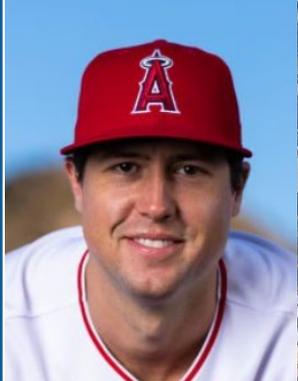
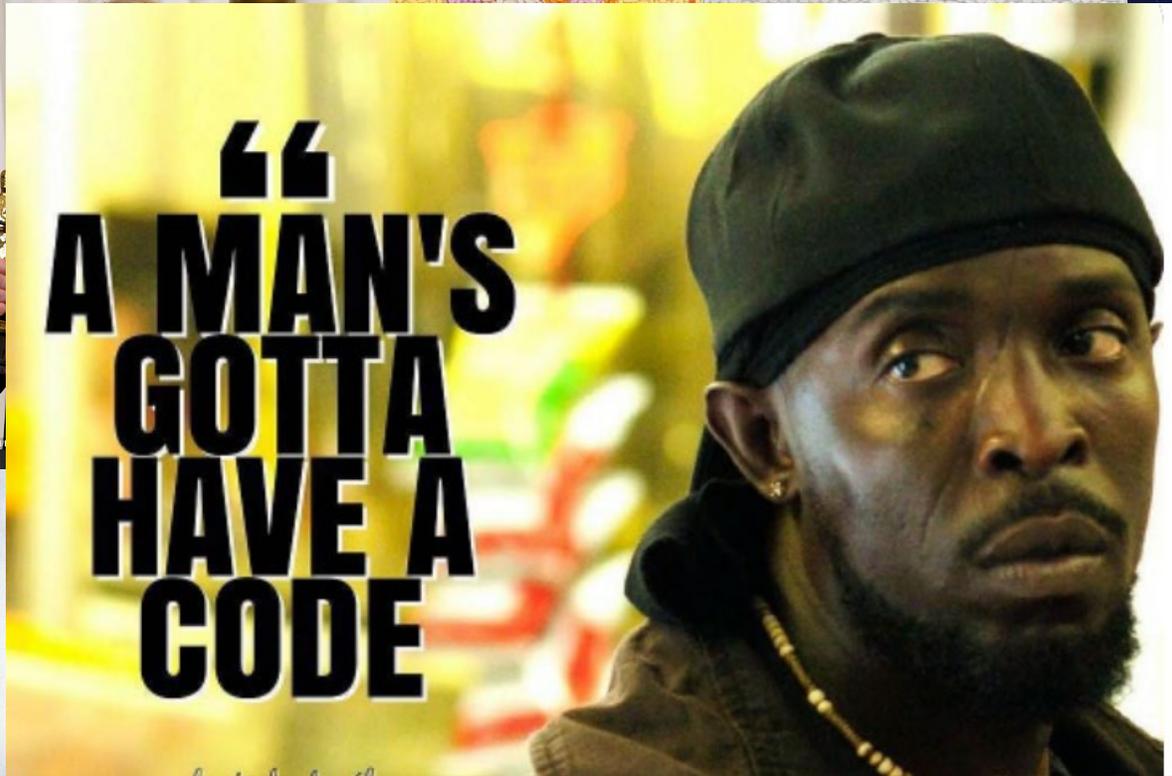
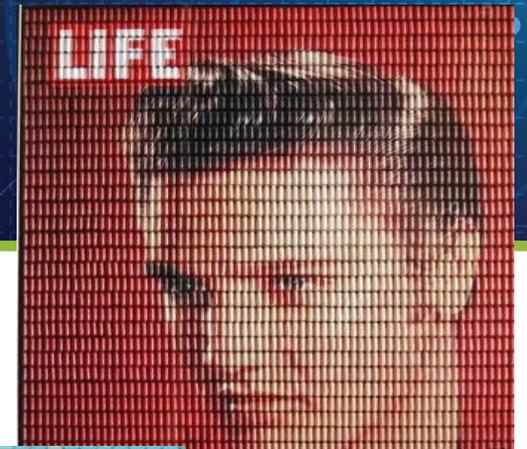


RADARS[®]
S Y S T E M **2022**

16TH ANNUAL SCIENTIFIC VIRTUAL MEETING

Evolving Safety of Psychoactive Drugs

Tuesday, May 17, 2022



RADARS[®] System 16th Annual Scientific Meeting

Registrants n=196

Government	64
Academic	26
Industry/Pharma	35
Other	71

RADARS[®] System - Scientific Advisory Board

Theodore J. Cicero, PhD

Washington University in St Louis



Steven P. Kurtz, PhD

Nova Southeastern University



Mark W. Parrino, MPA

American Association for the Treatment of Drug Dependence



Richard C. Dart, MD, PhD

Rocky Mountain Poison & Drug Center, Denver Health



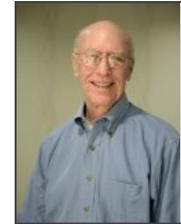
Sidney Schnoll, MD, PhD

PinneyAssociates



George Woody, MD

University of Pennsylvania



Nabarun Dasgupta, MPH

Rocky Mountain Poison & Drug Center, Denver Health

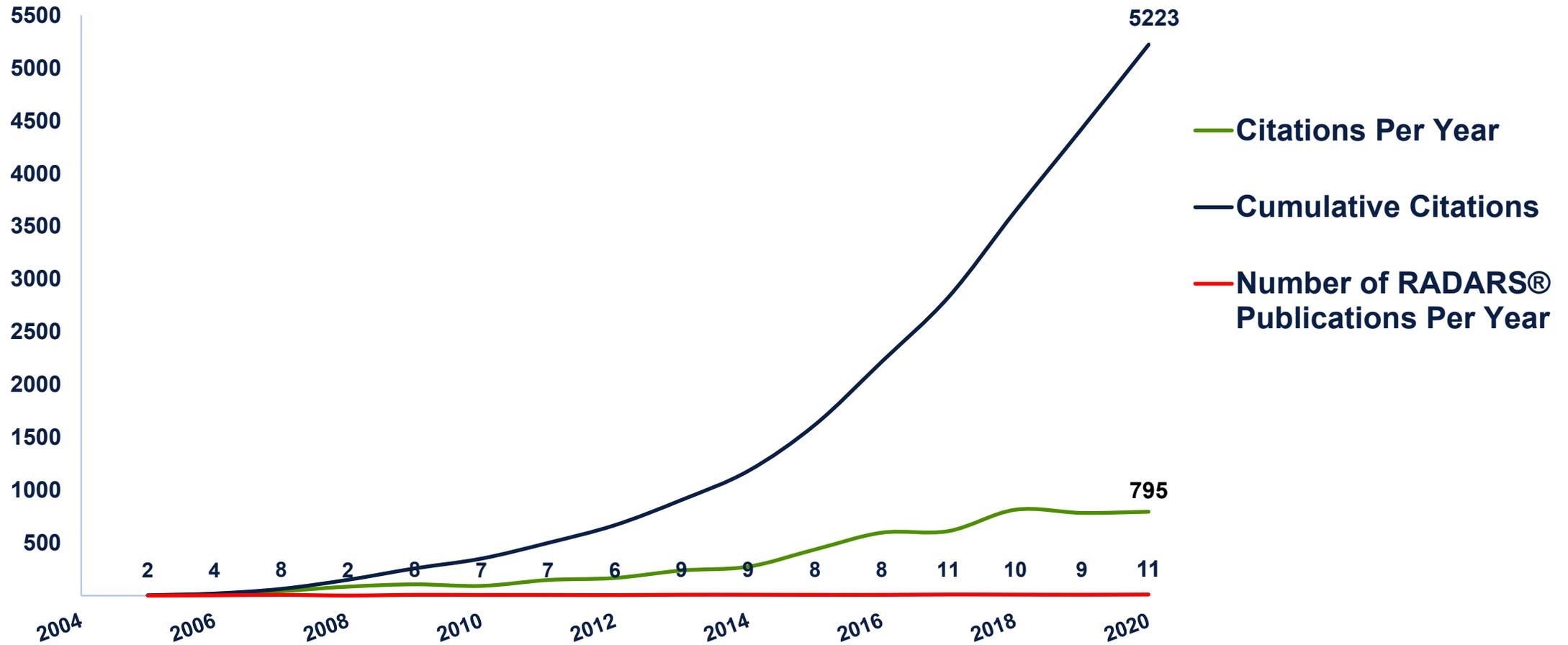


John Burke

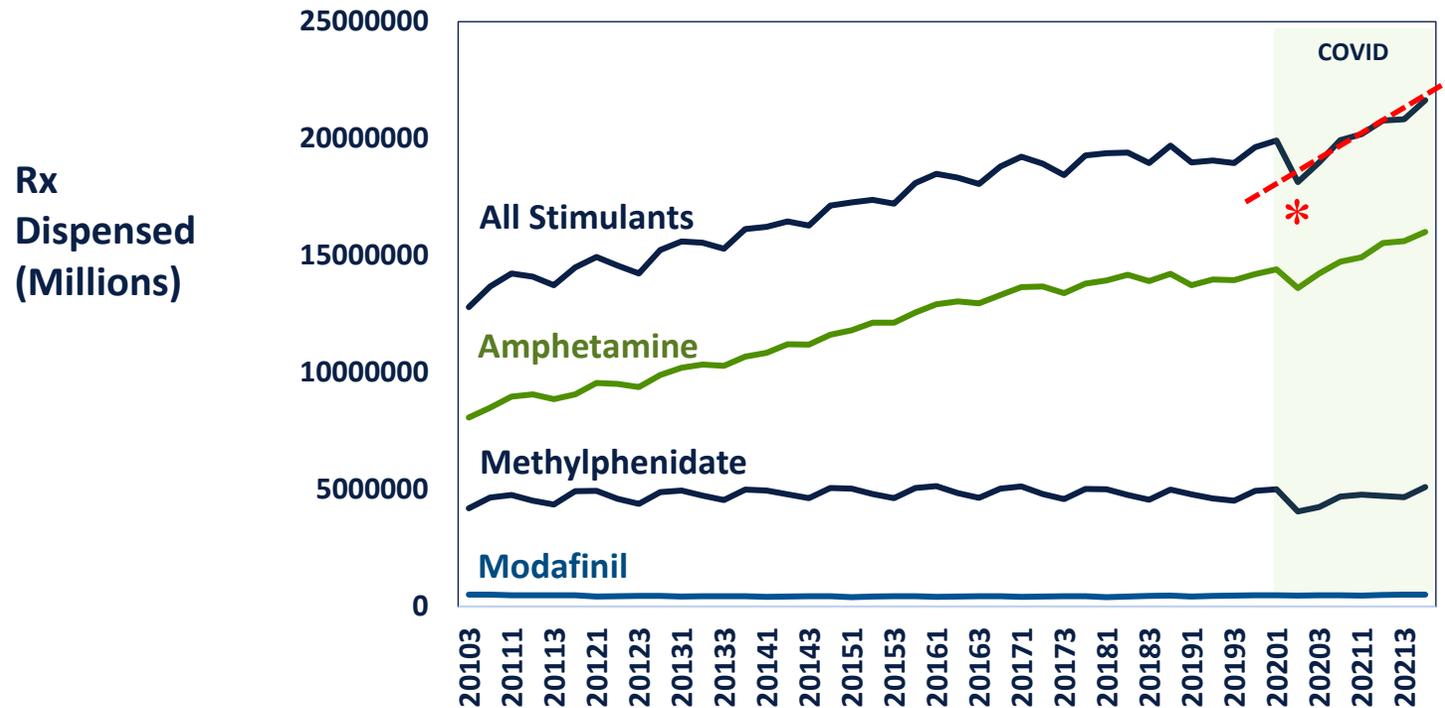
*Pharmaceutical Diversion Education, Inc.;
International Health Facility Diversion Association*



