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Emergency Care Visits Self-Attributed to Substance Use

A mosaic study using survey data

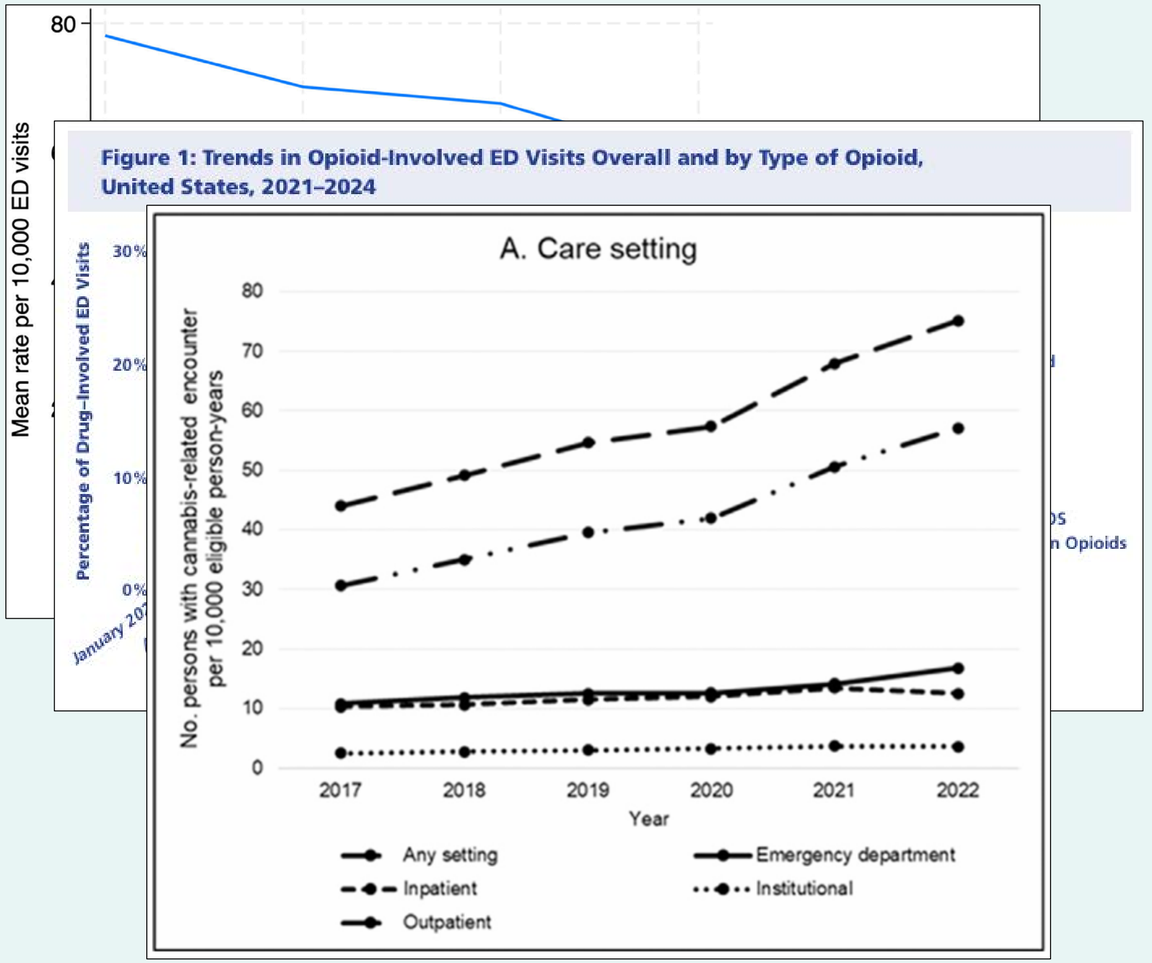
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Psychoactive Drug Related ED Visits in the US

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- Drug-related emergency department visits arise from many severe adverse events, like…
  - Acute intoxication
  - Cardiovascular toxicity
  - Withdrawal
  - Psychiatric experiences
  - Gastrointestinal syndromes
  - Neurologic syndromes
- Data about ED visit rates for opioid overdose are mixed
  - DOSE data suggest decreases in nonfatal opioid overdoses[1]
  - While DAWN data suggest mild increase in any opioid-related visit[2]
- In contrast, ED visits involving cannabis are rising (from FDA's Sentinel)[3]

