Measuring Opioid Use Disorder, Policy Implications, and the Broader Importance of Survey Methodology

Behavioral Health Seminar

Institute for Behavioral Health

The Heller School for Social Policy and Management at Brandeis University

Andrew Kolodny, MD, and Rob Bohler, PhD, MPH

February 25th, 2025

OPRC

Opioid Policy Research Collaborative

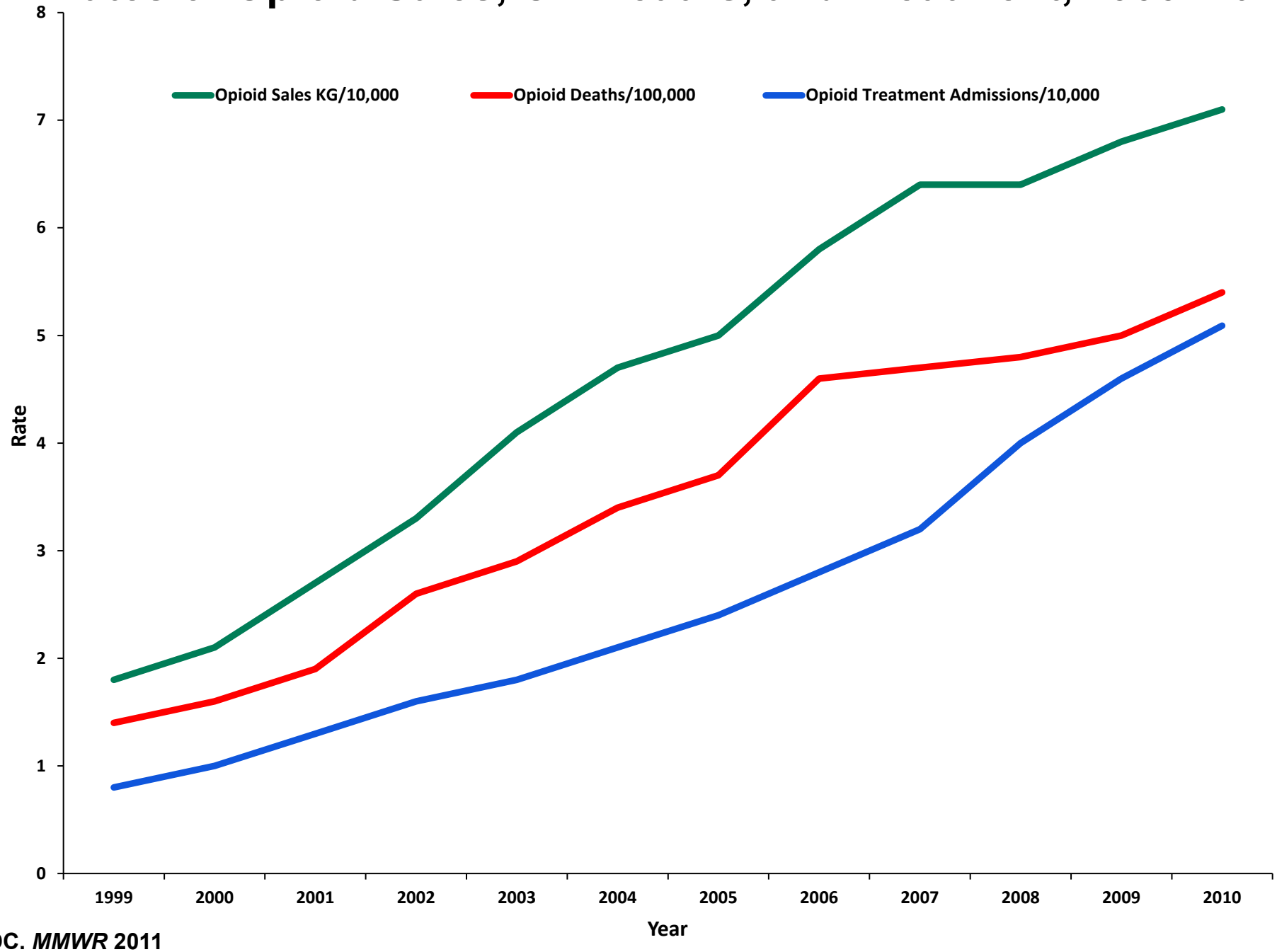
JIANN-PING HSU COLLEGE OF PUBLIC HEALTH

GEORGIA SOUTHERN UNIVERSITY

Career Trajectories

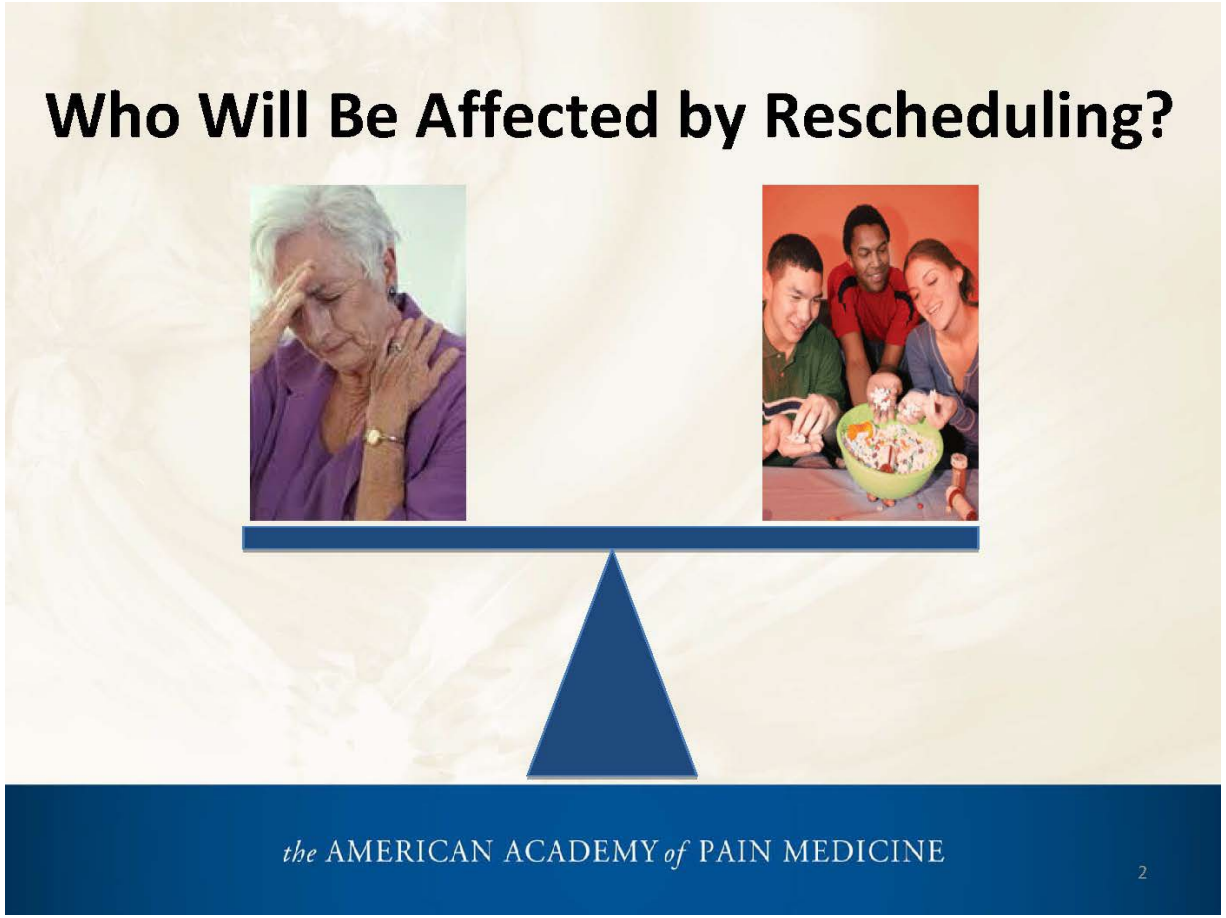
- Andrew
- Rob

Rates of Opioid Sales, OD Deaths, and Treatment, 1999–2010



CDC. *MMWR* 2011

How the opioid lobby frames the problem:



Source: Slide presented by Dr. Lynn Webster at FDA meeting on hydrocodone upscheduling, Jan 25th, 2013.

SLATE | MEDICAL EXAMINER HEALTH AND MEDICINE EXPLAINED.

MARCH 25 2004 2:01 PM

The Accidental Addict

Clearing away the myths surrounding the OxyContin "epidemic."

By Maia Szalavitz

- "Studies consistently show that pain patients taking opiates are no more likely to become addicts than people in the general population."
- "Even after a decades-long fight by advocates, more than half of dying patients still don't get adequate relief, let alone chronic-pain sufferers."
- "… the fact that alternative drugs such as ibuprofen and similar medications are more likely to kill patients through side effects like bleeding if taken long-term as directed, while opiates are rarely deadly unless abused."

