

# **Perils of Polysubstance Use: Tales and Trends of Gabapentin**

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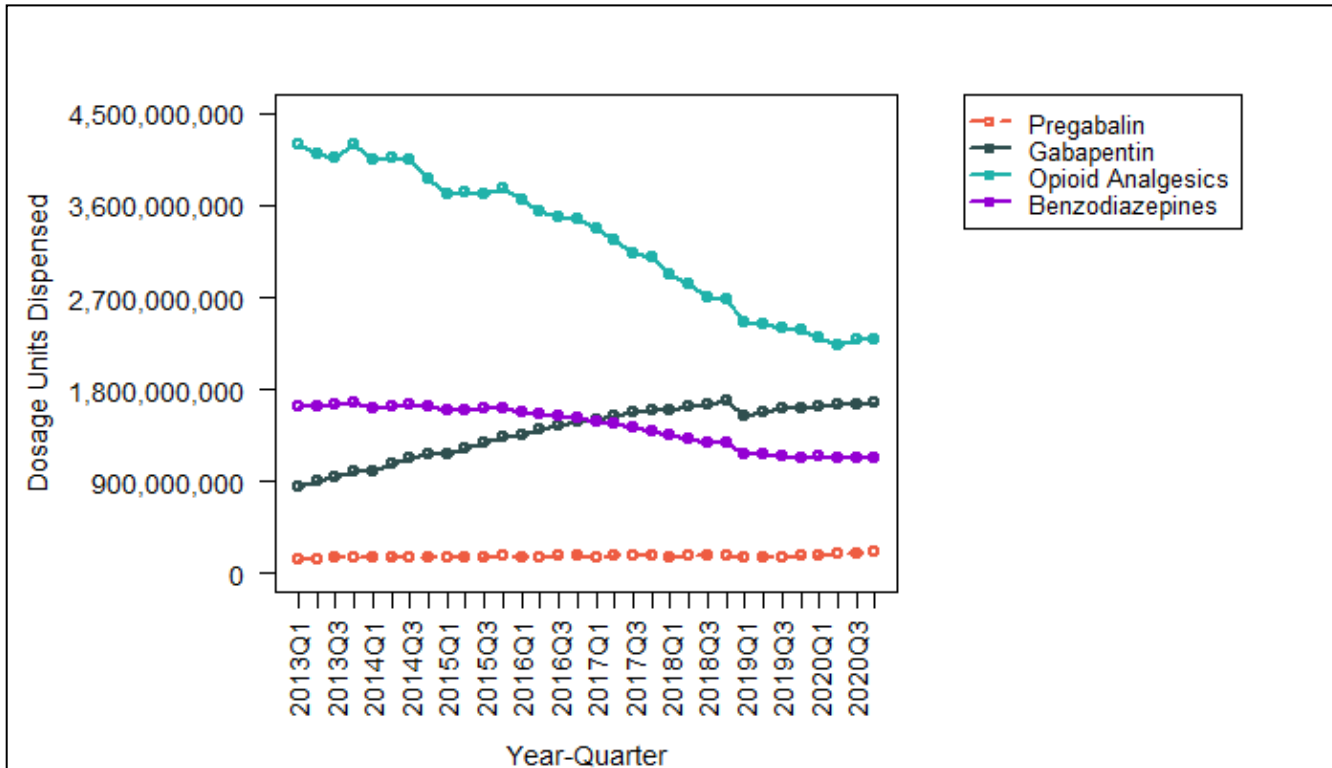
**Rocky Mountain Poison & Drug Safety**

**The College on Problems of Drug Dependence, June 2022**

# Conflict of Interest Statement

- RADARS System is the property of Denver Health and Hospital Authority, a political subdivision of the State of Colorado
- Many manufacturers of prescription opioids or stimulants as well as federal agencies subscribe to RADARS System. No company has special privileges.
- Subscribers receive information, but do not participate in developing the System, data collection, or analysis of the data. They do not have access to the raw data.
- Employees are prohibited from having personal financial relationships with any company

# Gabapentin: Why Should We Care?



As opioid analgesic prescribing is declining, gabapentin is rising.

Gabapentin use is associated with mortality...



