



**RMPDS 18th Annual
Scientific Meeting**

Suspected Falsified Medication Use in the General Population

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Talk Overview

- Falsified medication use background
- Methods
- Results
 - Who are at risk?
 - What are the risks they report experiencing?
- Conclusion

Who are at-risk
from falsified
medications?



Funding and Conflict of Interest Statement

Funding

- This project is internally funded surveillance
- Prior work funded through Opioid Analgesics REMS requirements

RMPDS Conflict of Interest

- This research was conducted by Rocky Mountain Poison & Drug Safety (RMPDS), a division of nonprofit Denver Health and Hospital Authority (DHHA), a political subdivision of the State of Colorado.
- Outside of this work, RMPDS is supported by subscriptions from pharmaceutical manufacturers, government, and non-government agencies for surveillance, research and reporting services.



Background and Methods



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“Counterfeit (fake or falsified) medicines may be harmful to your health because while being passed off as authentic, may contain the wrong ingredients, contain too much, too little or no active ingredient at all or contain other harmful ingredients.”¹

¹<https://www.fda.gov/drugs/buying-using-medicine-safely/counterfeit-medicine>

Background

- Falsified medications can take many forms,² including
 - Prescription opioids (“M-30”)
 - Amphetamines
 - Semaglutide
 - Botox
 - HIV medications
 - Alprazolam
- Based on a pilot, an estimated 1.8% of adults in 2022 suspected they had used a falsified medication in the past year³
- Fentanyl was the most commonly suspected product³
- Pills containing fentanyl are increasingly seized by law enforcement⁴

Question: What groups may be at-risk for encountering falsified medication?



Methods

- Added a module to our Survey of Non-Medical Use of Prescription Drugs (NMURx) Program investigating suspected falsified medication use
 - General population behavioral survey
 - Recruited from a panel company
- Preamble text comprehension tested in 1st quarter 2023
 - General public primarily used “counterfeit” as term for falsified medications

“The next few questions ask about drugs that are made to look like real FDA approved prescription medications, but they are made illegally and not by a drug company. They may contain too much or too little drug, or they may not contain the right drug or may contain no drugs. These are often referred to as counterfeit, falsified, fake, pressed, or laced pills.”



