Prevalence of Pharmaceutical Anti-Depressant Non-Medical Use in the United States

Joshua Black PhD

Alyssa Forber MS, Janetta Iwanicki MD, Richard Dart MD PhD

Rocky Mountain Poison & Drug Safety

RADARS® System

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Prevalence of Non-Medical Use of Antidepressants is Not Known

Non-medical use (NMU) of psychoactive drugs other than opioids, stimulants, and sedatives/tranquilizers is understudied.

Review of NMU of antidepressants found primarily case reports[1] and novel psychoactive substances are increasingly implicated for abuse[2].

<u>Study Goal:</u> Conduct descriptive study of prevalence of NMU of antidepressants in the US general population, describing reasons for NMU. Examine trends across COVID-19 pandemic.

Study Design and Methods

Study Design: Data Source Description

- Survey of Non-Medical Use of Prescription Drugs (NMURx) Program
    - Target population: All adults in the US
    - Sampled from an online commercial panel company
    - Non-probability sampling adjusted using calibration weights (raking)
    - Calibration conducted using both demographic and health characteristics

- Asks about use of multiple prescription drug classes, including antidepressants
    - Asks about detailed reason for use for each drug

- Key measures in survey shown to be valid[3] and reliable[4]

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Study Design: Sample Collection

- 120,000 participants collected in semi-annual waves across 2 years (30k per wave)
  - Pre-COVID period: 3rd quarter 2019, 1st quarter 2020
    - Closed 12 March 2020, 5 days before first US lockdown
  - During COVID period: 3rd quarter 2020, 1st quarter 2021
  - ~70-80% participation rate per wave

- Participants weighted per wave using 3 demographics (sex, age, region) and 2 health (smoking, limitation in activity)

- Data cleaning included careless response exclusions

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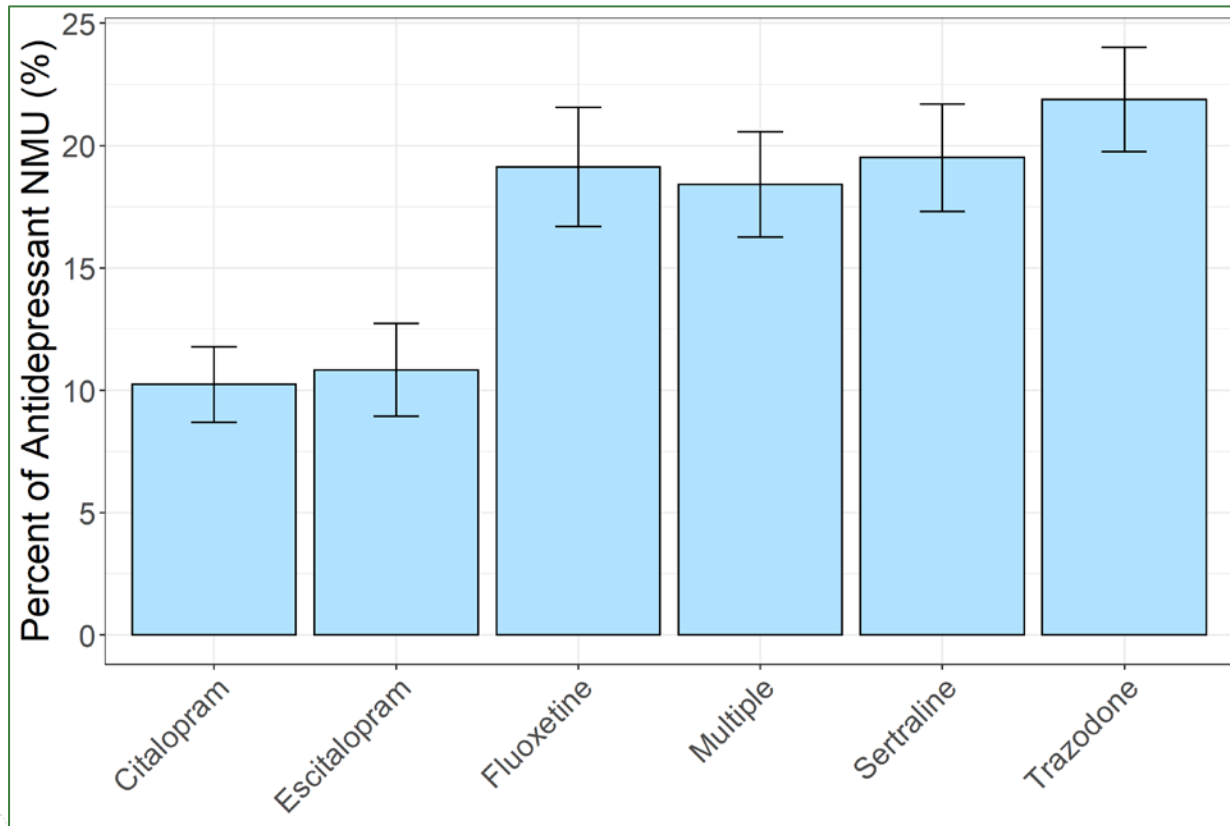
Study Design: Drug Use Questions