# What is Mosaic Research?



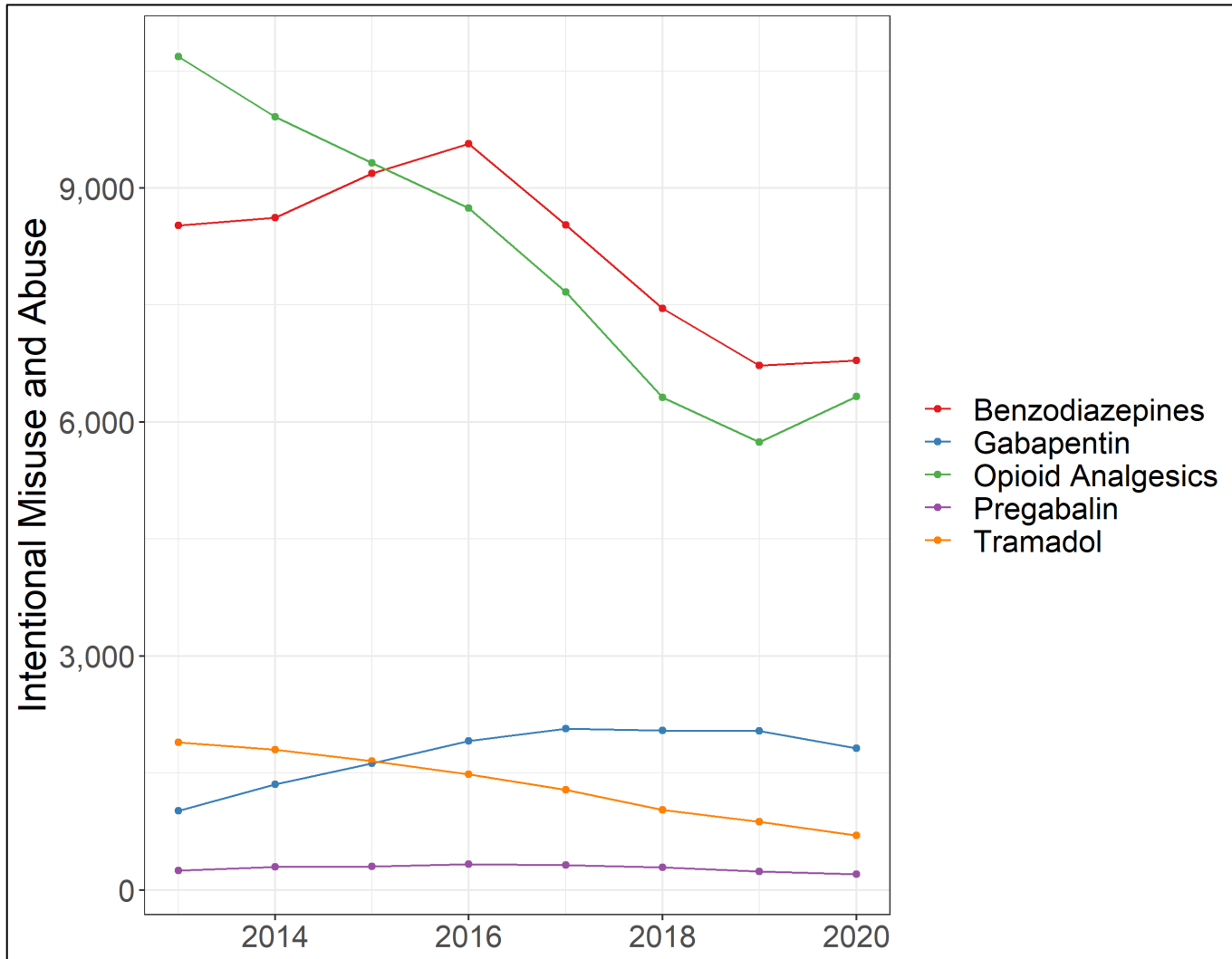
Triangulation leads to more reliable answers

# Data from Poison Centers

# National Poison Data System (NPDS)

- Collection of all cases reported to poison centers across the united states
- Calls received by Specialists in Poison Information (SPIs), and documented as part of routine care
- Calls can come from the public or from healthcare providers
- Case follow-up to get circumstances and outcome for exposure