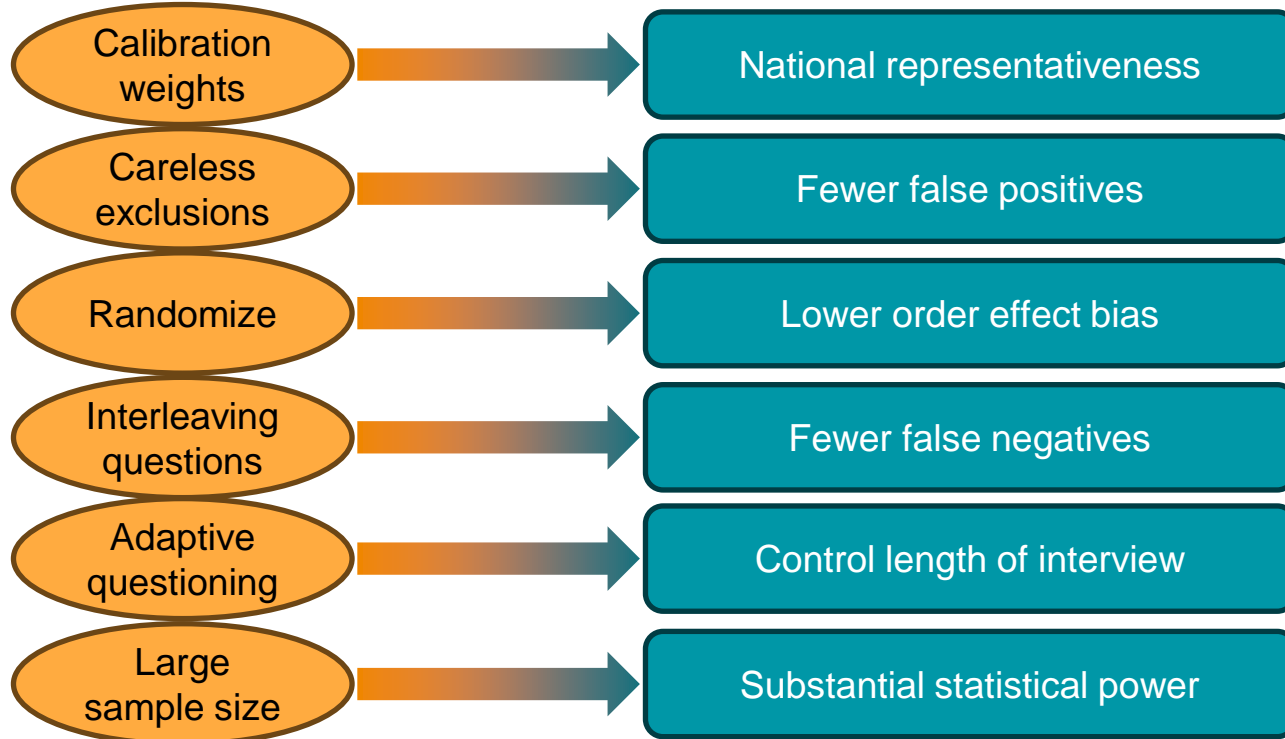
Methods

- New module content includes:
 - Drug seeking including source
 - Suspected ingredients and which drug was falsified
 - Health events attributed to use
 - Confirmation methods used (e.g., drug testing)
- Additional content validation in process
 - Funded through FDA contract #75F40121D00033 to ensure interpretability in this emerging area



Methods

- Leverages all of the NMURx methodologic best practices



Methods

- 1st quarter 2024 NMURx data (Sample size: ~30,000 adults)
- Past year use behaviors reported
 - “Suspected falsified medication use” term to represent these are what people think they are encountering
- Total of 1,534 adults reported suspected falsified medication use
- All results statistically weighted



Who is At-Risk?

- Overall prevalence
- Suspected use within subgroups
- Suspected medications being falsified

Who Suspects they Used Falsified Medications?

2.7%

Estimated 7 million adults in 1st quarter 2024 suspect they used a falsified medication in the past year.

4.2%

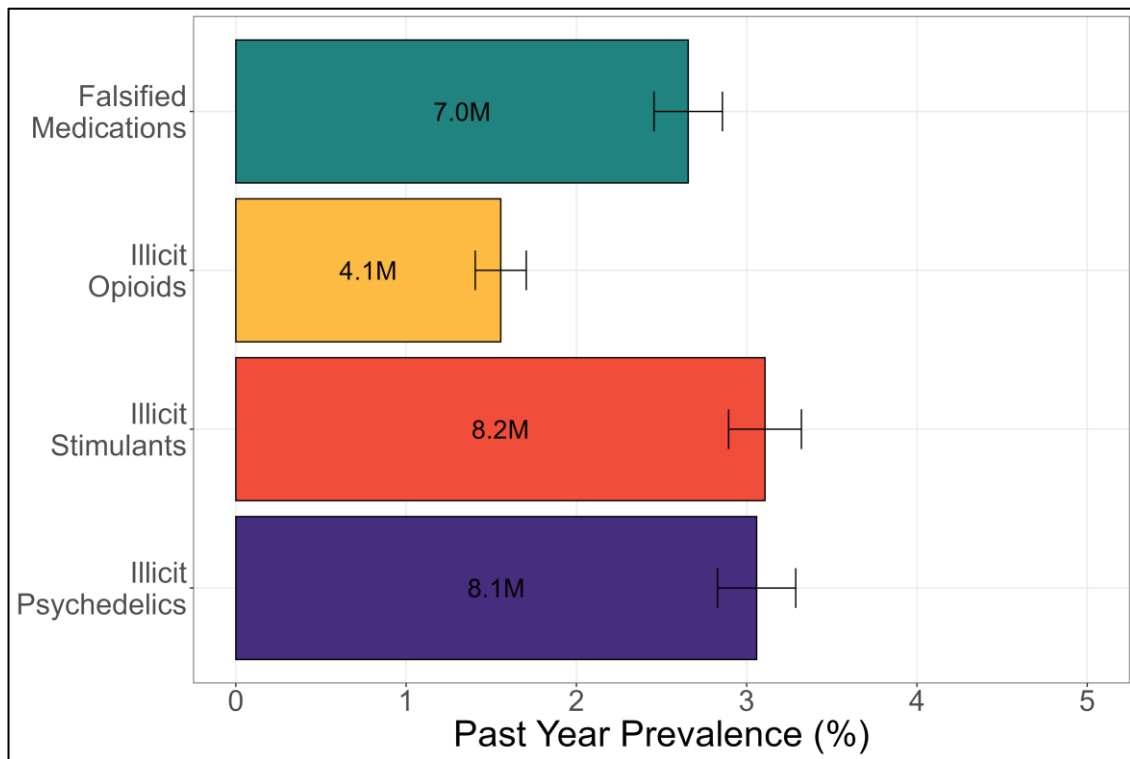
Prevalence in West Census region.

