

Letters

RESEARCH LETTER

Trends in Illicit Ketamine Seizures in the US From 2017 to 2022

Ketamine is a dissociative anesthetic that has been used in medicine for a half century, with recent trials demonstrating efficacy of esketamine (an enantiomer of ketamine) for treatment-resistant depression.¹ In 2019, the US Food and Drug Administration approved the use of esketamine to treat this condition, although off-label use of racemic ketamine is now common.² It is unclear whether extensive media coverage about the therapeutic benefits of ketamine and esketamine has influenced nonmedical or recreational use. In this cross-sectional study, we investigated seizures of illicit ketamine in the US from 2017 through 2022 as a measure of availability of ketamine for nonmedical use.

Methods | The High Intensity Drug Trafficking Areas (HIDTA) program assists federal, state, local, and tribal law enforcement agencies within areas in the US determined to be critical drug trafficking regions. There are 33 HDTAs in 50 states and the District of Columbia that collect data on drug seizures made by participating agencies. Data were examined from ketamine seizures in the US from January 2017 through December 2022. This analysis was exempt from review by the NYU Langone Medical Center institutional review board, with a waiver of informed consent, because it was not human participant research. This study followed the [STROBE](#) reporting guideline.

Total number of seizures and total weight of seizures were calculated for each year for the US and each state. The Join-

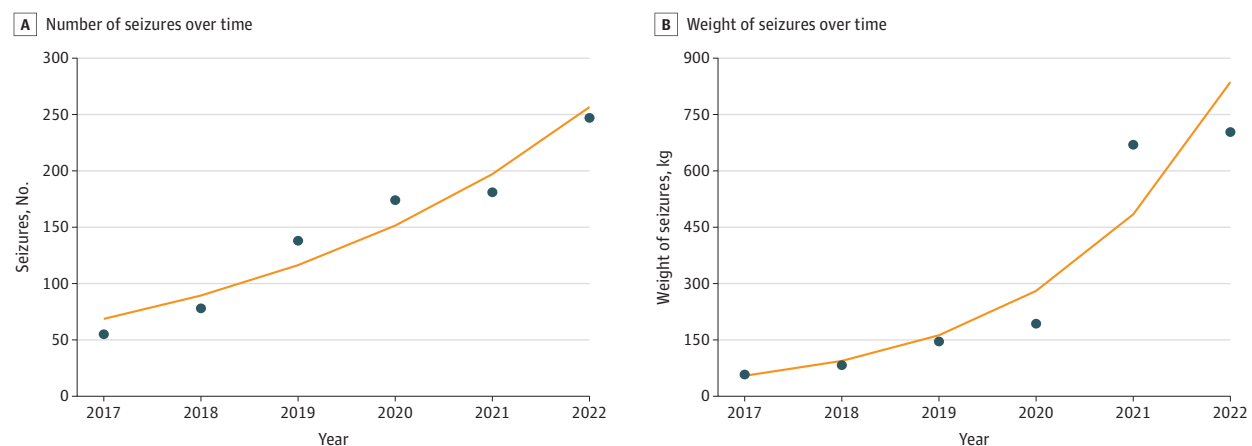
point regression program, version 4.8.0.1 (National Cancer Institute) was used to examine trends in seizures and calculate the average annual percentage change (AAPC) and their significance.

Results | There were 873 ketamine seizures between 2017 and 2022, weighing a total of 1852.4 kg (with 862 seizures [98.7%] reported in kg as powder). The highest numbers of seizures were reported in Tennessee (130 [14.9%]), Florida (113 [12.9%]), and California (73 [8.4%]); the greatest weight seized was also in Tennessee (844.1 kg), followed by Pennsylvania (154.3 kg) and New York (132.6 kg). The number of ketamine seizures in the US increased from 55 in 2017 to 247 in 2022 (AAPC, 30.2; 95% CI, 16.5-45.5), a 349.1% increase (**Figure**). The total weight of ketamine seized increased from 57.8 kg in 2017 to 703.3 kg in 2022 (AAPC, 72.7; 95% CI, 31.3-127.2), a 1116.4% increase.

Discussion | Increases in the number and size of ketamine seizures suggest that availability of illicit ketamine increased from 2017 through 2022 and that nonmedical or recreational use may have increased. Medically unsupervised use (eg, at nightclubs and dance festivals) may be associated with increased risk for adverse outcomes.³ Most ketamine seized was illicitly manufactured or distributed in powder form, which may increase the likelihood of adulteration or contamination with other drugs such as fentanyl.

It is possible that the increasing prevalence of seizures reflects an increase in vigilance among drug enforcement agencies. However, other studies also suggest that prevalence of nonmedical or recreational ketamine use is increasing.^{3,4} Studies³⁻⁵ have estimated recent increases in nonmedical use in the general US population and among nightclub and dance

Figure. Trends in Ketamine Seizures in the US From 2017 to 2022



Dots indicate observed data, and lines indicate fitted data.

festival attendees in New York City, and poisonings involving ketamine increased in the US between 2019 and 2021.

Limitations include a lack of information on drug testing and purity, possible shifts in policing and trafficking methods, and a lack of validity data. However, studies have found correlations between drug seizures and related deaths.⁶ The location of seizures also does not necessarily represent the drug's ultimate destination state.

These data suggest increasing availability of illicit ketamine. Prevention and harm reduction efforts are needed to protect the public as nonmedical use may continue to increase in tandem with increased media coverage and therapeutic use.

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