

Table 1. Statewide SM cases stratified by population density.

Geographic area	# of SM cases	Population	# of SM cases/100,000
Large metropolitan	71	5,194,675	1.37
Medium metropolitan	123	3,936,816	3.12
Small metropolitan	60	1,922,605	3.12
Micropolitan/rural	73	866,051	8.43
Large + medium	194	9,131,491	2.12
Small + micro + rural	133	2,788,656	4.76

Using the guidelines listed by the U.S. census bureau the cases were further grouped into the following four categories based on number of inhabitants: Large metropolitan (> 1,000,000); medium metropolitan (250,000–999,999); small metropolitan (50,000–249,000); and micropolitan/rural (< 50,000). Adjusting for population base, we divided the number of calls per 100,000 people within that respective region.

Results: Data collected are tabulated in Table 1.

These results reflect a marked difference in the rate of SM cases reported to our PCC when compared to population density. The rate of SM cases reported per 100,000 population originating from micropolitan/rural and small/medium metro areas was over $6.1\times$ and $2.3\times$ greater respectively than the population corrected rate for macro/urban areas.

Conclusion: It is unknown why there are more SM exposure cases originating from rural areas compared to larger metropolitan areas when corrected for population density. Possible factors include: 1. A higher rate of synthetic drug abuse in rural populations. 2. Rural populations may be more likely to seek ER care for drug related issues. 3. Smaller rural hospitals may not have the resources to manage these cases, thus rely on PCC consultation and call more frequently. Further study as to the underlying cause of increased SM reporting rates to regional PCCs will be needed.

Keywords: Epidemiology, Substance abuse, Marijuana

88. A Comparison of synthetic cannabinoid exposures near the Mexican border vs. those distant from the border

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Synthetic cannabinoids are new substances of abuse. The 14 counties that border Mexico differ demographically from the 240 counties in the rest of the state. It is unclear if this difference may be associated with different clinical presentations. This study compared synthetic cannabinoid exposures reported in the two geographic areas.

Methods: Synthetic cannabinoid exposures reported to our poison centers during 2010–2011 were identified and grouped by whether the calls originated from border or non-border counties. Circumstances & clinical effects were compared between the two areas.

Results: There were 100 border & 937 non-border exposures, resulting in a rate per 100,000 population of 4.1 in each region. The patients in the border and non-border counties were, respectively, 51.0% & 55.5% 20 years or older and 72.0% & 75.0% male. The exposure occurred through inhalation alone in 82.0% of the

Table 1. Results for abstract 88.

	Border counties (%)	Non-border counties (%)	RR, 95% CI
Clinical effects			
Tachycardia	41.0	38.8	1.06, 0.82–1.35
Agitation	23.0	22.8	1.01, 0.69–1.47
Drowsiness	27.0	18.2	1.48, 1.04–2.10
Vomiting	22.0	14.5	1.52, 1.02–2.26
Hallucinations	8.0	10.8	0.74, 0.37–1.48
Confusion	13.0	10.1	1.28, 0.75–2.20
Nausea	10.0	9.1	1.10, 0.59–2.05
Hypertension	5.0	9.8	0.51, 0.21–1.22
Chest pain	9.0	6.8	1.32, 0.68–2.57
Dizziness	7.0	6.5	1.08, 0.51–2.29
Treatments			
IV fluids	52.0	42.6	1.22, 1.00–1.50
Benzodiazepines	21.0	21.9	0.96, 0.64–1.43
Antiemetics	10.0	5.0	1.99, 1.04–3.82
Naloxone	6.0	2.0	2.96, 1.21–7.23

border and 78.0% of the non-border cases. The border exposures, compared to the non-border exposures, had more serious outcomes (76.0% vs. 62.4%, RR 1.22, 95% CI 1.08–1.37) and more moderate (vs. minor) outcomes (67.0% vs. 41.9%, RR 1.60, 95% CI 1.37–1.87). The Table 1 includes the rates for the most common clinical effects and treatments.

Conclusions: Synthetic cannabinoid exposures reported from border and non-border counties were similar with respect to exposure rate, patient age and sex, & route of exposure. However, patients from border counties had significantly higher rates of (1) potentially serious outcomes, (2) drowsiness & vomiting, & (3) administration of naloxone & antiemetics.

Keywords: Drug of abuse, Designer drug, Public health

89. Do mosquito swarms lead to increased potentially adverse insect repellent exposures?

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Background: On October 9, 2011, after a long period of drought, the Houston, Texas, area received rain. On October 24, 2011, the Houston Chronicle newspaper reported that this rain, along with warm temperatures, had led to a swarm of “floodwater mosquitoes.” The newspaper suggested that the public use insect repellent when outdoors. This study examined whether this mosquito swarm affected the number of insect repellent exposures reported to state poison centers.

Methods: All exposures involving insect repellents (Generic codes 0201048, 0201049, 0218000) reported to Texas poison centers during 2011 were identified. Only those received from Public Health Region 6 (the 13 counties that comprise Houston and the surrounding area) were included in the study. The daily number of exposures during September–December 2011 and the weekly number of exposures during the entire year were determined. The daily and weekly pattern of exposures was compared to the dates of the rain and media report of the mosquito swarms.

Results: The highest weekly number of insect repellent exposures (13) was reported during October 22–28. The next highest weekly