RADARS® System Publications - 2021



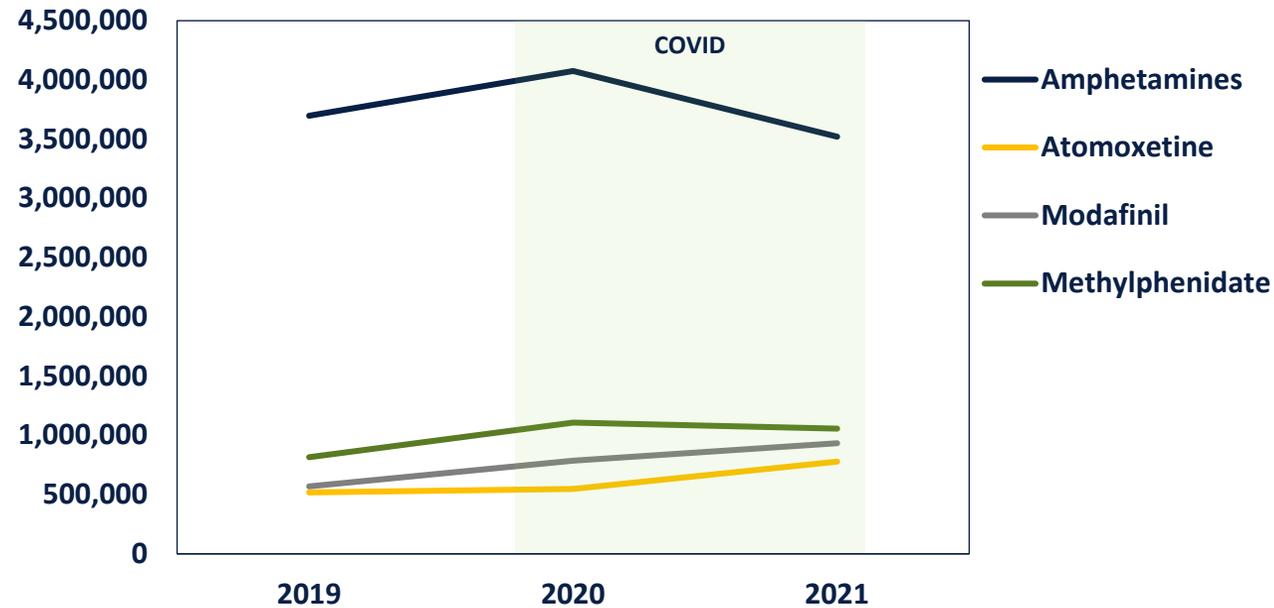
Prescribing of Stimulants, US, 2010 - 2021



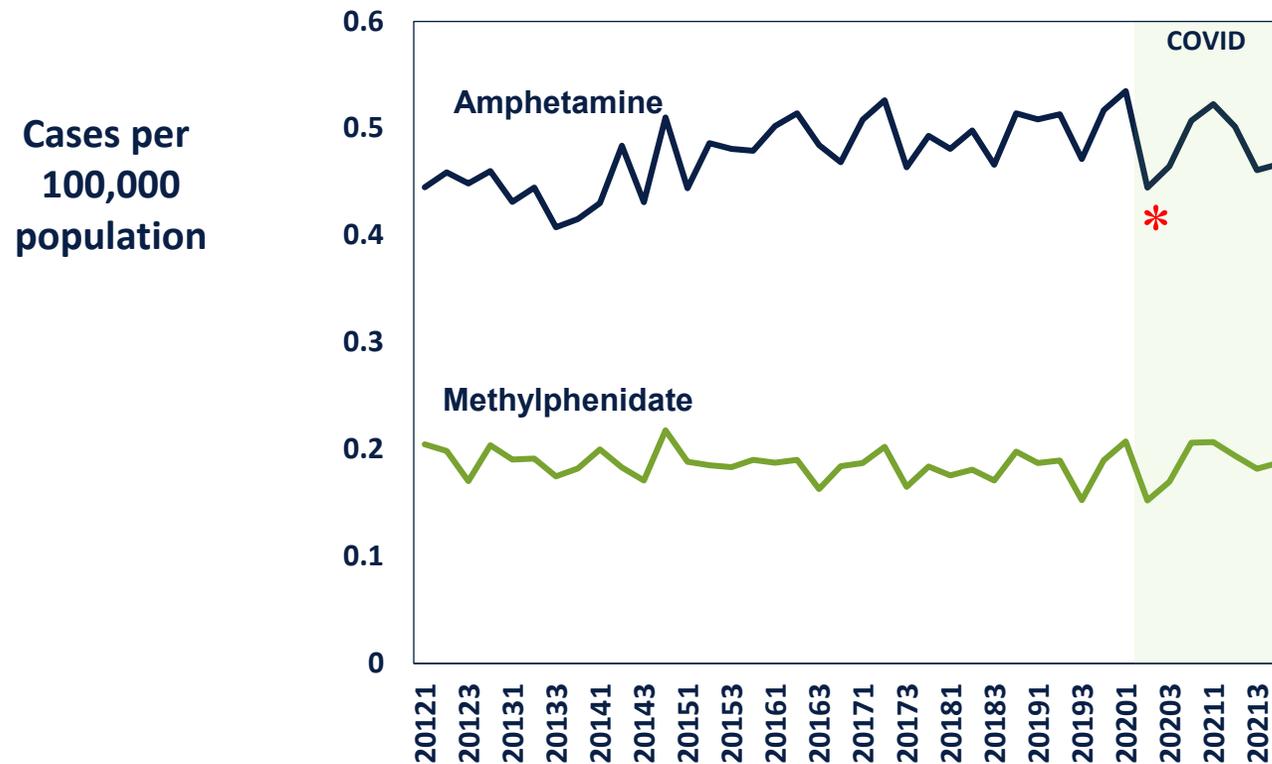
Source: IQVIA™ US-Based Longitudinal Prescription Data

NMURx Program, Non-Medical Use of Rx Stimulants, 2019 - 2021

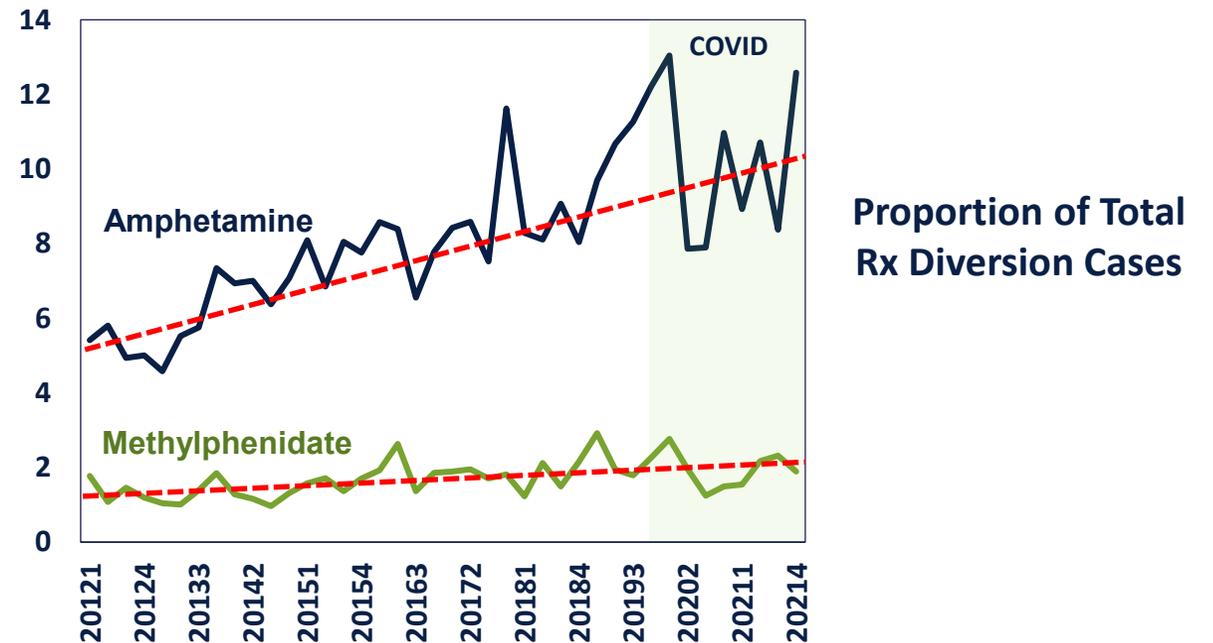
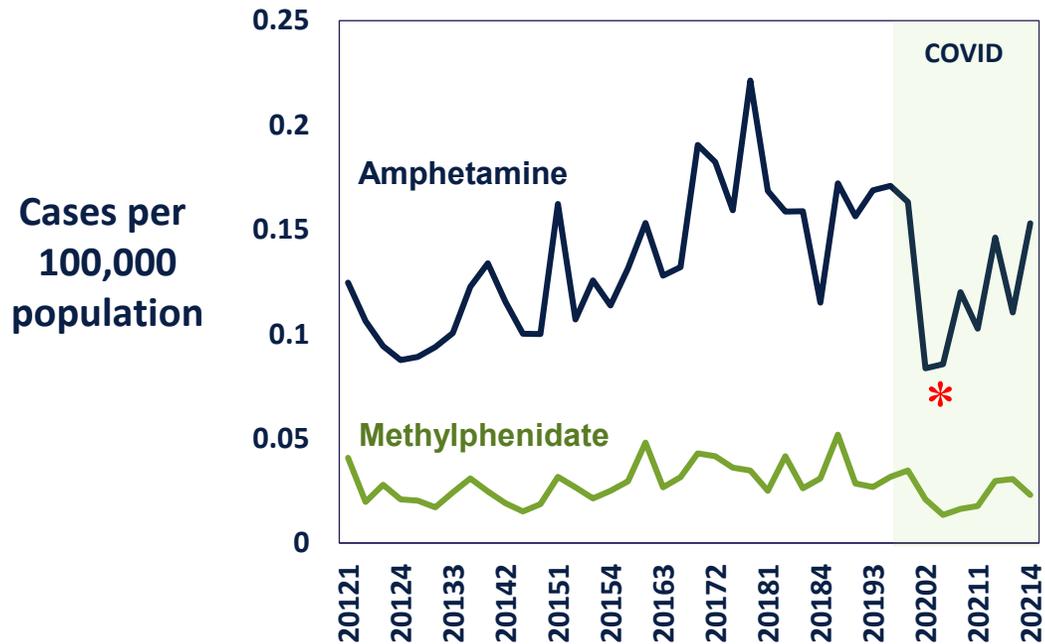
Number Adults
Who NMU



