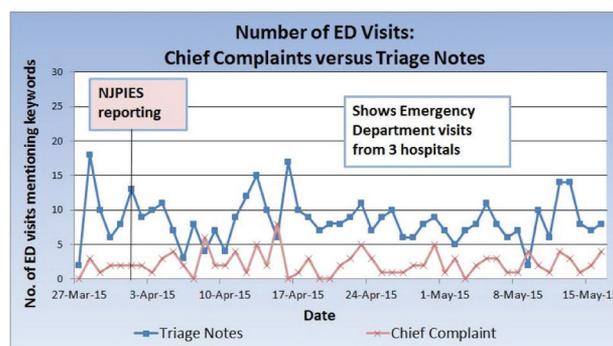


Figure 1: Number of ED visits by data type from three hospitals submitting both triage notes and chief complaint data between March 27, 2015 and May 16, 2015. Related to synthetic cannabinoid use, triage notes included more visits most days than chief complaints. On some dates, chief complaints included more ED visits.

Keywords

Syndromic Surveillance; EpiCenter; New Jersey

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