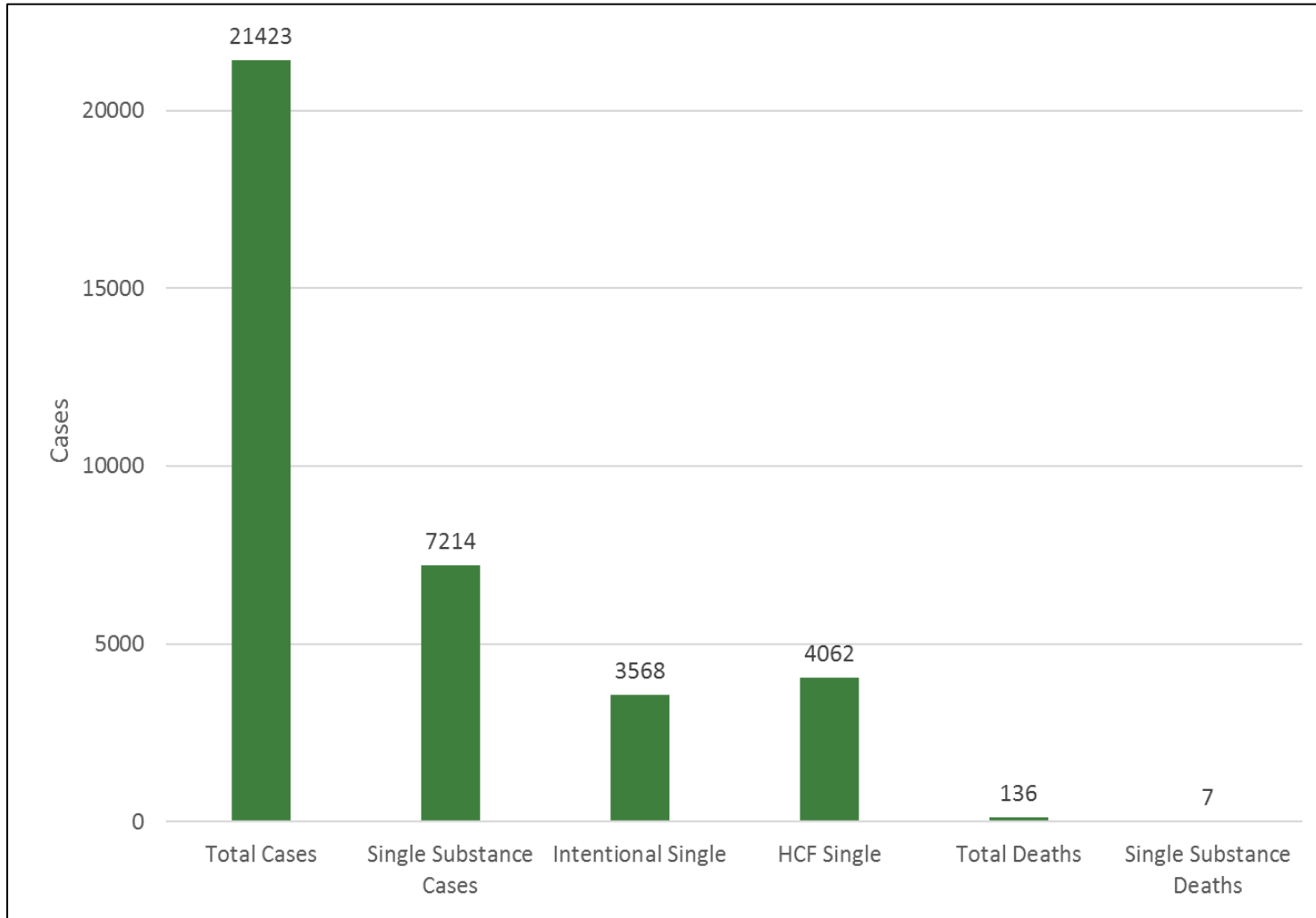
# NPDS Exposures Increasing



As opioid analgesic and benzodiazepine exposures are decreasing, pregabalin exposures increased.