32.0%

Percent seeking out falsified medications among those who suspected use.



Suspected falsified medication use is as common as use of other illicit drugs.

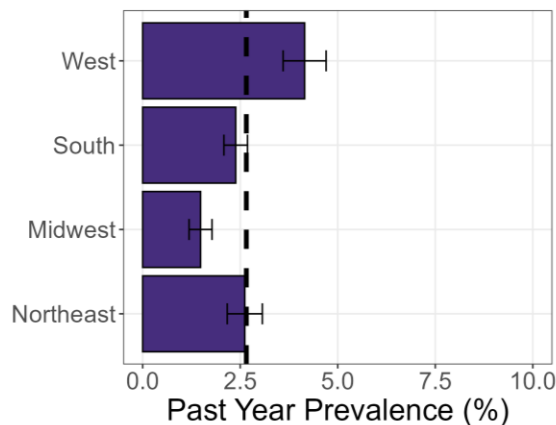
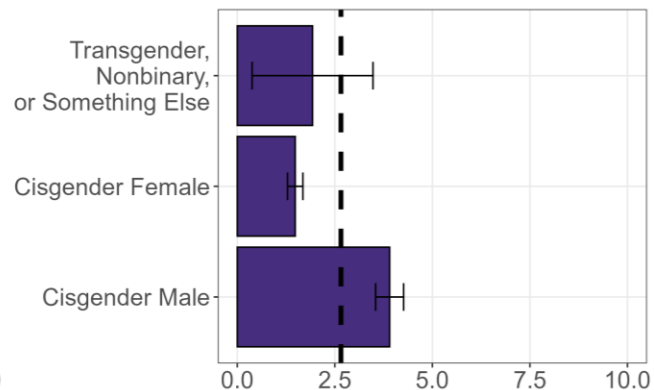
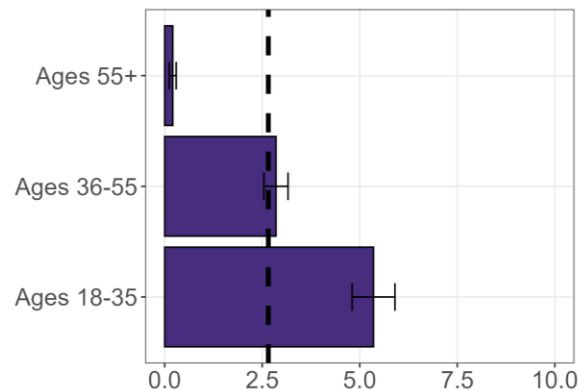


Are there subpopulation differences?