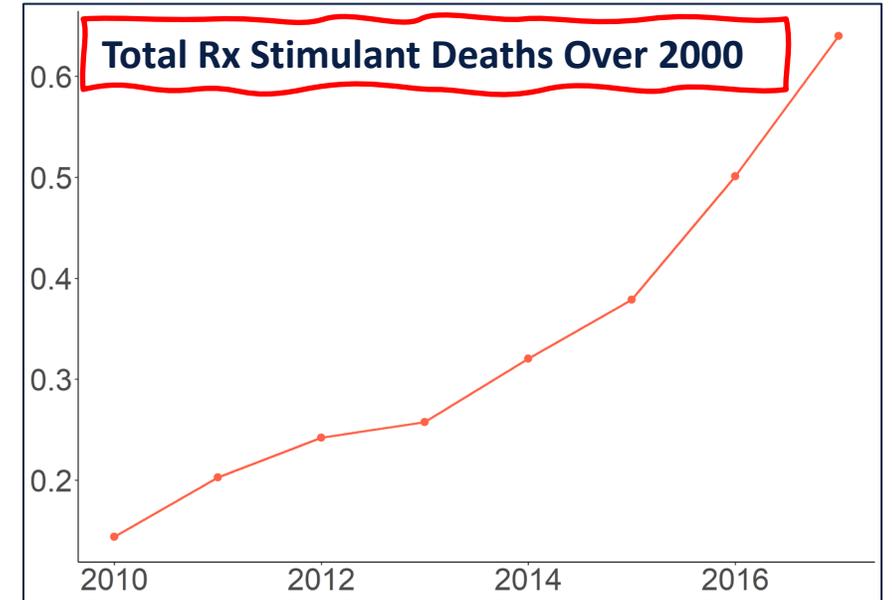
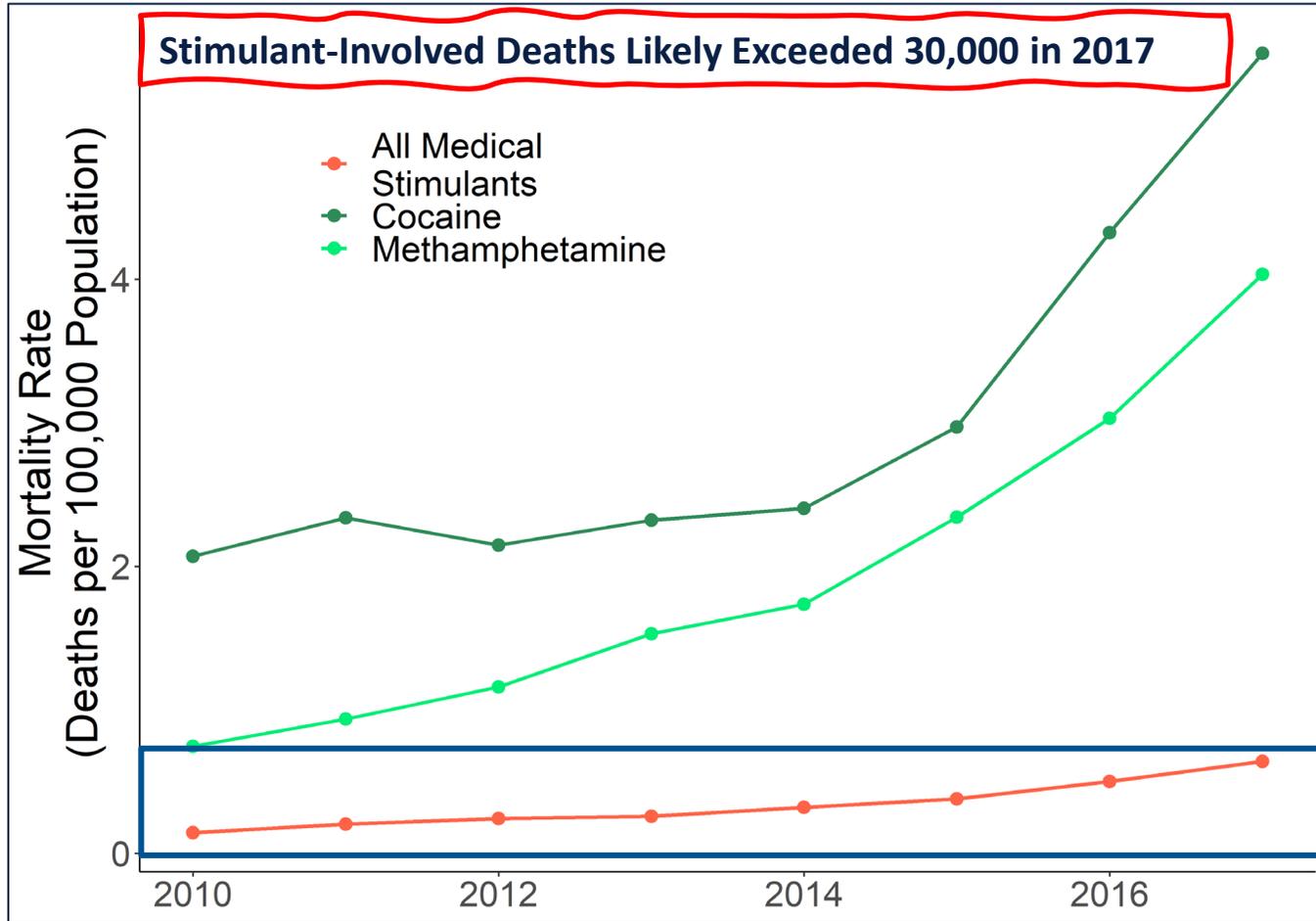
Poison Center Program, Rx Stimulants, 2012 - 2021



Drug Diversion Program, Rx Stimulants, 2012 - 2021

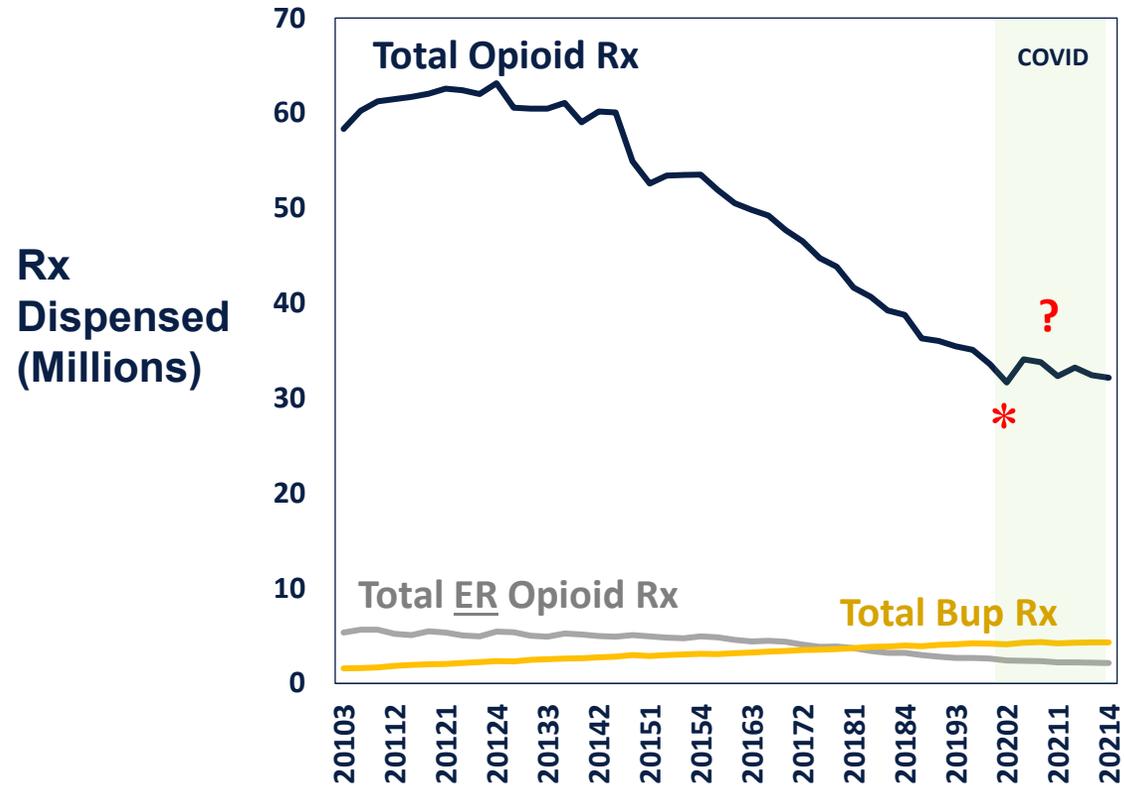


Increasing Stimulant Mortality over Time



Mortality related to medical stimulants is rising rapidly alongside illicit substances like cocaine and methamphetamine.