- Respondents asked about NMU: "Have you used the prescription antidepressant below **in a way not directed by your healthcare provider** in the last 12 months?"
    - Citalopram, escitalopram, fluoxetine, sertraline, trazodone
    - Highest antidepressant retail dispensing circa 2019, 3rd quarter

- Respondents are asked follow-up on: "In the last 12 months, what are all the reasons you used [DRUG] in a way not directed by your healthcare provider?"
    - Reasons listed as check-all-that-apply; order randomized

- Use DAST-10 as proxy for problematic drug use

Study Design: Statistical Analysis

- Estimated number of adults and percentages

- 95% confidence intervals bootstrapped by resampling respondents
    - Respondents can return in different calendar years (~10% of antidepressant sample)
    - Adjusts CIs for correlated responses across calendar years
    - Formal statistical tests not conducted at this time; results only descriptive

- Estimates presented by period: Pre-COVID & During COVID

Results and Conclusions
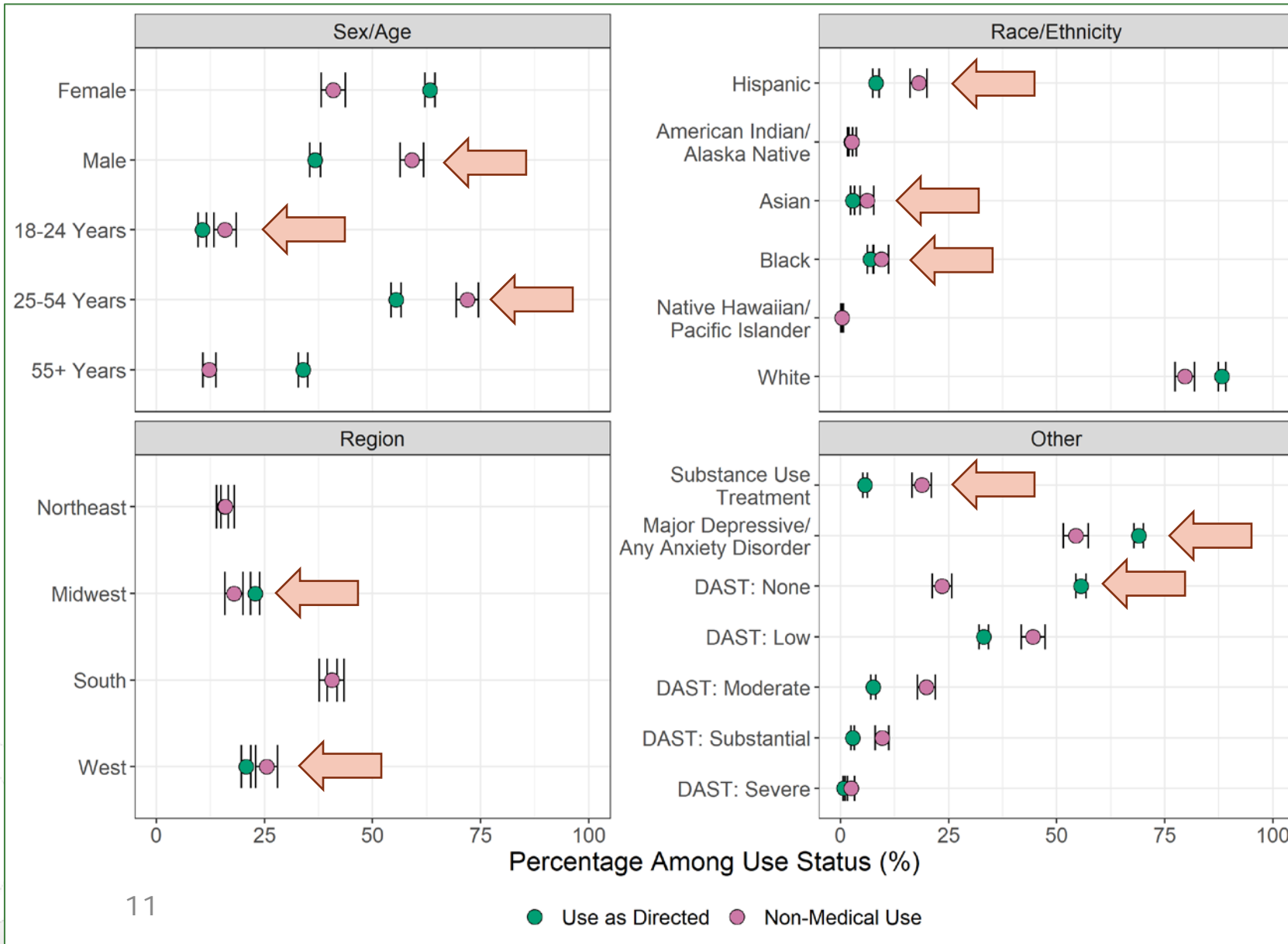
Prevalence of Antidepressant NMU