Dotted line is national prevalence

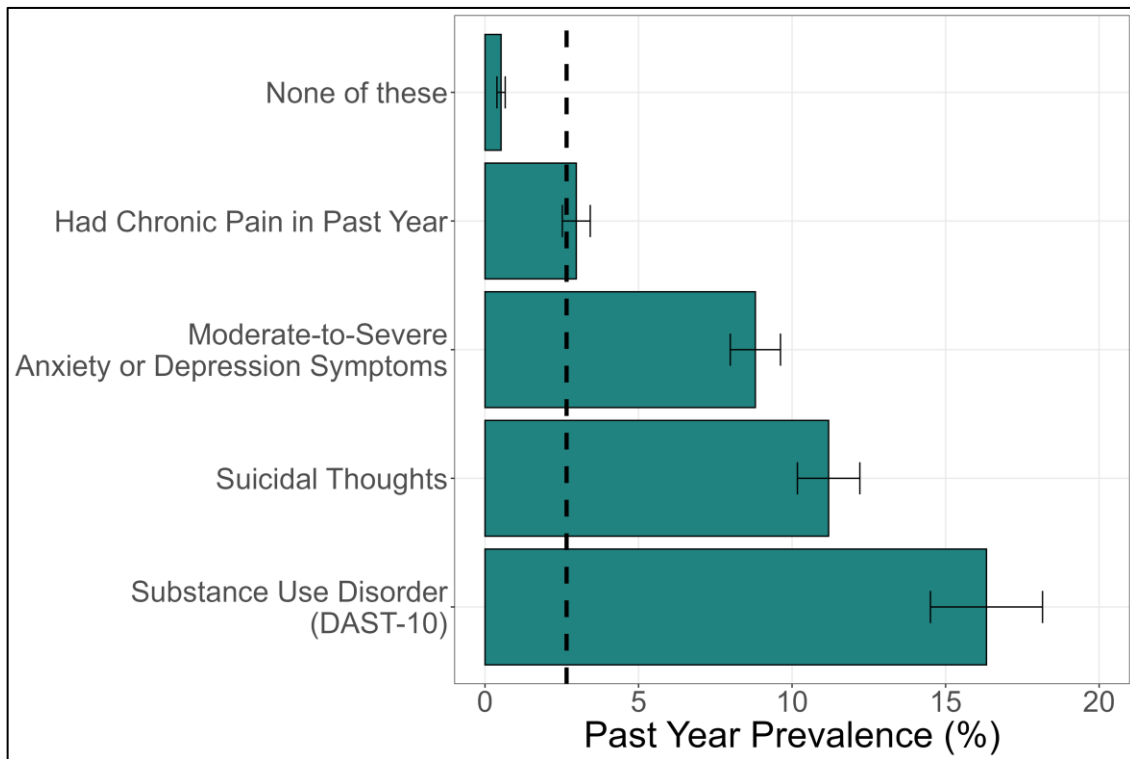
Elevated likelihood of suspected use among:

- Cisgender males (3.9%)
- Young adults (5.4%)
- West census region (4.2%)



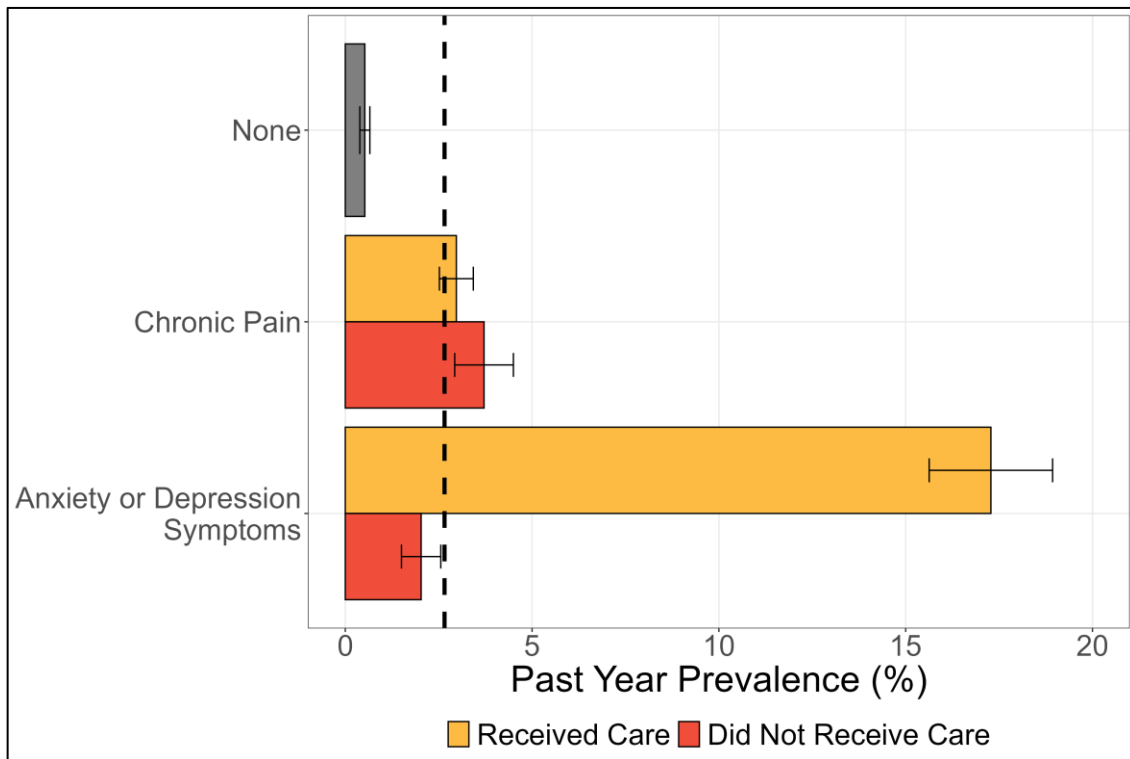
Who is At-Risk?