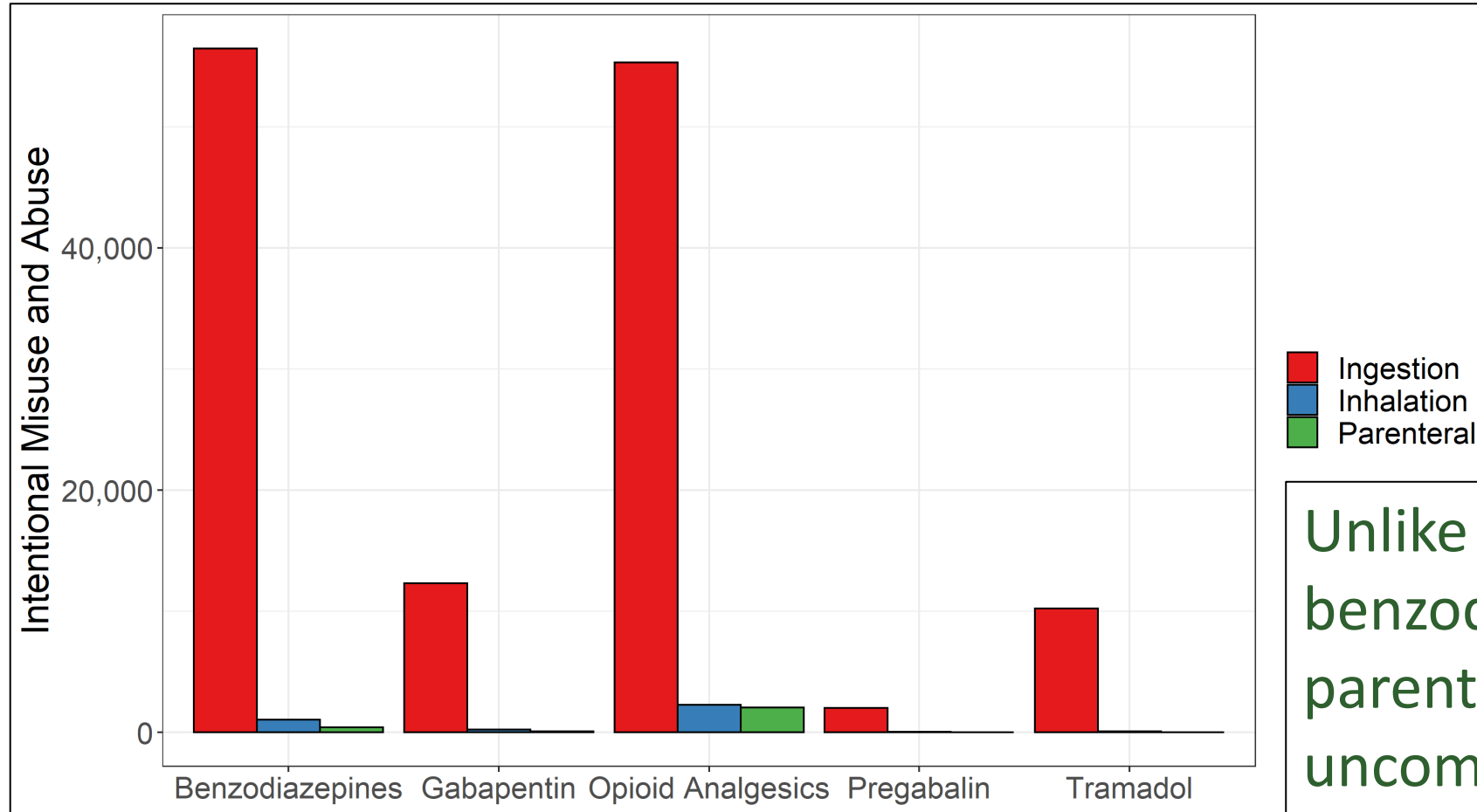
# Snapshot of NPDS 2020 Gabapentin Cases



Pregabalin exposures were:

- Polysubstance (67%)
  - Deaths (95%)
- Infrequently referred to healthcare facilities

