

# **The fourth wave of the U.S. overdose crisis: disseminating incentive-based interventions for psychomotor stimulant use disorder into community settings**

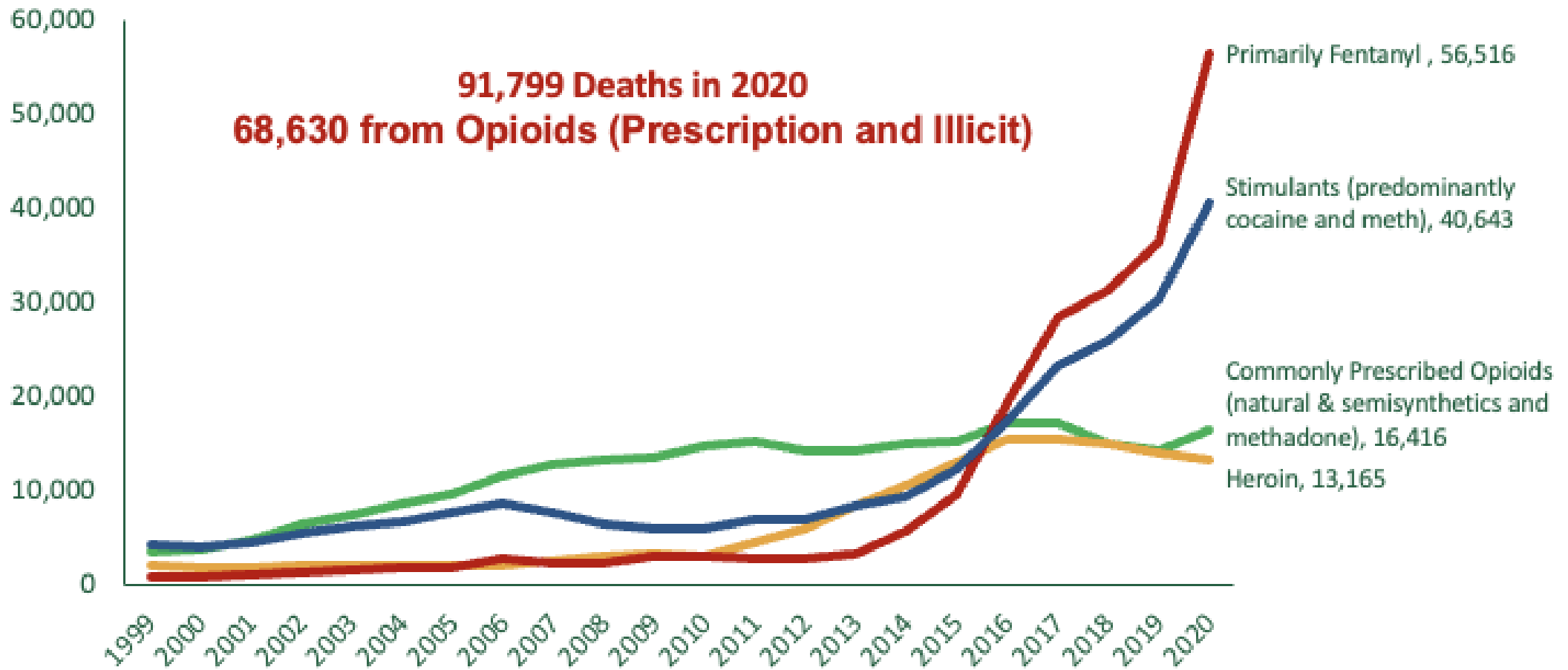
**Tyler G. Erath, PhD**

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# Evolution of Drivers of Overdose Deaths, All Ages

Analgesics → Heroin → Fentanyl → Stimulants



The Multiple Cause of Death data are produced by the Division of Vital Statistics, National Center for Health Statistics (NCHS), Centers for Disease Control and Prevention (CDC), United States Department of Health and Human Services (US DHHS).