Mental health
comorbidities,
substance use, and
chronic pain are risk
factors



Who is At-Risk?

Opposite associations observed with receiving care among adults experiencing pain vs anxiety/depression

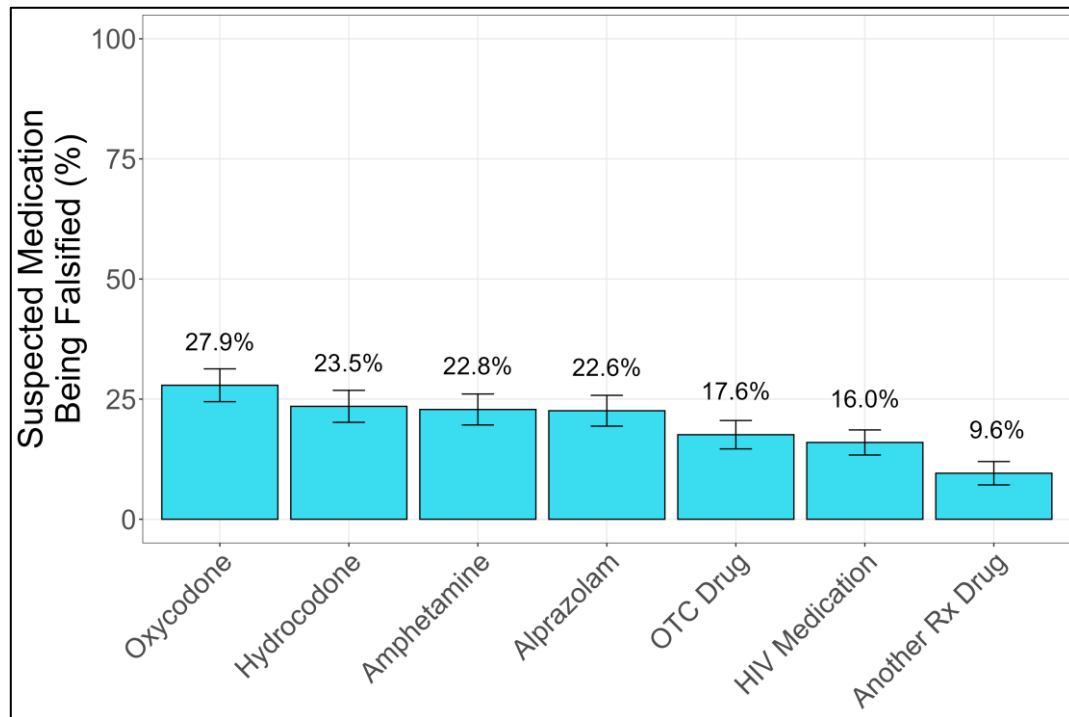


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Which Medications do People Suspect are Falsified?

“In the past 12 months when you got counterfeit drugs, what real medications did they look like?”