# Routes of Administration, Cumulative 2013-2020



Ingestion  
Inhalation  
Parenteral

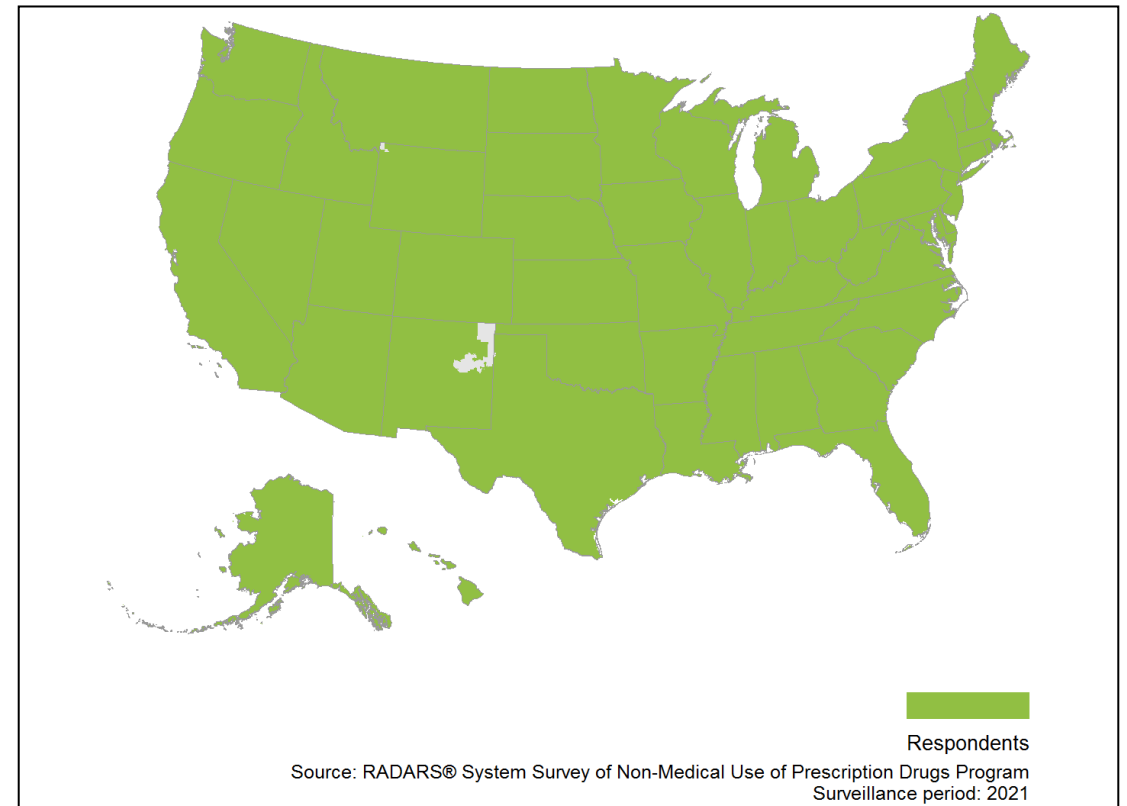
Unlike opioid analgesics or benzodiazepines, inhalation or parenteral routes are very uncommon