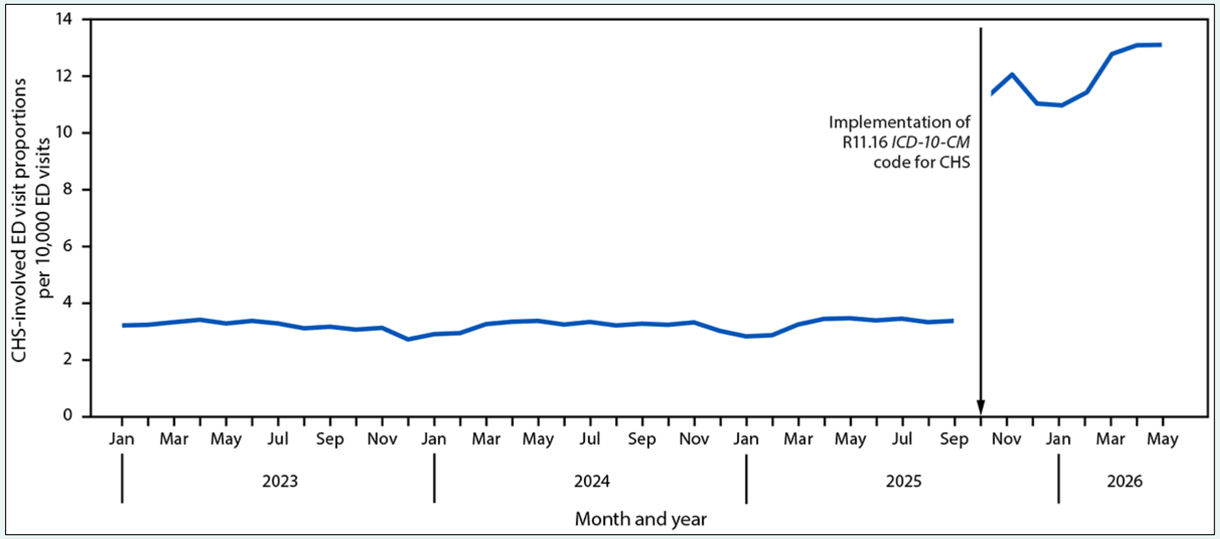


1 https://doi.org/10.1016/j.drugpo.2026.105382
2 https://www.samhsa.gov/data/sites/default/files/reports/rpt56241/dawn-trends-opioid-ed-visits.pdf
3 https://doi-org/10.1016/j.amepre.2025.107936

Direct hospital data is limited

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- While useful, hospital coding practices have a substantial influence on what is reported.
- Introduction of the ICD code for cannabis hyperemesis syndrome in 2025 increased rates by 3-to-4-fold (CDC's Syndromic Surveillance)[1]
- Similarly, adding specificity to the fentanyl codes increased fentanyl attribution by ~33% (also CDC's Syndromic Surveillance)[2]



1 https://www.cdc.gov/mmwr/volumes/75/wr/mm7530a2.htm?s_cid=mm7530a2_w
2 https://doi.org/10.1016/j.abrep.2022.100464

Study goal

- This goal of this study is to complement hospital data with survey data
- Investigate a wide range of psychoactive drugs
- Utilize our mosaic of survey data to increase coverage of which drugs to report on
    - Include drugs that do not have explicit ICD codes for reporting



Mosaic of Surveys (2025-2026)

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NMURx

Survey of Non-Medical Use of Prescription Drugs

Focuses on prescription medication and a broad range of illicit drugs

COUNTS

Cannabis Outcomes and Use National Target Study

Focuses on multiple forms of CBD and THC containing cannabis products

NSIHT

National Survey Investigating Hallucinogenic Trends

Focuses on psychedelic, dissociative, and empathogenic drugs

Unified question: “In the last 12 months, have you gone to the emergency room or urgent care because you used **<drug name insert>**? ”

Proactive Bias Mitigation

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- Panel surveys are useful, but (like all surveys) threatened by sources of bias
  - We have shown how important addressing careless responses and selection biases is[1]
- Careless response is when respondents stop answering in meaningful ways
  - We use multiple response pattern triggers to identify careless responses and exclude
- Selection bias is evident in these samples, where respondents tend to use more drugs than the general population
  - Statistical adjustment via raking will correct composition
- All methods are applied to generate estimates of number of people attributing visits to the emergency department or urgent care (contact me for methods suites)
- Won't discuss several other best practices (anonymous survey, randomized items, etc)