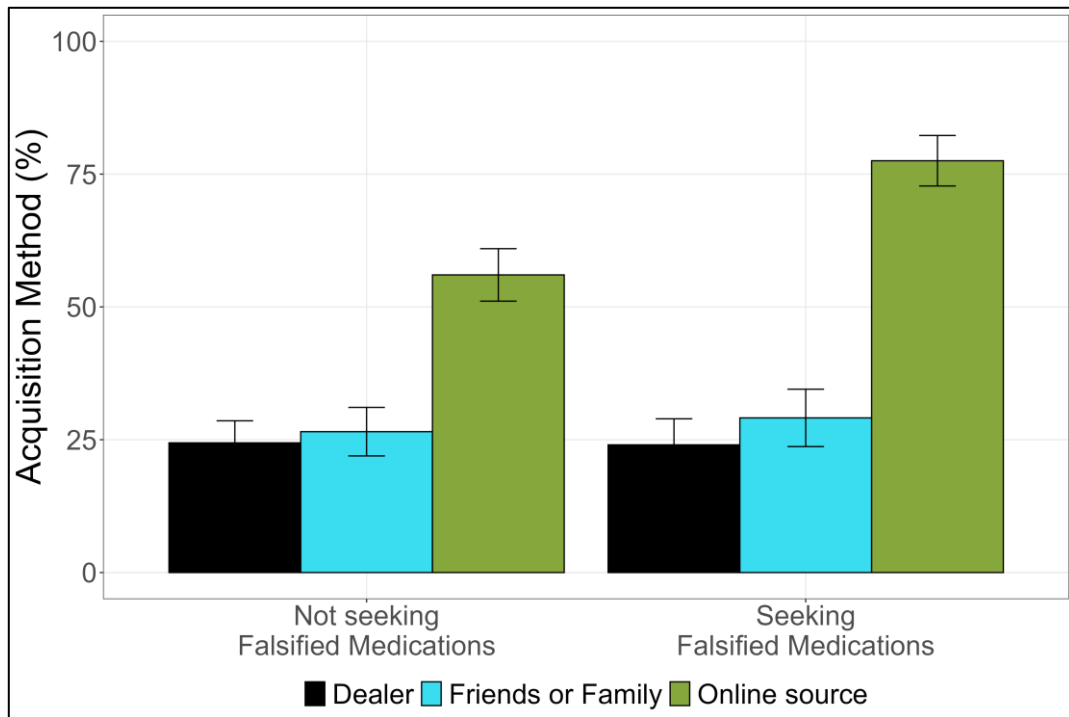
Consistent with the increasing variety of alerts for substandard and falsified medications.



Where are Suspected Falsified Medications Acquired?

Out of adults who suspected use of a falsified medication, 35.5% (32.0-39.0) actively sought them out.

Those seeking them out were more likely go to online sources.



What are the risks?

- Methods of identification
- Suspected types of ingredients encountered
- Health consequences attributed to use

What are the Risks among Adults Suspecting Use?

75.1%

Think the falsified medication had something other than fentanyl.