# Charting the Fourth Wave: Geographic, Temporal, Race/Ethnicity, and Demographic Trends in Polysubstance Fentanyl Overdose Deaths in the United States, 2010-2021

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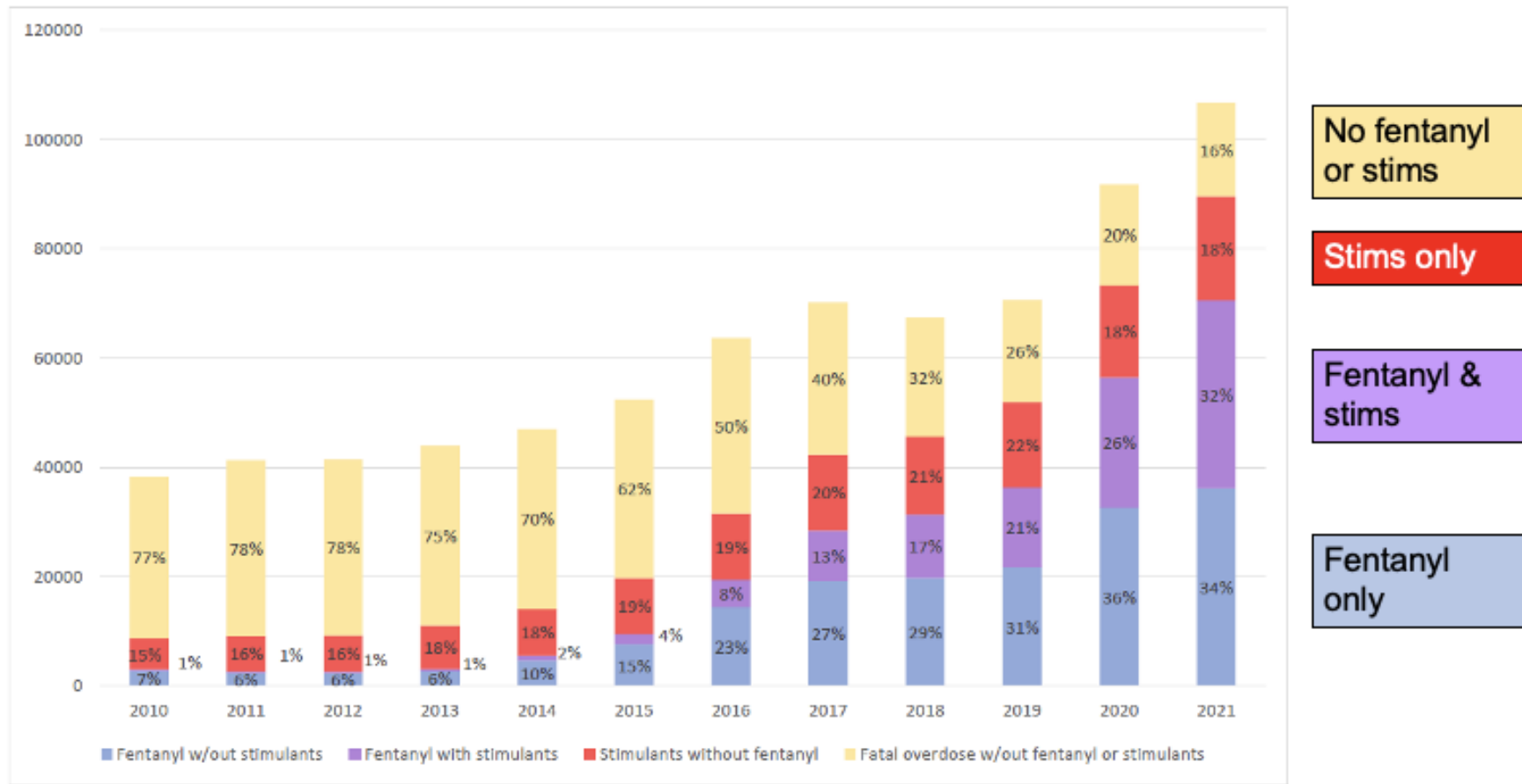
- Purpose: examine polysubstance use in overdose deaths from 2010-2021 by year, state and demographics.

# Methods

- Data were obtained from the CDC Wide-ranging Online Database for Epidemiological Research (WONDER) from 2010 through 2021.
- All deaths with underlying cause of overdose were selected.
  - Among those, deaths with multiple causes were then selected.
- Annual percentage of overdose deaths were measured for those involving: fentanyl, stimulants, fentanyl and stimulants, and neither fentanyl or stimulants.