# Data from General Population

# Survey of Non-Medical Use of Prescription Drugs

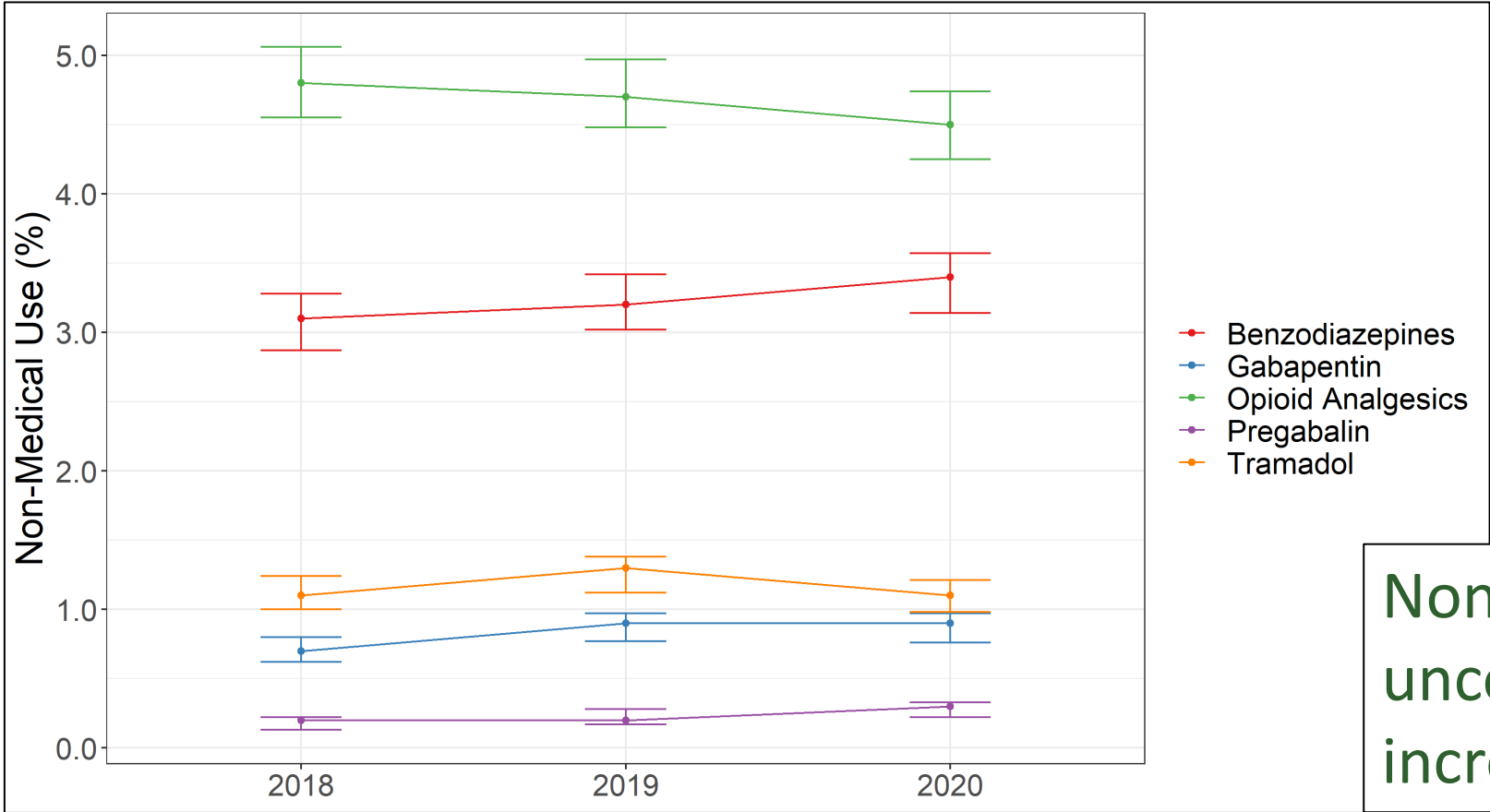
- General population of adults via online survey panel
- Non-medical use of prescription drugs
  - Opioids, stimulants, sedatives, **gabapentin and pregabalin**, benzodiazepines, ketamine, antidepressants (top 5)
- **Non-medical use:** Use in a way not directed by your healthcare provider

2021 Respondents



# RADARS System NMURx Survey

## Gabapentin Nonmedical Use Impacts Significant Population



Non-medical use of pregabalin uncommon, but potentially increasing

# Data from Death Certificates

# Death Certificate Literal Text

- Drug Involved Mortality database from CDC
- List of drug-related terms listed in cause of death fields on death certificates
  - Includes specific drug mentions
- Analyzed mentions where drug was involved in the death and co-involvement of other drugs