31.6%

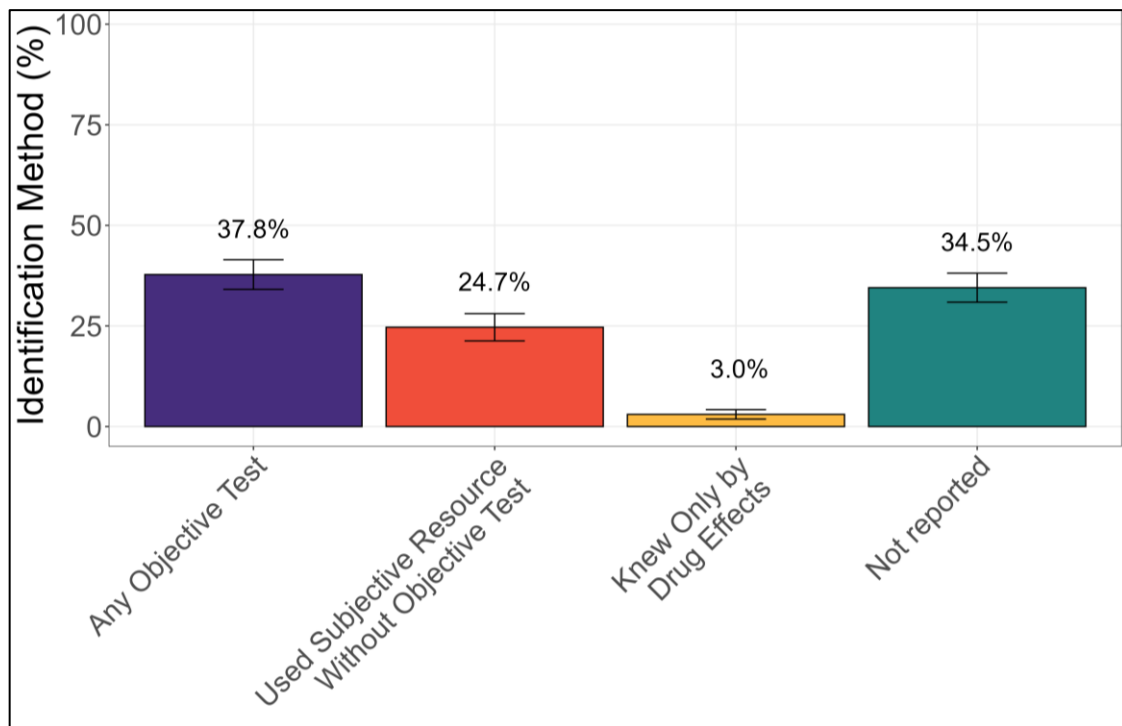
Used emergency services due to falsified medication use.

37.8%

Used an at-home test or drug checking service.



Among adults suspecting use, fewer than half used at-home test kits or a drug checking service.



Objective

- At-home test
- Drug checking service

Subjective

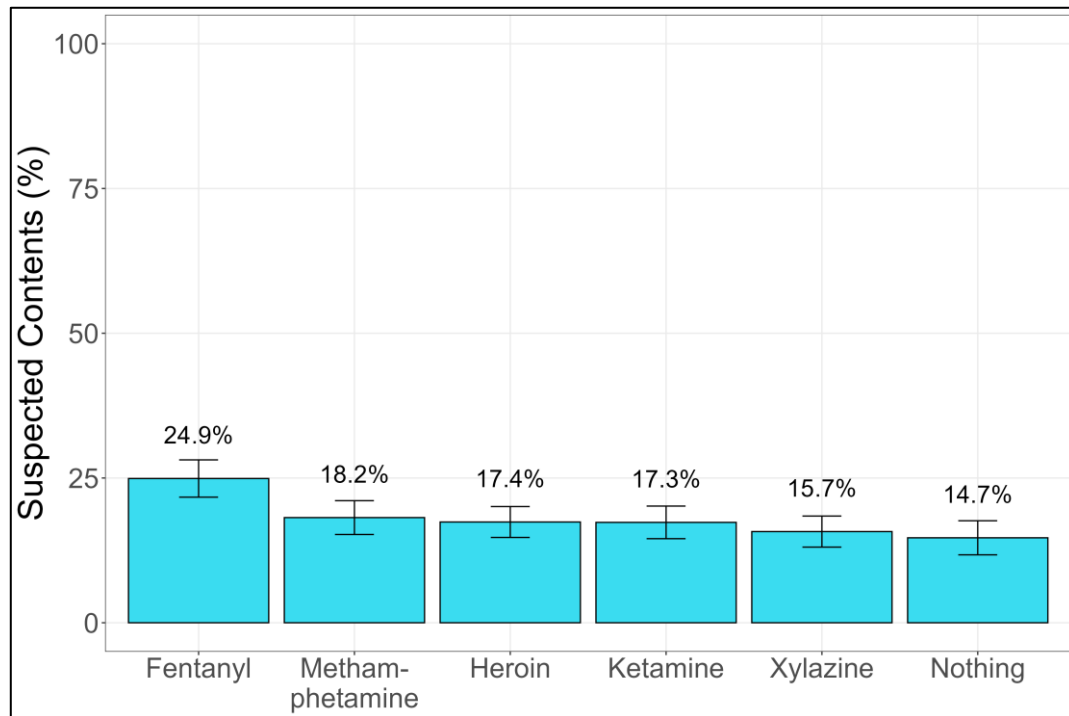
- Online reference image
- Texture
- Another person



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What are the Drugs Suspected?