1 https://doi.org/10.1001/jamahealthforum.2025.4011

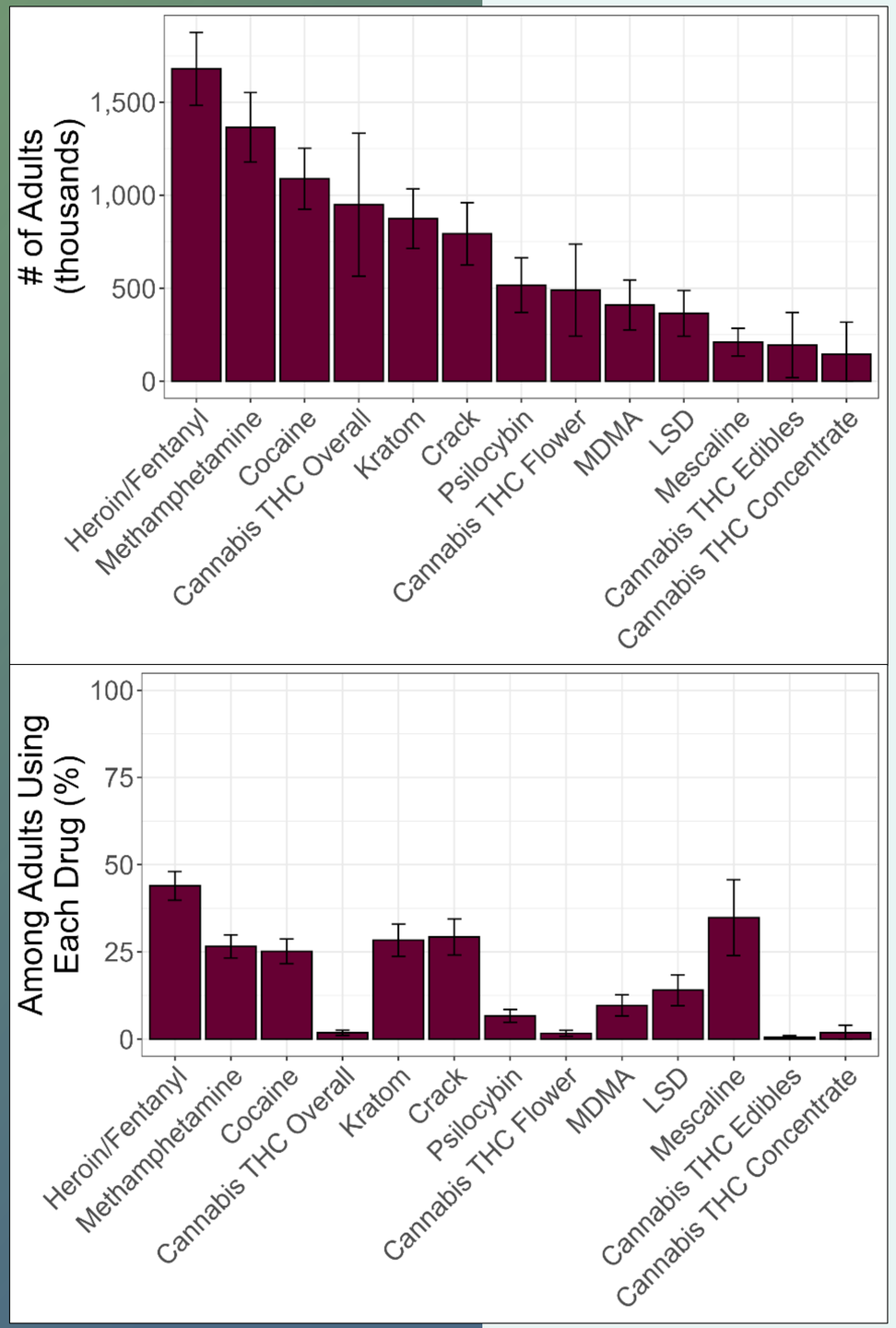
Millions visit emergency/urgent care each year

Healthcare burden is not the same as individual risk of using

For drugs like heroin/fentanyl, methamphetamine, and cocaine, there is high individual risk translating to high risk of ED/UC visits