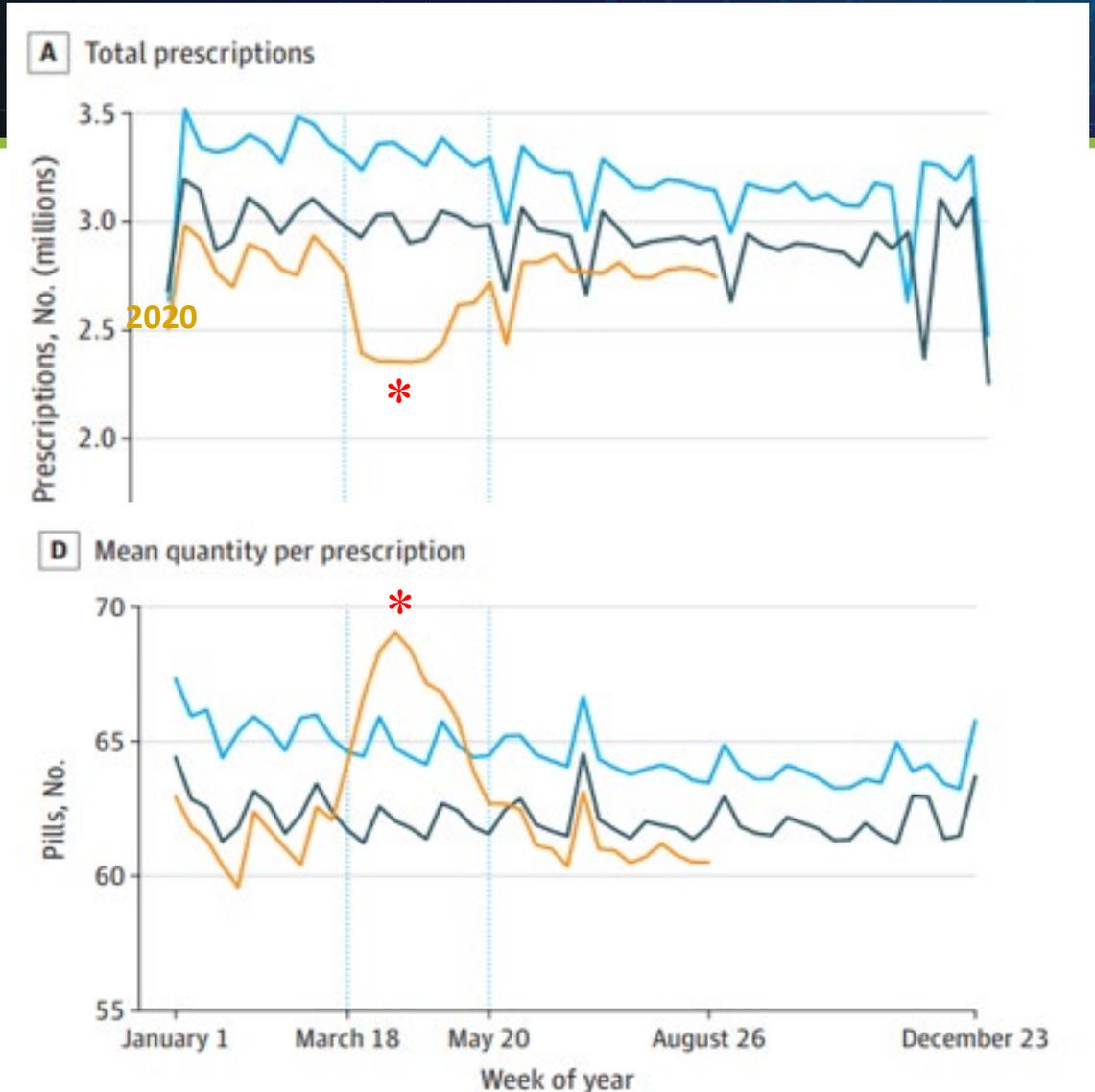
Trends in Annual Opioid Prescribing Rates, 2010 - 2021



Source: IQVIA™ US-Based Longitudinal Prescription Data

Opioid Rx During Pandemic

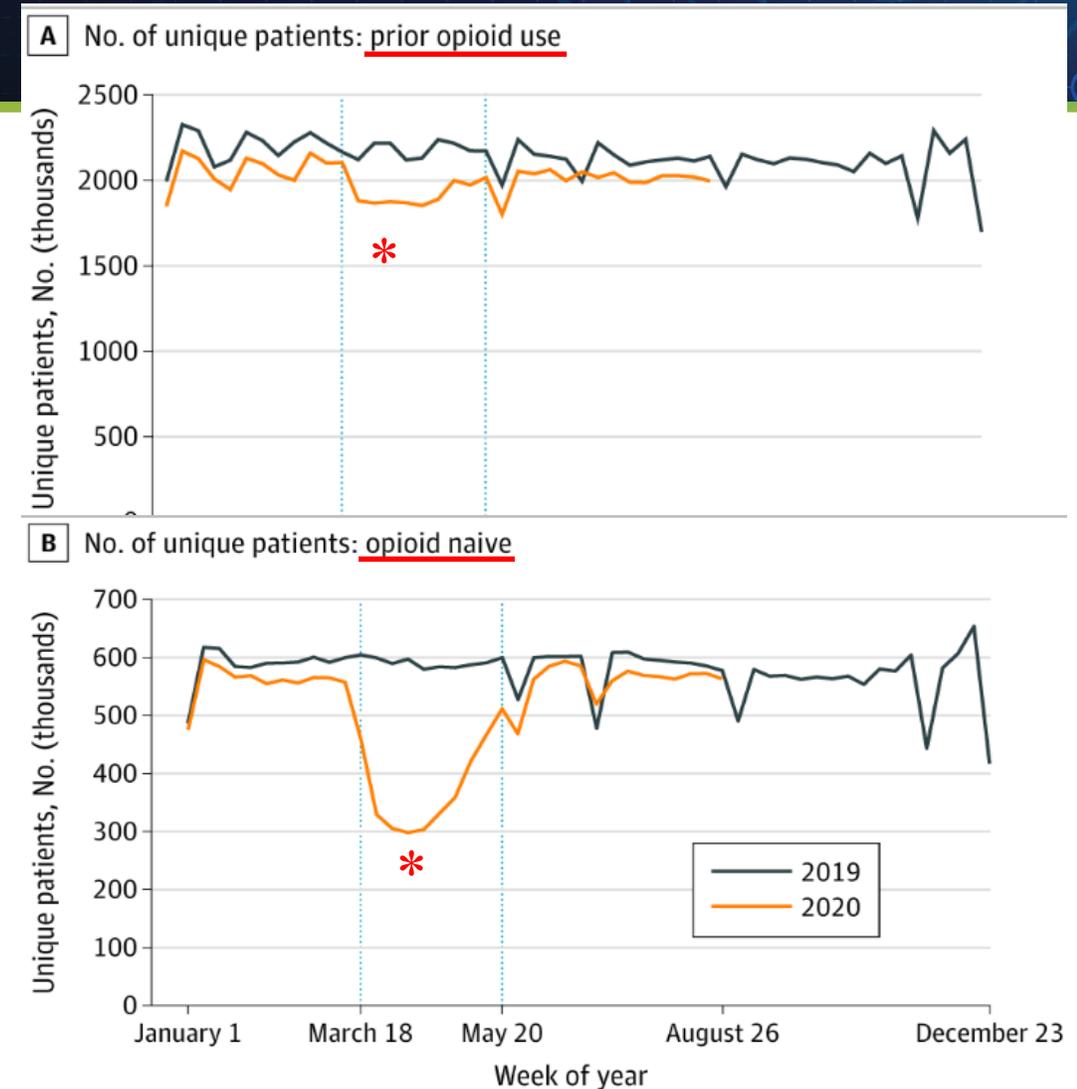
- IQVIA's LRx database
- Before Jan 1, 2018
- After March 18 – Sept 20, 2020
- Results
 - Decrease in Rx in 2020-Q2
 - Compensated by increased quantity/Rx