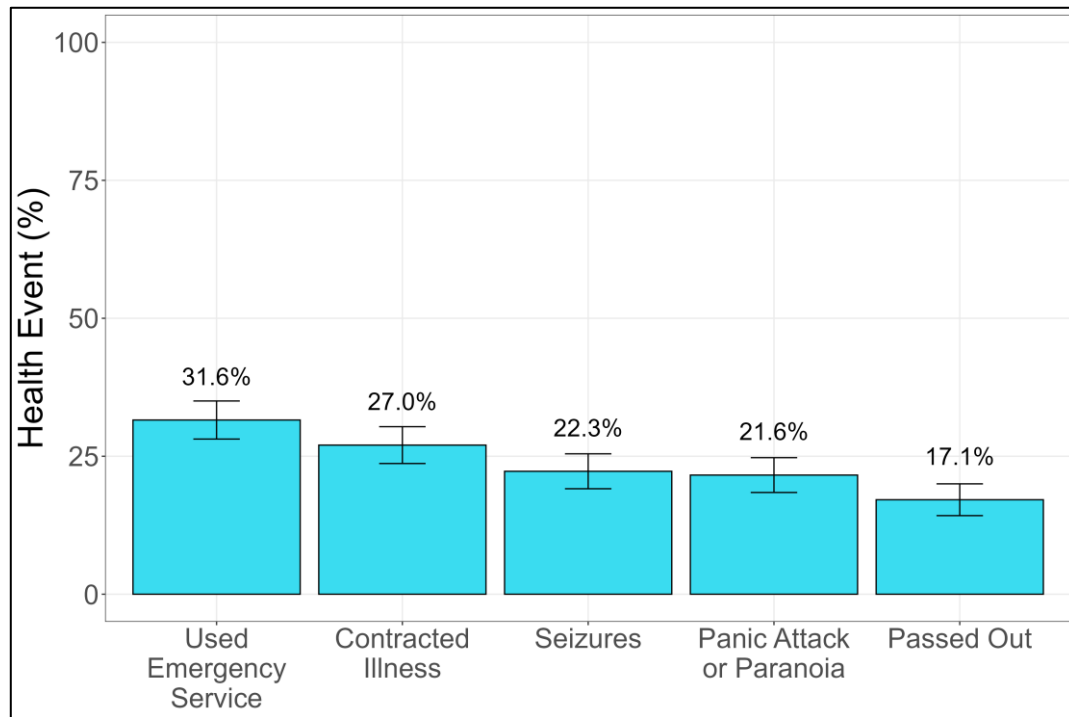
While the highest percentage of adults suspected the falsified medication contained fentanyl, many other drugs were suspected.



What are the Health Risks?

Substantial percentages of adults suspecting use of falsified medications attribute significant health events.

Likely a consequence of the varied contents, the attributed effects varied widely.



Summary

Strengths

- Well established sampling, bias mitigation, and statistical methods
- Content validity for preamble text was conducted
- Validation of detailed content in progress

Limitations

- Data are self-report
 - Only represent those who *suspected* use
 - Excludes adults who did not suspect they used a falsified medication
- Emergent medications being falsified are not included (e.g., GLP-1 agonists).



Conclusions

- Suspected falsified medication use as prevalent as other illicit drugs
 - Higher prevalence in West Census region consistent with overdose data showing more deaths involving falsified medications than other regions⁵
 - Chronic pain and mental health comorbidities are markers for risk of suspected use
- Large variety of suspected ingredients encountered
 - Should avoid the “tyranny of the molecule”,⁶ and listen to what people think are in falsified medications and what they experience
- Use exceptionally high in those with mental health comorbidities
 - Increasing anxiety and depression, particularly among youth,⁷ may be a component driving high falsified medication use
 - Need to understand better why those receiving care are at higher risk. Limited access? Unregulated online pharmacies? Drug shortages?



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Thank you!

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