# Polysubstance Mortality Frequent

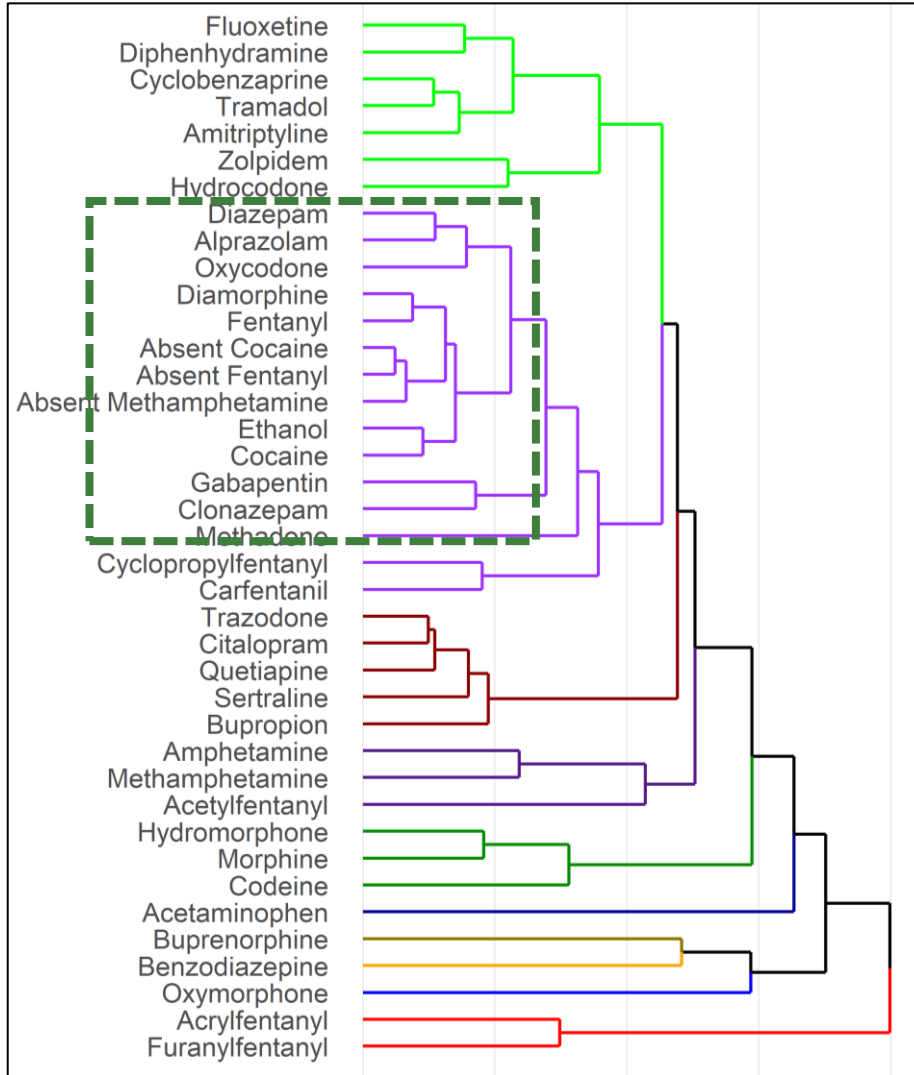
An analysis of death certificates showed gabapentin-involved deaths were largely polysubstance deaths.

Gabapentin was the 15<sup>th</sup> most frequently mentioned drug in 2017

- 1,848 deaths
- 3.0% of drug overdose deaths
- 98% of gabapentin-involved deaths had 2<sup>nd</sup> substance mentioned



# Polysubstance Mortality Frequent



An analysis of death certificates showed gabapentin-involved deaths were largely polysubstance deaths.

Gabapentin was listed with:

- Most frequently with oxycodone (25% of gabapentin-involved deaths)
- Uniquely clustered with:
  - Clonazepam
  - Opioids frequently involved in death

Black JC, Rockhill KM, Dart RC, Iwanicki J. Clustering patterns in polysubstance mortality in the United States in 2017: a multiple correspondence analysis of death certificate data. *Ann Epidemiol.* 2022 Apr 2:S1047-2797(22)00045-X. Epub ahead of print. PMID: 35378292.

# Putting It All Together

- Mosaic data should be triangulated to form more complete picture of trends
- Gabapentin prescribing continues to increase
  - Exposure cases increasing
  - Prevalence of non-medical use low, but potentially increasing
- Non-oral routes uncommon in exposure cases
- Exposures and mortality largely associated with polysubstance use

# Thank you!

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