

Analysis of ED and UCC Visits Related to Synthetic Marijuana in ESSENCE-FL, 2010-2015

Presenting Authors: Charles R. Clark, MPH, Florida Department of Health and Michael Wiese, MPH, CPH, Florida Department of Health – Hillsborough County

Objective

Illnesses related to synthetic marijuana use have been reported in many states, including Florida. It can be difficult to detect and quantify the visits as they can present with a variety of symptoms or be attributed to numerous diagnosis codes. The Electronic Surveillance System for the Early Notification of Community-based Epidemics in Florida (ESSENCE-FL) receives chief complaint (CC) and discharge diagnosis (DD) data as free text allowing uncommon or new terms to be searched for within each patient visit. ESSENCE-FL currently receives data from 210 Emergency Departments (ED) and 33 Urgent Care Centers (UCC) throughout Florida. A specific query of CC and DD data was created to search for and identify visits possibly related to the use of synthetic marijuana and analyze all identified visits for trends over time, geographical distribution and descriptive statistics and demographics.

Methods

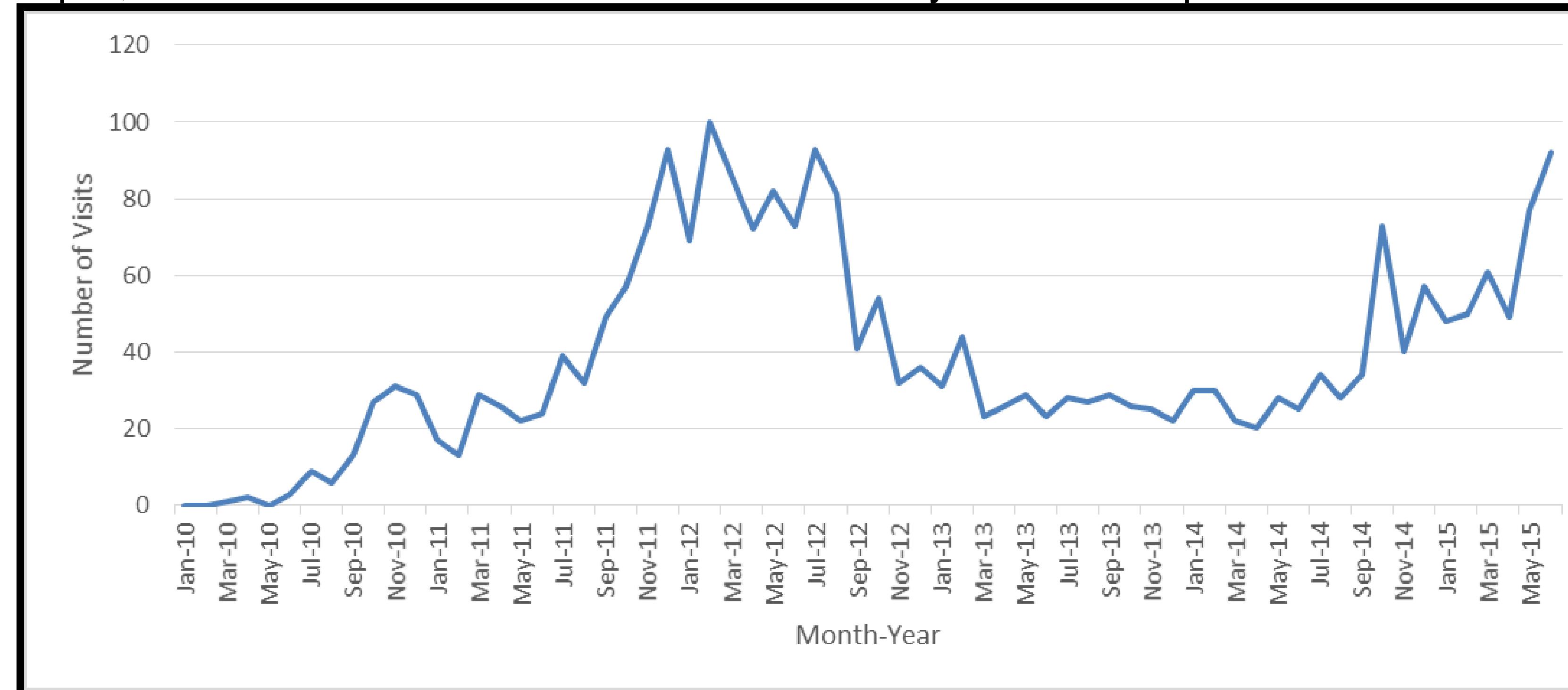
News articles, publications and internet searches were used to develop a comprehensive list of all terms and names that might be used for synthetic marijuana (ie. Spice, K2, etc.). These terms, and their common misspellings, were used to create the free text query. The developed query identified visits related to synthetic marijuana, while minimizing the identification of unrelated visits. All identified visits from January 1, 2010 through June 30, 2015 were analyzed using Microsoft Excel and mapped using ArcGIS.