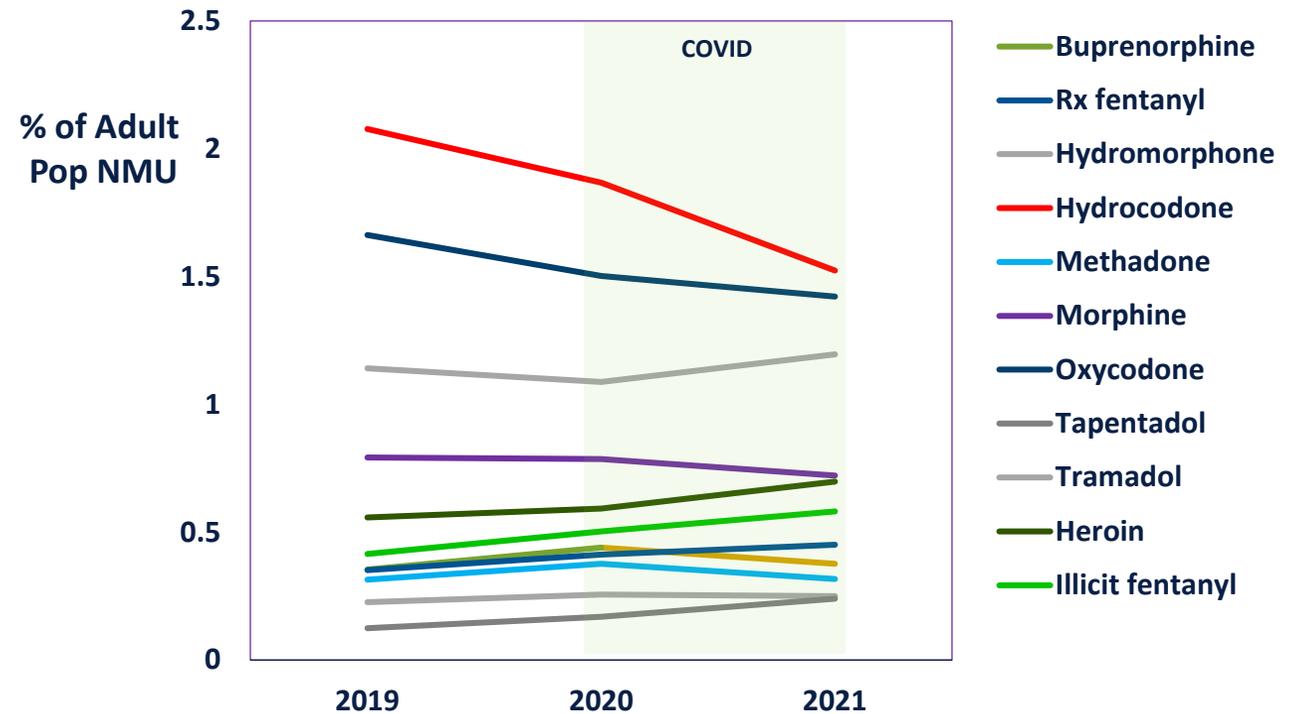
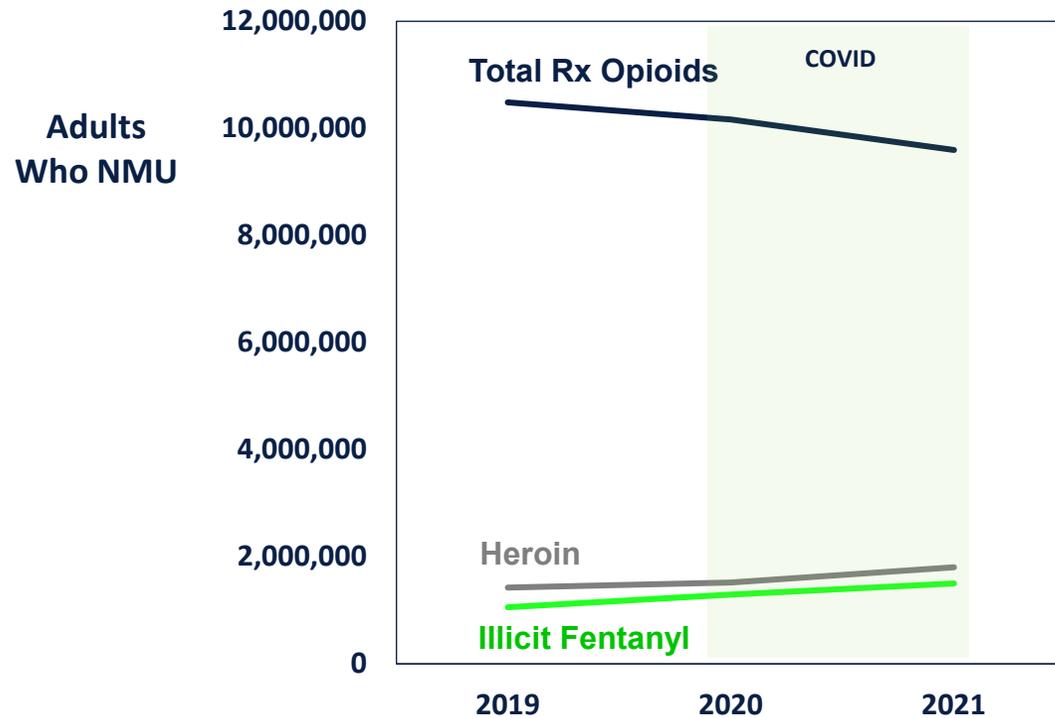
Currie JM, et al. Prescribing of Opioid Analgesics and Buprenorphine for Opioid Use Disorder During the COVID-19 Pandemic. *JAMA Netw Open*. 2021;4(4):e216147.

Total Opioid Rx Established v. Naïve Rx Patients

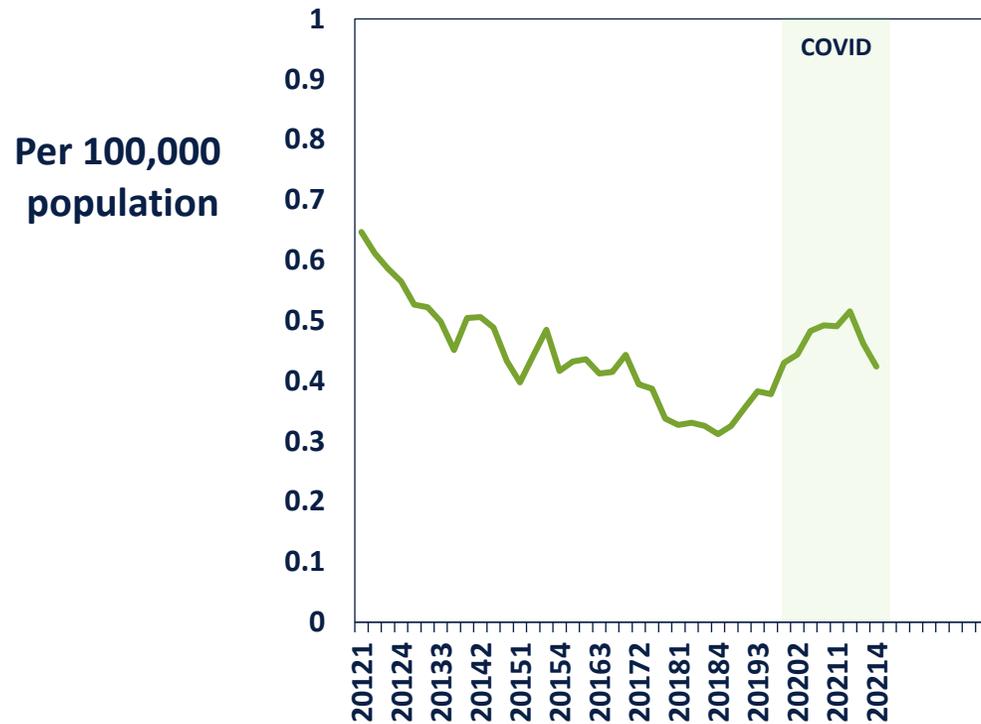
- Number of established patients receiving an opioid prescription decreased slightly compared to 2019
- Number of “opioid-naïve” patients receiving an opioid prescription decreased 50% compared to 2019



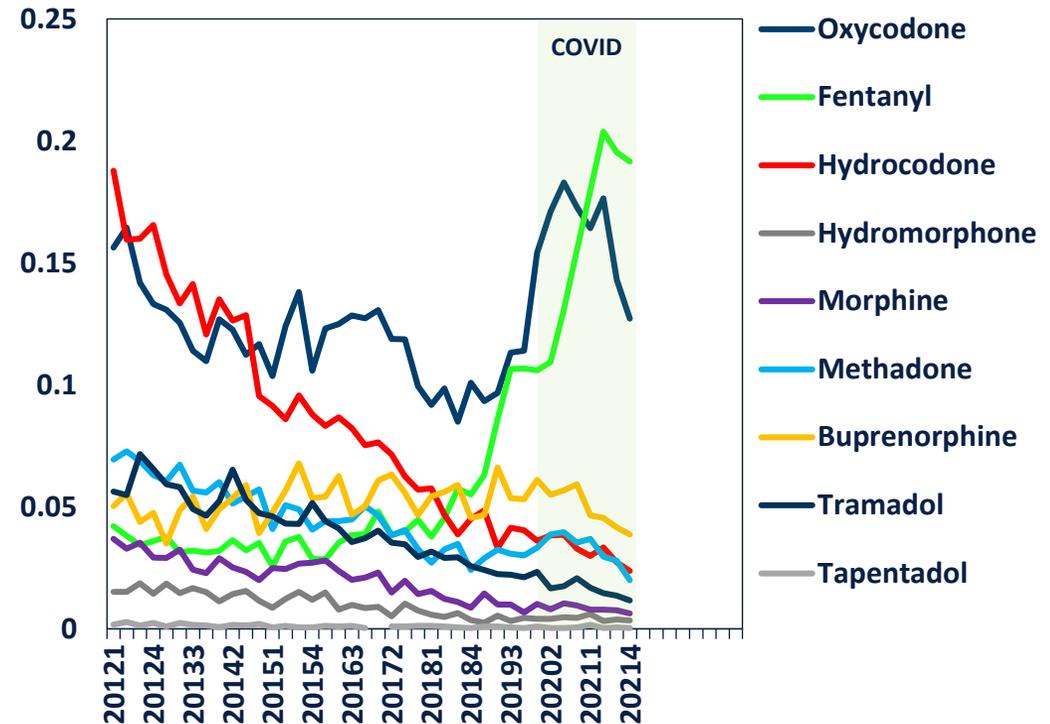
NMURx Program, Non-Medical Use of Opioids, 2019 - 2021