From 3rd quarter 2020 to 1st quarter 2021...
- Estimated 41M adults used an antidepressant in the last 12 months for any reason (16% national prevalence)
- Among adults who used, 15.7% used non-medically (6.5M adults)

Among adults using non-medically...
- NMU of trazadone alone was the most frequent, though similar to those using sertraline, fluoxetine, or multiple drugs
- NMU of citalopram & escitalopram were smaller and similar

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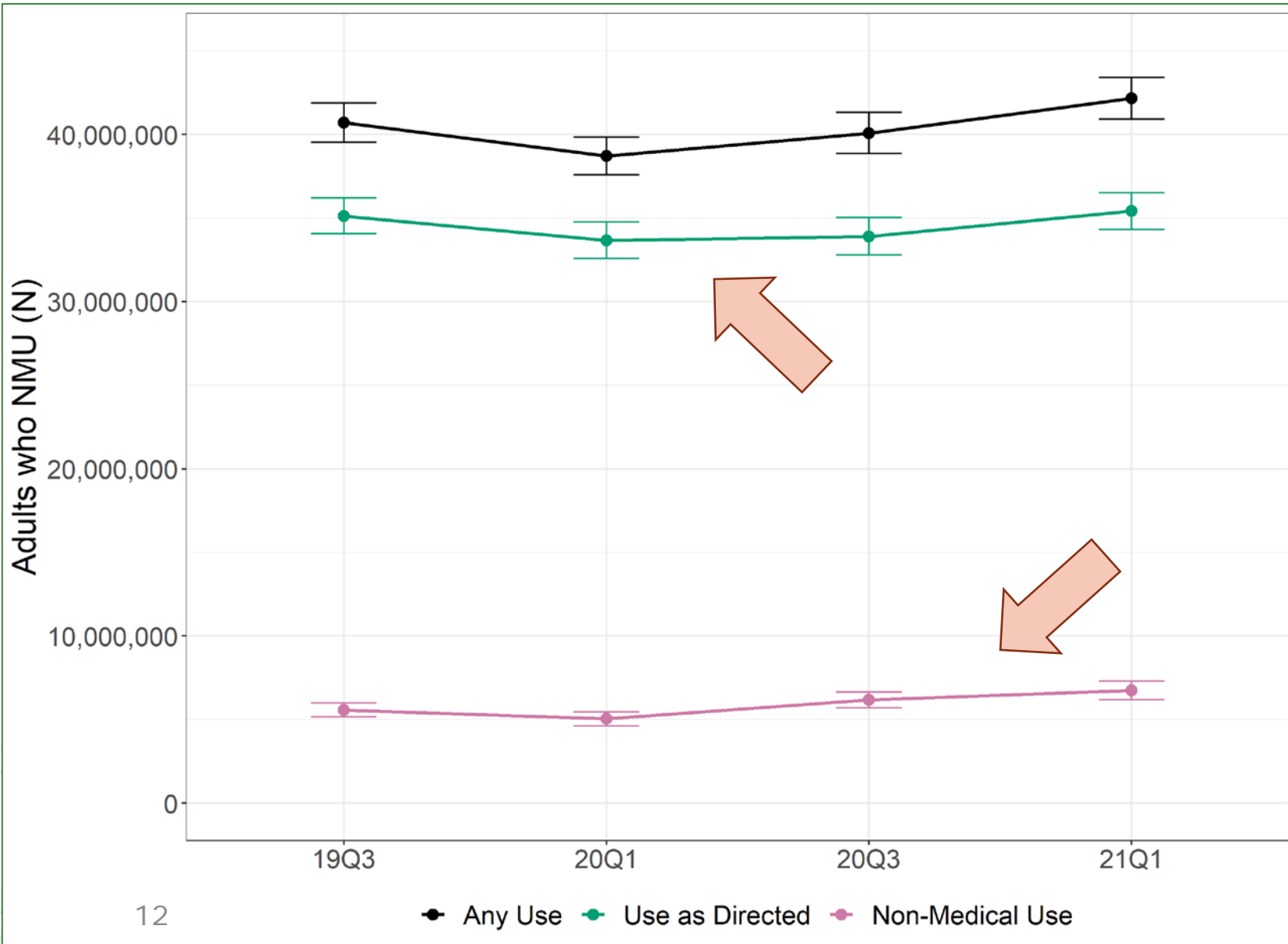
Characteristics of adults who NMU

Compared to adults who use as directed, adults who NMU are more likely to be/have...
- Male
- Younger
- From West vs Midwest
- Hispanic, Asian, or Black
- In substance use treatment
- Problematic drug use markers