Image 1: Sample packaging of synthetic marijuana



Results

Graph 1: ED and UCC Visits Related to Synthetic Marijuana, Florida, January 1, 2010 - June 30, 2015, by Month. Dates of note: Early 2011 – 1st group of synthetic drugs were banned in FL; July-August, 2012 – many cities in Palm Beach, Dade and Broward counties ban additional synthetic drugs; April, 2013 – statewide ban of 27 additional synthetic compounds.



Map 1: ED and UCC Visits Related to Synthetic Marijuana, Florida, January 1, 2010 - June 30, 2015, by County. Visits are mapped based on the patients home zip code. Unknown visits or visits from out of state are not included.

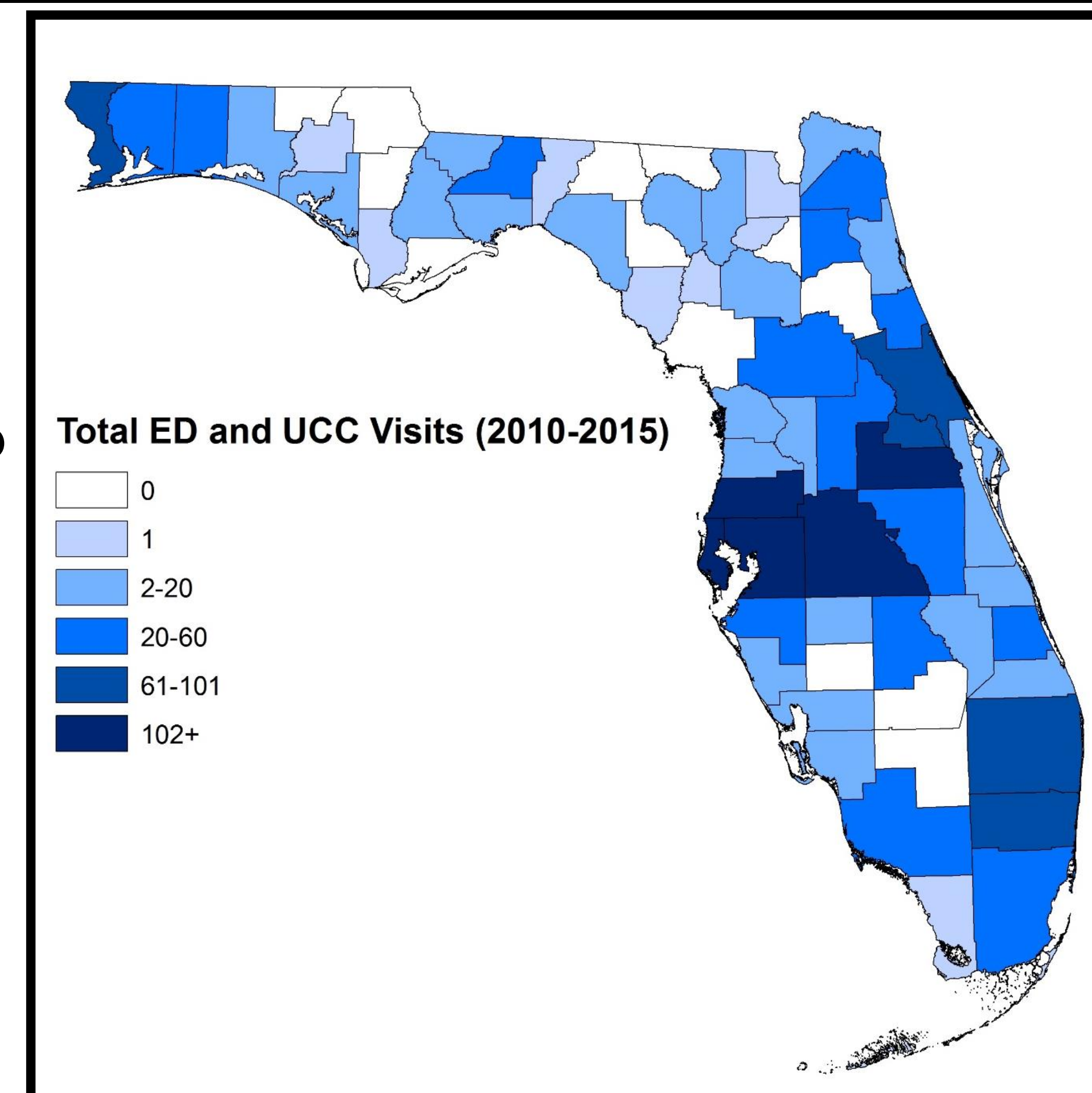


Table 1: Sample CCDDs (chief complaints | discharge diagnosis) returned by the query. This sample displays some of the variety in terms used for synthetic marijuana and the various discharge diagnoses that have been observed.

MOM FOUND HIM SMOKING SPICE 305.20 CANNABIS ABUSE-UNSPEC I9CDX 305.40 SEDATIVE HYPNOTIC OR ANXIOLYTIC ABUSE UNSPECIFIED I9CDX
OVERDOSE ON SPICE 9696 Poisoning by psychodysleptics [hallucinogens]
HIGH ON SPICE 30590 Other mixed or unspecified drug abuse unspecified use
SMOKED K2 311 DEPRESSIVE DISORDER NEC I9CDX 305.90 DRUG ABUSE NEC-UNSPEC
SMOKED MR NICE GUY FEELS WEIRD TOXIN INGESTION
I SMOKED A MR NICE GUY MY HEART IS RACING SUBSTANCE ABUSE-MARIJUANA
ELEVATED HEART RATE SMOKING FAKE MARIJUA PALPITATIONS
PATIENT SMOKEED SCOOPY SNACKS K2 AT Palpitations
SMOKED SPICE VOMITING ALTERED MENTAL STATUS RESCUE NONTOXIC INGESTION ACCIDENTAL