Poison Center Program, Intentional Abuse, 2012 - 2021

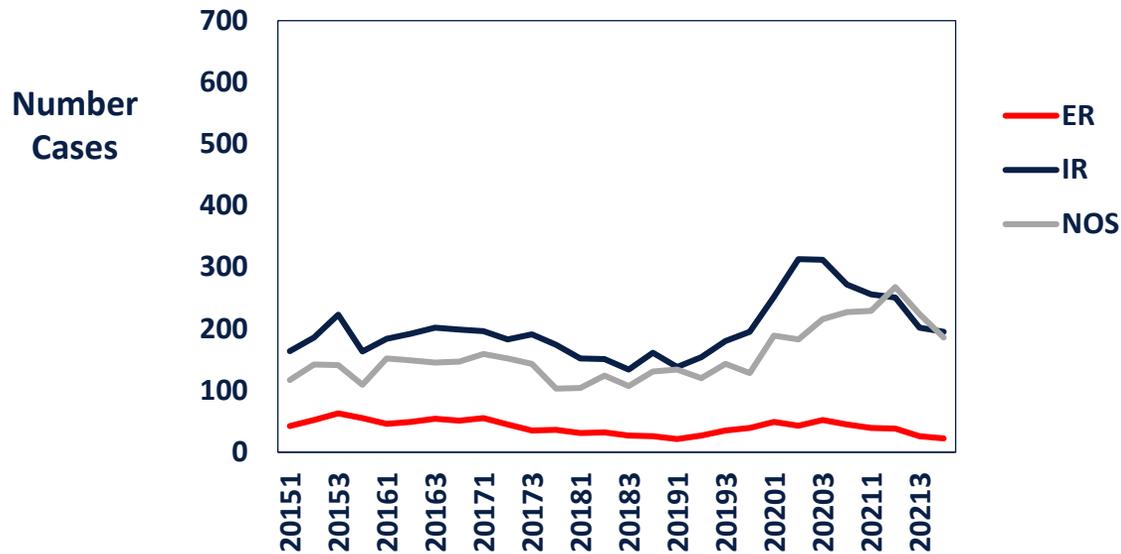


Includes oxycodone, hydrocodone, hydromorphone, morphine, tramadol

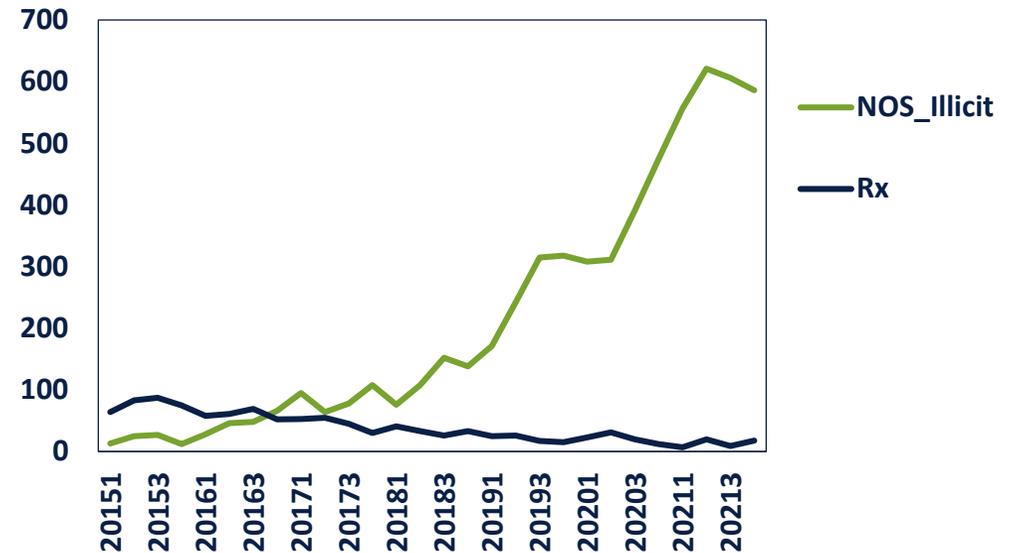


Counterfeit Forms of Fentanyl are Likely Cause of Increasing “Oxycodone” Cases in Poison Center Program Data