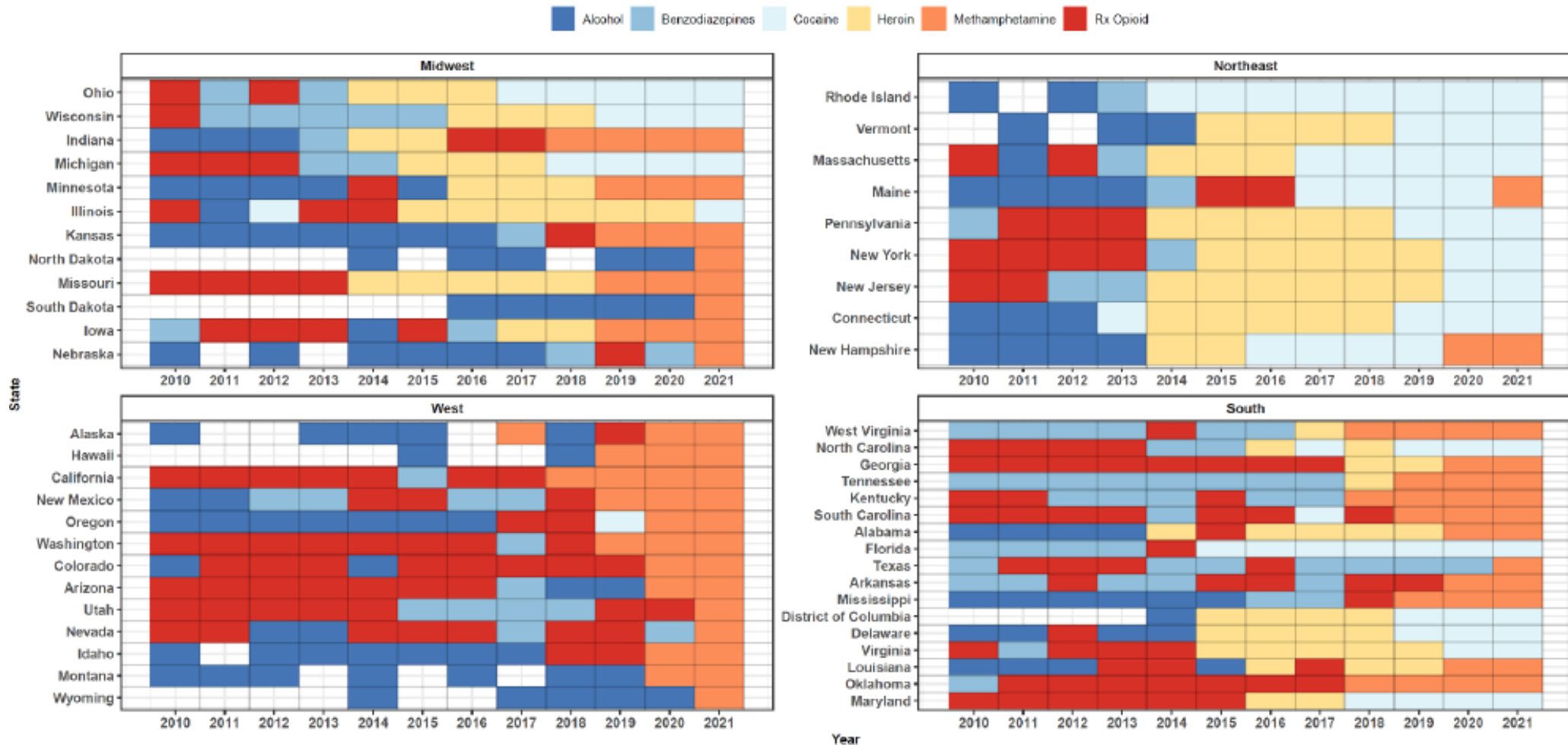
# Results

## Overdose Deaths by Fentanyl and Stimulant Presence, 2010-2021



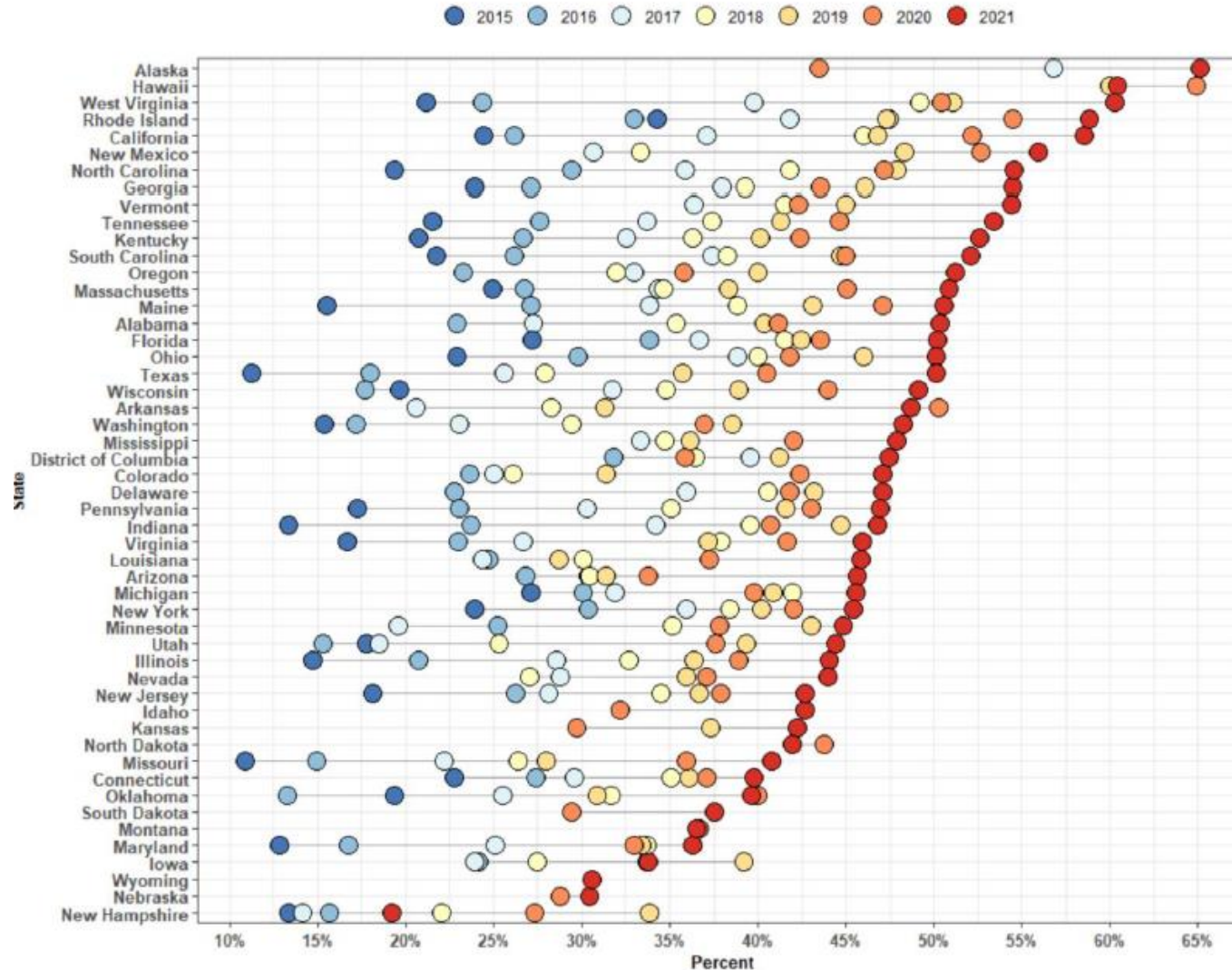
# Results (continued)

Most Common Drug Co-Involved in Overdose Mortality With Fentanyls, by State and Year, 2010-2021



# Results (continued)

Percent of Fentanyl Overdose Deaths involving Stimulants by State and Year, 2015-2021





# Takeaways

- Overdose deaths involving fentanyl and stimulants grew 60-fold between 2010 and 2021.
- By 2021, cocaine was the most widely used stimulant in the Northeast; methamphetamine was the most common drug alongside fentanyl in the rest of the country.
- The increasing prevalence of stimulant use and its involvement with fatalities points to the need for development and implementation of effective stimulant treatments.