Less likely to have...
- Anxiety or Depressive Disorder diagnosis
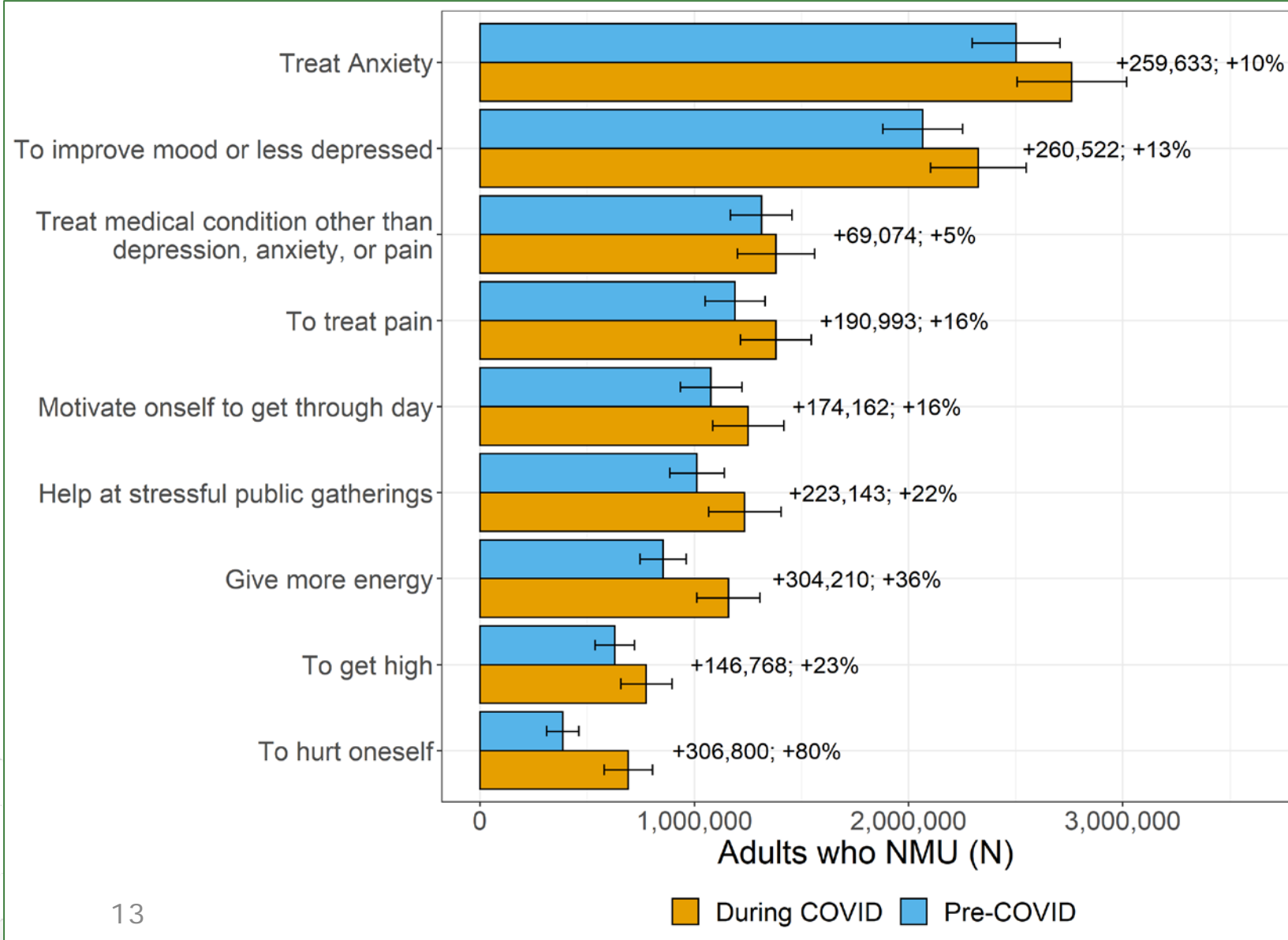
Trends in Use Over Time

Expect some seasonal variation, but lack of long-term data makes results only suggestive.

Adults who use as directed was mostly unchanged from prior to pandemic to during the pandemic.

Adults who non-medically used appeared to increase during the pandemic.

Reasons for NMU

- Use to treat anxiety and depression are most common (unsurprisingly)
- Other reasons for use are prevalent (>1M adults), including
  - Treating pain
  - Helping motivation
  - Helping stress
  - Giving energy
- Use to get high is uncommon
  - Consistent with low abuse potential studies
- Use to hurt oneself low
  - Huge increase during pandemic
- More people were using for all reasons during the pandemic

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Strengths and Limitations

Strengths

- Nationally representative sample

- Validated control for composition bias

- Online data collection not impacted by pandemic restrictions

Limitations

- Only top 5 drugs by dispensing collected
  - Bias toward underestimated antidepressant use

- Repeat respondents ignored
  - Bias toward underestimated drug use

- Insufficient prior data to analyze numeric trends across pandemic
  - Results only descriptive/suggestive

Conclusions

- Descriptive study estimated 6.5M US adults non-medically use antidepressants throughout the year

- Characteristics indicate concurrent problematic drug use and unrecognized mental health conditions among adults who NMU

- Increased NMU in pandemic period, but no increase in use as directed, suggests mental health needs going untreated by professionals
    - Nearly doubling use to harm oneself particularly concerning

- Residual pandemic challenges (economic instability, restricted healthcare) could mean NMU continues well beyond the immediate pandemic

References

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4. Black JC, Forber A, Severtson SG, Rockhill K, May KP, Amioka E, Schwarz J, Iwanicki J, Dart RC. Drug product dispensing and estimates of use in a general population survey as a signal detection problem. Pharmacoepidemiol Drug Saf. 2021 Aug;30(8):1132-1139. doi: 10.1002/pds.5260. Epub 2021 May 10. PMID: 33931917.