Intentional Abuse Exposures - Oxycodone

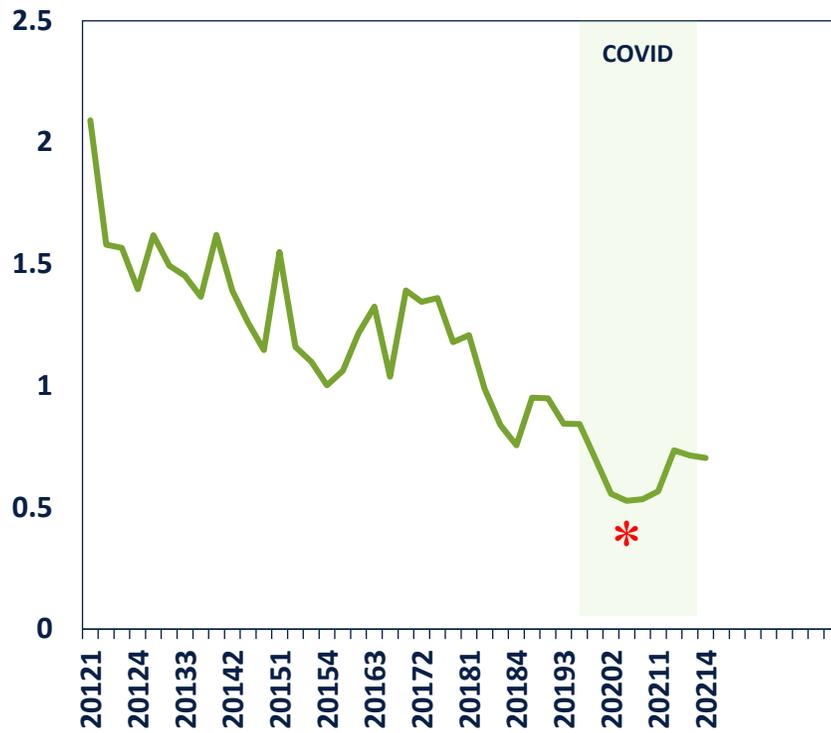


Intentional Abuse Exposures - Fentanyl

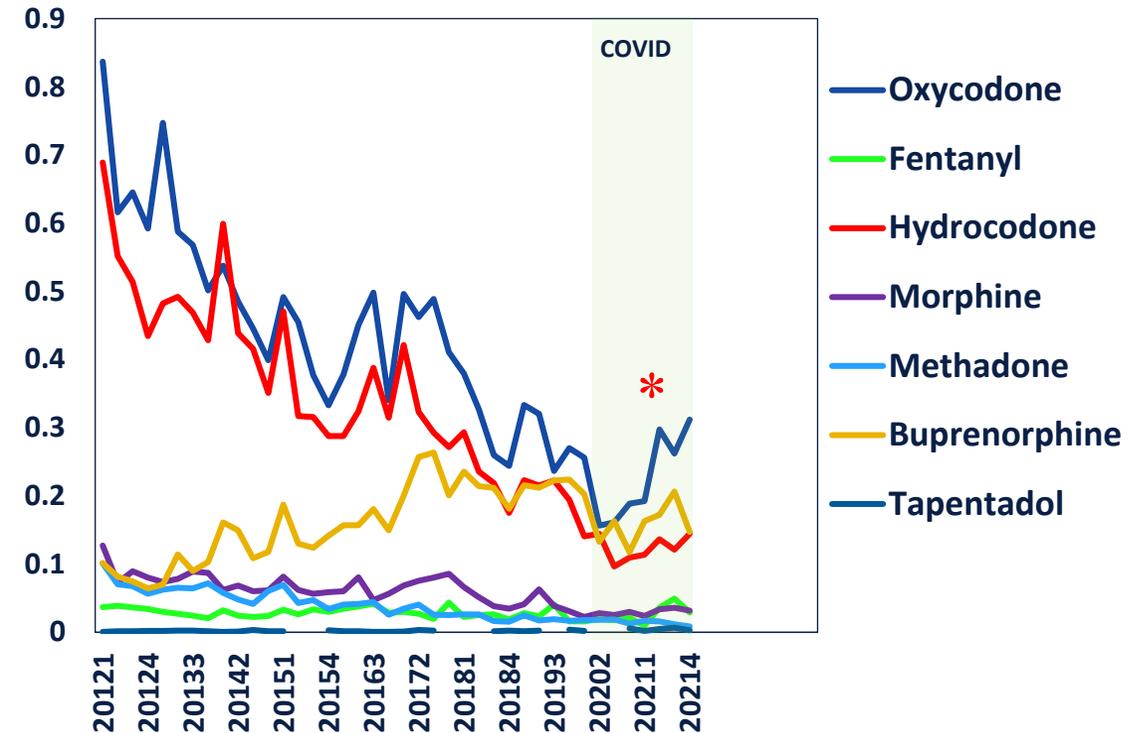


Drug Diversion Program, 2012 - 2021

Invest.
Opened
Per
100,000
population

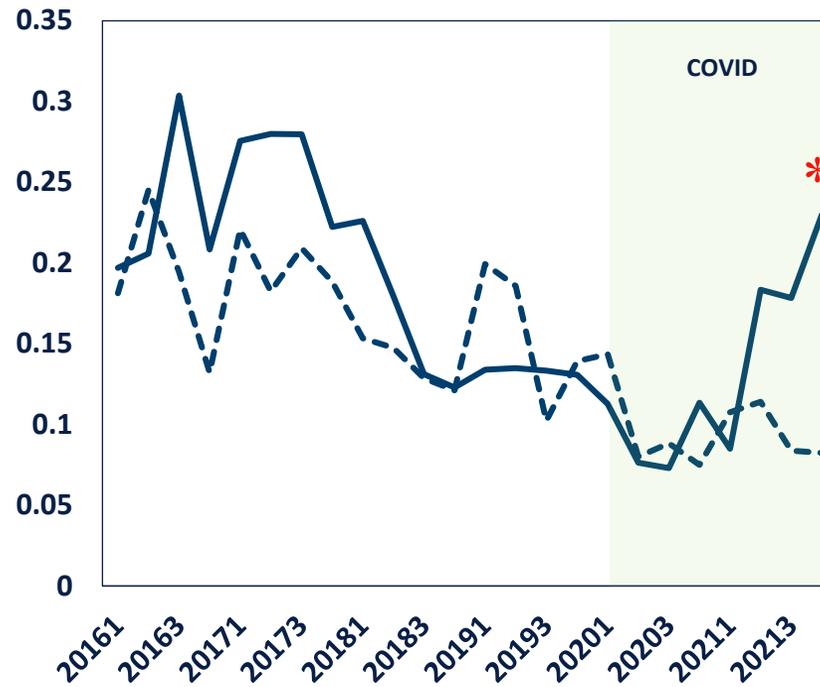


oxycodone, hydrocodone, hydromorphone,
fentanyl, morphine, tramadol



Drug Diversion Program – Increase in Oxycodone Cases

Invest.
Opened
Per
100,000
population



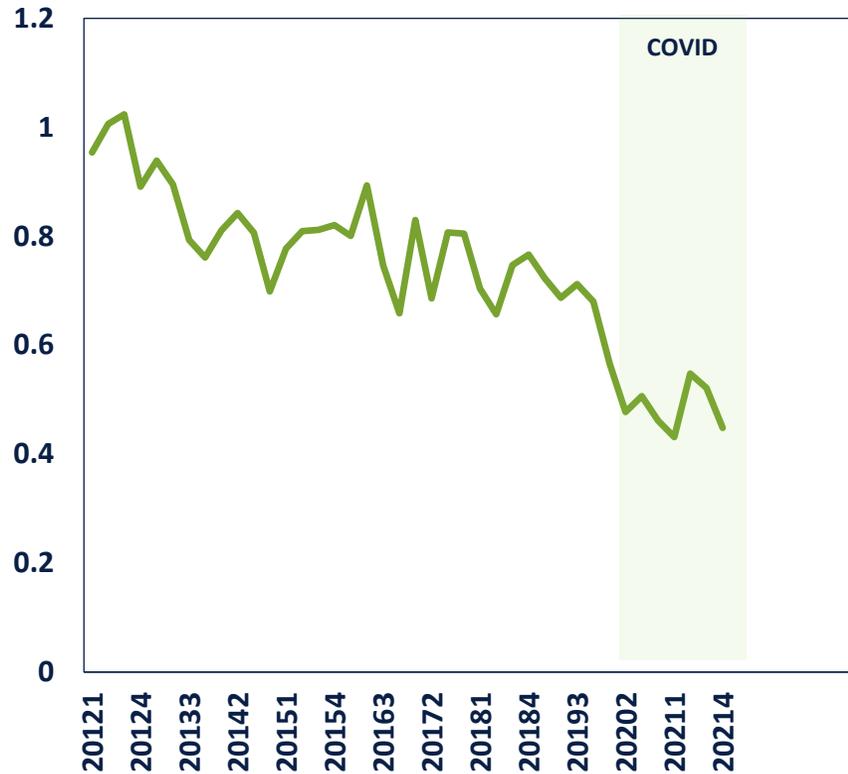
--- Other oxycodone

— Other known IR oxycodone

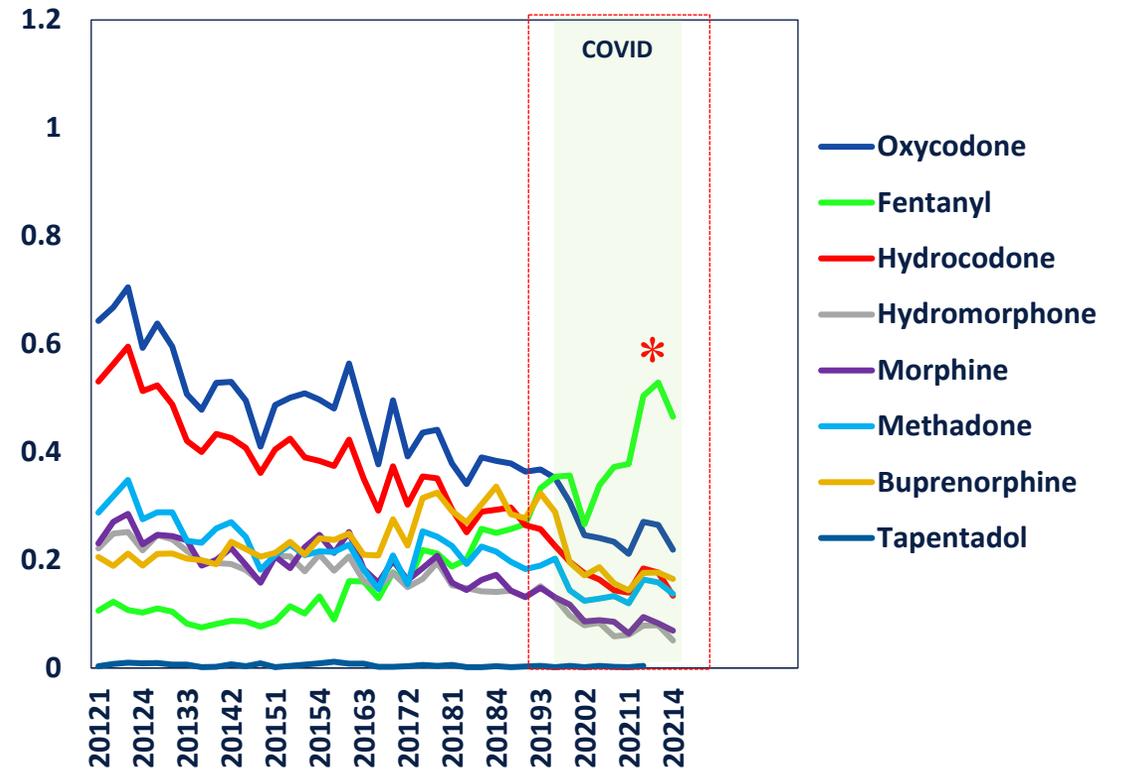


Treatment Center Programs Combined, 2012 - 2021

Endorse
Per 100,000
population

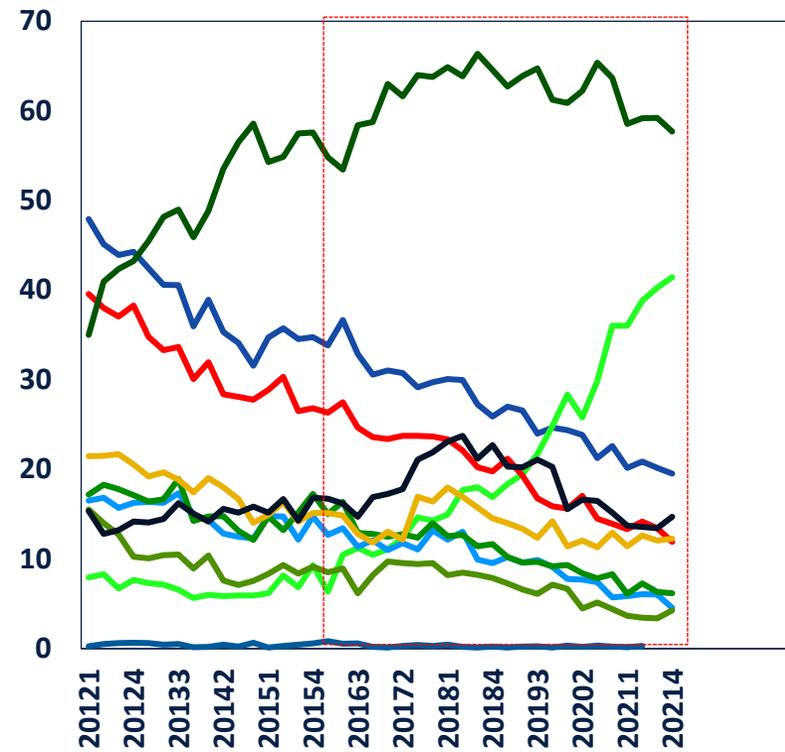


Oxycodone, hydrocodone,
hydromorphone, morphine, tramadol

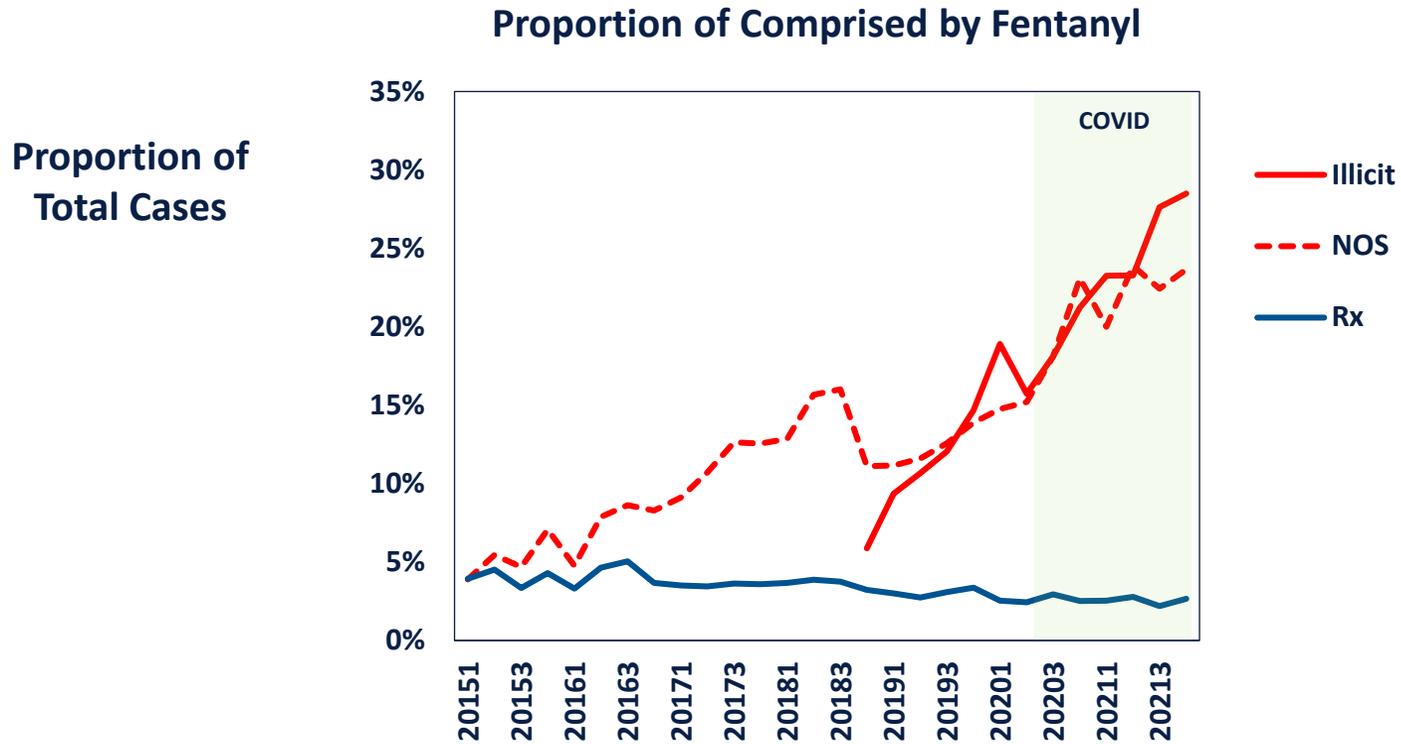


Treatment Center Programs Combined, Proportion, 2012 - 2021

Proportion of Total Rx
Treatment Center Cases



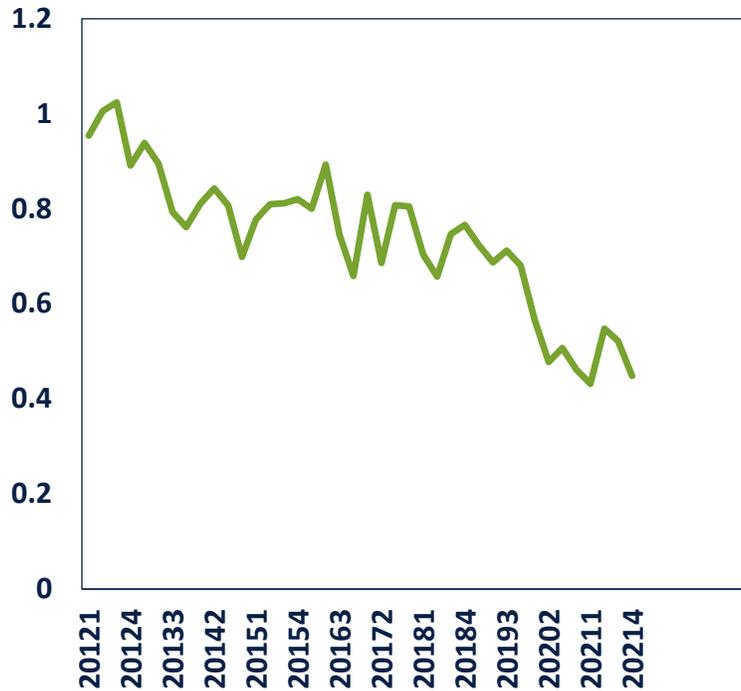
Treatment Center Programs Combined, Fentanyl, 2015 - 2021



Why Aren't We Celebrating?