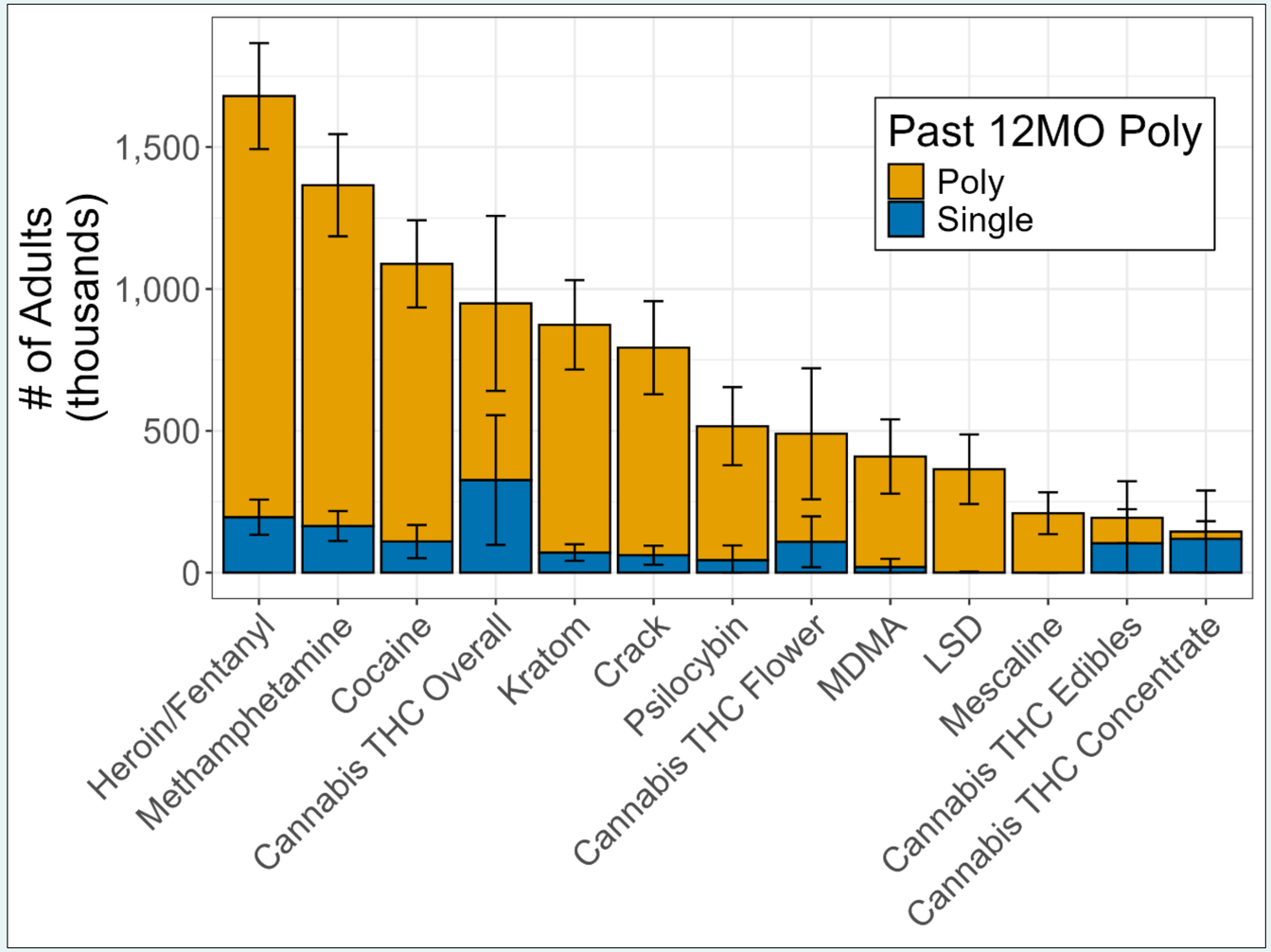
For drugs like THC-containing cannabis, psilocybin, and other psychedelics, the individual risk is lower, and total visits are driven more by prevalence of use.

These are at least one visit in the year. Different drugs may be same visit, if concomitantly used.