# Treatments for StimUD

**Contingency Management** - an intervention where participants earn financial incentives or other tangible rewards for objective evidence of abstinence from recent stimulant use



Original Investigation | Substance Use and Addiction

Comparison of Treatments for Cocaine Use Disorder Among Adults  
A Systematic Review and Meta-analysis

Brandon S. Bentzley, MD, PhD; Summer S. Han, PhD; Sophie Neuner, BS; Keith Humphreys, PhD; Kyle M. Kampman, MD; Casey H. Halpern, MD

- Results: A total of 157 studies comprising 402 treatment groups and 15,842 participants were included
- Only contingency management was significantly associated with an increased likelihood of having a negative test result for the presence of cocaine (OR, 2.13)
- Conclusions: In this meta-analysis, contingency management programs were associated with the highest reductions in cocaine use among adults.

# Treatments for StimUD

Contingency management for the treatment of methamphetamine use disorder: A systematic review

Hayley D. Brown, Anthony DeFulio \*

*Western Michigan University, United States*

- A review of 27 studies.
- All included a contingency management intervention for individuals who use methamphetamine.
- Outcomes:
  - Drug abstinence
  - Retention in treatment
  - Attendance/treatment engagement
  - Sexual risk behavior
  - Mood/affect
  - Treatment response predictors

# Treatments for StimUD

## Results

- Reduced methamphetamine use in 26 of 27 studies.
- Longer retention in treatment.
- More therapy sessions attended; higher use of medical and other services.
- Reductions in risky sexual behavior.
- Increases in positive affect and decreases in negative affect.

Conclusion: “Evidence suggests strongly that outpatient programs that offer treatment for methamphetamine use disorder should prioritize adoption and implementation of contingency management intervention”

# Current Challenges to the Use of CM

- Resistance to the use of incentives to promote behavior change
  - Stigma associated with: “Paying individuals to not use drugs”
- Limits on Federal Funds
  - SAMHSA/HRSA \$75 cap per person per year
  - Incentives are taxable income, risking interference with entitlement benefits
- Confusion regarding OIG Anti-Kick/Inducements regulations
- Absence of Evidence-based Training and Implementation Strategies
- Optimal parameters for CM protocol design currently not well established

# Financing CM

Where does the money come from? Currently, SAMHSA money, SOR grants and Block grants have a \$75 max per patient. This is inadequate per the research literature.

In many of the published research studies with individuals being treatment for StimUD, protocols were 12-16 weeks in duration with max possible earnings of \$1000-\$1200.

In the ongoing, first statewide CM project in California, the incentive program is \$599 max per patient per 6-month protocol. \$599 is used as the max to avoid issuing 1099 tax forms since as present the IRS classifies incentives earned as taxable income.

# Financing CM

## Strategies for Financing CM

- Change in HHS policy about \$75 limit on incentives
- Use of Opioid Settlement Funds
- Use of State Funds
- 1115 waiver to CMS to allow use of Medicaid funds
- Foundations

# Some CM Protocol Questions

- Type of CM model used (voucher or Prize CM)
- Duration of the CM treatment
- Target behavior (e.g., negative urinalysis, attendance)
- Urinalysis target (stimulants only, polysubstance)
- Frequency of visits
- Incentive magnitude
- Use of escalation, reset, and recovery to promote extended periods of abstinence
- Use of CM in combination with other behavioral treatments



# Questions?

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# References

Friedman, J., & Shover, C. (2022). Charting the Fourth Wave: Geographic, Temporal, Race/Ethnicity, and Demographic Trends in Polysubstance Fentanyl Overdose Deaths in the United States, 2010-2021. *medRxiv*, 2022-11.

Bentzley, B. S., Han, S. S., Neuner, S., Humphreys, K., Kampman, K. M., & Halpern, C. H. (2021). Comparison of treatments for cocaine use disorder among adults: a systematic review and meta-analysis. *JAMA network open*, 4(5), e218049-e218049.

Brown, H. D., & DeFulio, A. (2020). Contingency management for the treatment of methamphetamine use disorder: a systematic review. *Drug and Alcohol Dependence*, 216, 108307.