RADARS® Treatment Centers

Endorse.
Per 100,000
population

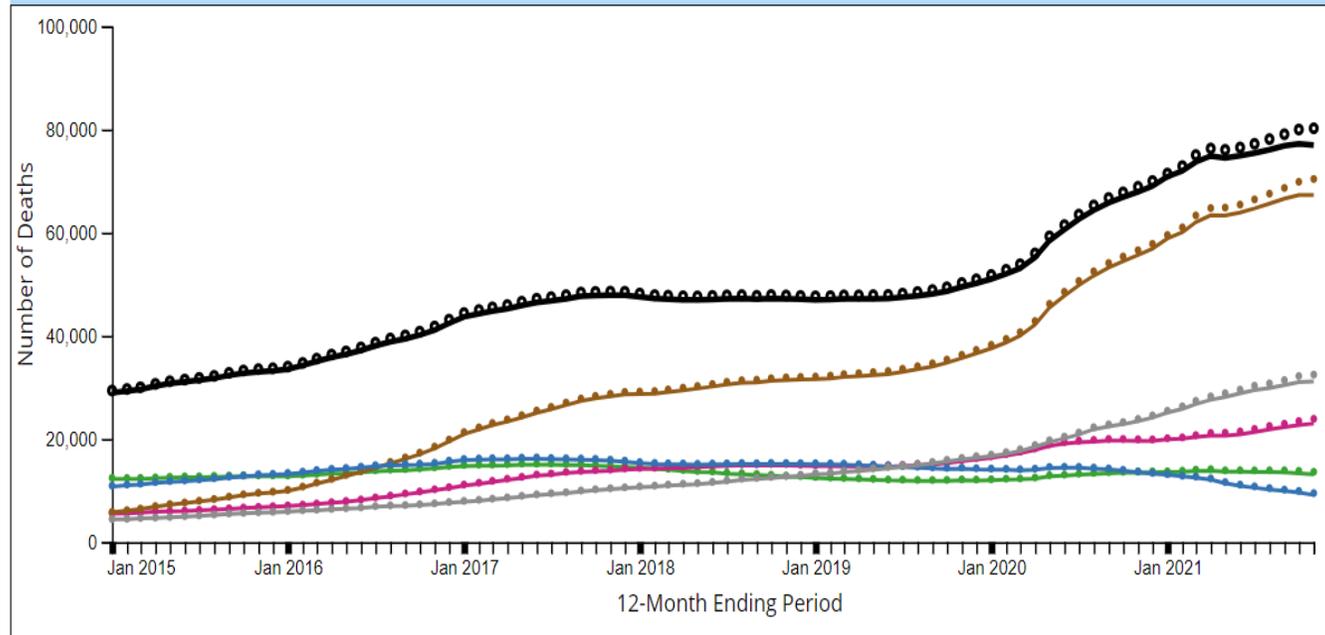


War on Rx Opioids Won!



Drug Overdose Deaths in United States

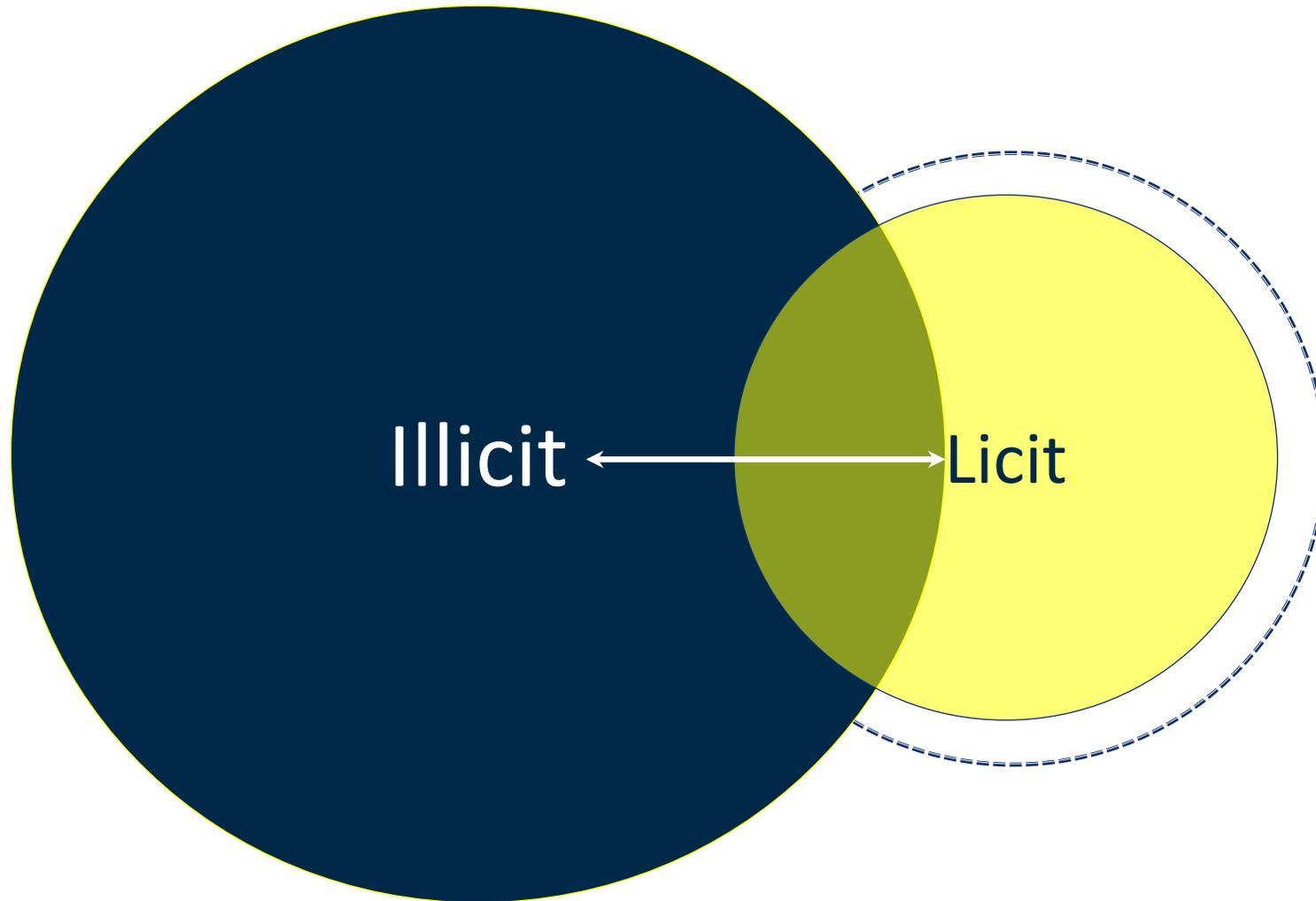
Figure 2. 12 Month-ending Provisional Number of Drug Overdose Deaths by Drug or Drug Class:
United States



Opioids
Synthetic Opioids
excl methadone

Psychostimulants
Cocaine
Natural & Semisynth
Heroin

Interaction of Licit and Illicit Pharmaceuticals



Summary

- Opioids are a continuing scourge
 - More challenging than ever due to Fentanyl
- COVID
- Prescription opioids are a “success”
 - Meaning? Supply or demand issue?
 - Still concerning events of inappropriate denial of opioids
- Relation between licit and illicit drugs of abuse

Evolving Safety of Psychoactive Drugs

Richard C. Dart, MD, PhD

*Executive Director, RADARS® System, Denver Health and Hospital Authority
President, Canadian Consumer Product and Pharmaceutical Safety Inc.*

Heterogeneous Patterns of Stimulant Initiation: A Study of Typologies

Joshua C. Black, PhD

Senior Research Scientist, Rocky Mountain Poison & Drug Safety, Denver Health and Hospital Authority

Does Over-the-Counter Mean Under the Radar?

Stefania Chiappini, MD

*Psychopharmacology, Drug Misuse and Novel Psychoactive Substances
Research Unit, School of Life and Medical Sciences, University of Hertfordshire,
Hertfordshire UK*

Jennifer Jewell, DrPH

*Assistant Research Scientist, Rocky Mountain Poison & Drug Safety, Denver
Health and Hospital Authority*

Am I Dreaming? The Misuse and Abuse of Psychedelics

A Mosaic Perspective of Psychedelics Landscape

Marta Sokolowska, PhD

Associate Director for Controlled Substances, Office of the Center Director, Center for Drug Evaluation & Research, U.S. Food and Drug Administration

Psychedelics in the Real World: Using Real World Evidence to Prepare for Approval

Janetta L. Iwanicki, MD

Chief Scientific Officer, Research and Consulting, Rocky Mountain Poison & Drug Safety, Denver Health and Hospital Authority

Fake Drugs, Real Risk

Answered and Unanswered Questions about Counterfeit Drugs: Targeted Literature Review

Joshua C. Black, PhD

Counterfeit Pills In North America: A Conversation Centered on Science and Action

Moderator Nabarun Dasgupta, MPH, PhD

Innovation Fellow and Senior Scientist, Gillings School of Global Public Health, University of North Carolina

2022 Program

Panelists

Daniel Burke

Chief, Investigative Services Division, Office of Criminal Investigations, U.S. Food and Drug Administration

Sangeeta Vaswani Chatterjee, PharmD

Deputy Director, Office of Drug Security Integrity and Response, Office of Compliance, Center for Drug Evaluation and Research, U.S. Food and Drug Administration

Christopher Moraff

Founder Narcomedia, Cohost Narcotica podcast, Drugs Culture & Media Fellow, Investigative Reporters & Editors

Samuel Tobias

British Columbia Centre on Substance Use