Visits are more common from those using multiple drugs

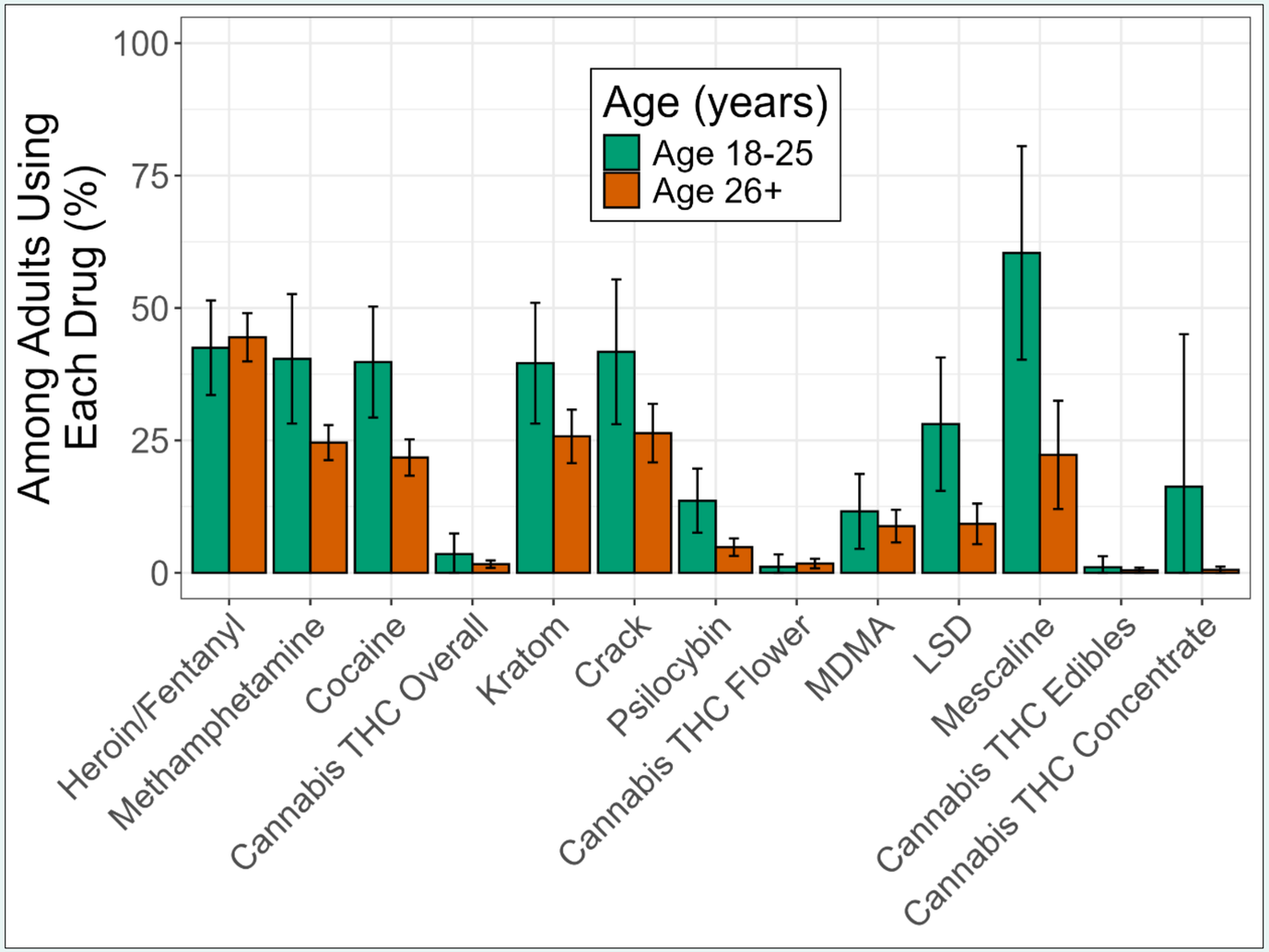
- Single substance use defined as using *only* the drug and none of the others in the figure
- For most drugs, adults who have used multiple drugs in the past 12-months are the majority of those reporting visits
- Most notably, THC cannabis formulations all have higher percentages of those using only the THC form as reporting visits



Visits more common from younger adults

- Proportionally, those younger tend to be at higher risk of reporting an ED/UC visit

- Notable exceptions:
  - Heroin/fentanyl
  - THC flower
  - MDMA



Conclusions

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- Even if a drug is individually unlikely to precipitate a health visit, when prevalence increases, the healthcare burden will increase
    - Notable for increasingly used drugs like cannabis and psychedelics
- Polysubstance co-use is a primary risk factor for reporting an ED/UC visit
- Not every drug may be mentioned/detected in hospital records
    - Stigma and other factors may prevent people from mentioning all drugs used
    - Coding practices influence records
- Self-attributed ED/UC visits from surveys complement hospital record data
    - Mosaic research triangulates findings
    - Includes several drugs without codes
    - Additional behavioral histories may be examined

Thank you

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