Table 2: Descriptive statistics of all identified visits in Hillsborough County January 1, 2010- June 30, 2015. One limitation of ESSENCE-FL for this study was the lack of race and ethnicity data for the majority of visits.

Age Group	N (%)	Sex	N (%)
0-9	2 (0.1)	Female	620 (24.4)
10-19	825 (32.4)	Male	1917 (75.3)
20-29	948 (37.2)	Unknown/Missing	8 (0.3)
30-39	367 (14.2)	Race	
40-49	231 (9.1)	Black	221 (8.7)
50-59	133 (5.2)	White	805 (31.6)
60-69	32 (1.3)	Other	77 (3.0)
70-79	3 (0.1)	Unknown/Missing	1452 (55.2)
>80	2 (0.1)	Ethnicity	
Other	1 (0.0)	Hispanic	36 (1.4)
Unknown/Missing	1 (0.0)	Non-Hispanic	203 (8.0)
		Other	1 (0.0)
		Unknown/Missing	2305 (90.6)

Conclusions

Utilization of this query provided key insights and information into the demographics, geographic distribution and trends of synthetic marijuana visits in Florida. The Tampa Bay Area (Hillsborough, Pasco, Pinellas, and Polk counties) had a substantial concentration of visits (37.1% of all identified visits). Visits were mostly male (75.2%). The average age was 26.8 years old (66% of visits were age 14-28). Additionally evident is the recent reemergence of this public health issue. The ability to identify visits related to drugs with numerous names and nicknames, as well as novel synthetic drugs, within specific demographics and geographic areas may be integral in the effective implementation of public health interventions. Results of this study have been shared with local ED physicians and law enforcement officials.

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