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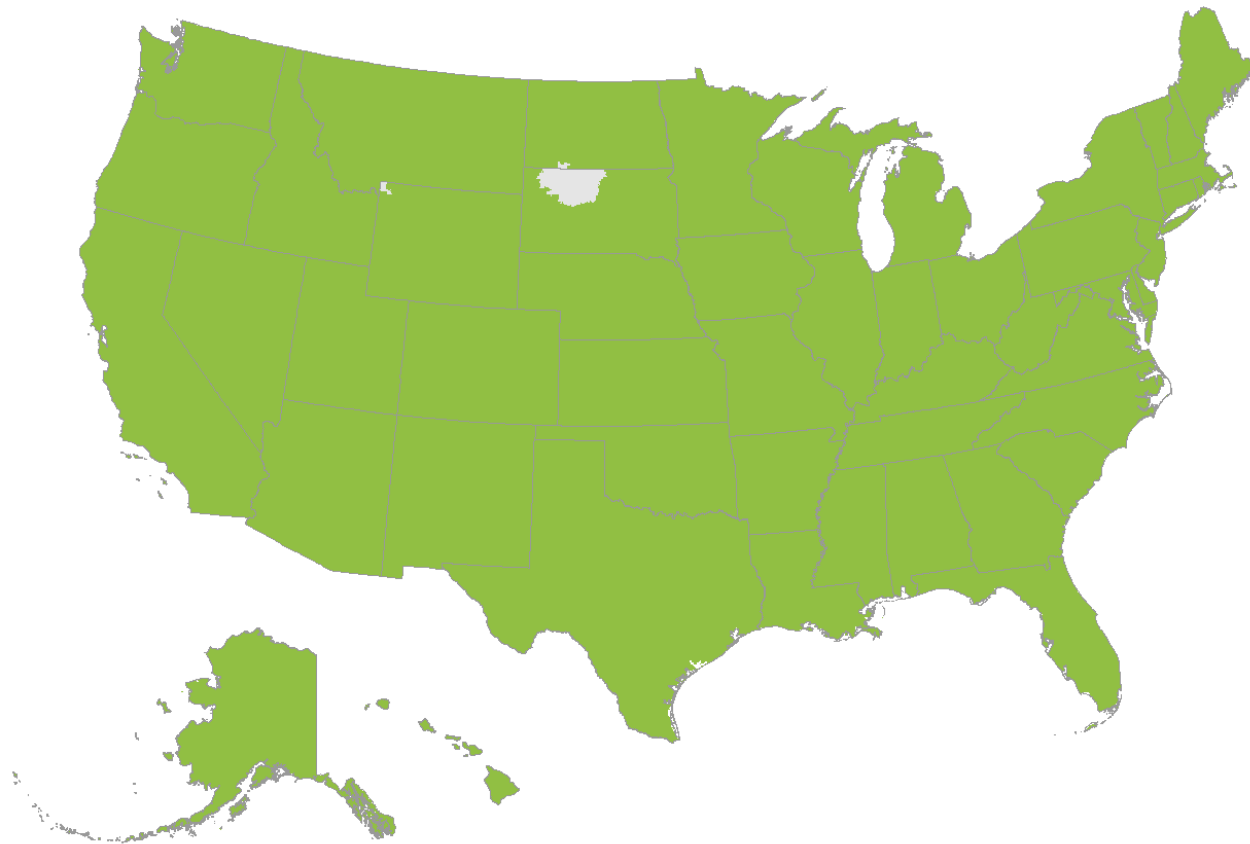est. 1860
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Thank you!
Joshua Black, PhD
joshua.black@rmpds.org
RADARS® System

Backup

Coverage

Respondents

Source: RADARS® System Survey of Non-Medical Use of Prescription Drugs Program
Surveillance period: 2020