Source: https://slate.com/technology/2004/03/the-myth-of-the-accidental-oxycontin-addict.html

Forbes

Painful Correction

Sep 6, 2004, 12:00am

By Sally Satel

OxyContin doesn't cause addiction. Its abusers are already addicts.

“The most worrisome consequence of the hype about OxyContin's dangers is that patients, and some doctors, have become fearful of it. The American Pain Foundation receives calls from patients who are doing well on the medication but are afraid to continue even though it is well established that addiction--the compulsive use of a drug to regulate one's mood--occurs infrequently among individuals who take OxyContin as prescribed.”

“The problem isn't OxyContin itself, but its deliberate misuse. The Sentinel apologized for having "created the misleading impression that most oxycodone overdoses resulted from patients' taking the drug to relieve pain from medical conditions." That misimpression has caused a lot of unnecessary pain.”

Source: https://www.forbes.com/forbes/2004/0906/048.html#f246f7e6e362

National Survey on Drug Use and Health

The NSDUH Report

February 5, 2009

Trends in Nonmedical Use of Prescription Pain Relievers: 2002 to 2007

In Brief

- In 2007, 2.1 percent of persons aged 12 or older (an estimated 5.2 million persons) reported using prescription pain relievers nonmedically in the past month; this rate does not differ significantly from that in 2002
- Trends in past month nonmedical use of pain relievers varied by age with declines among youths aged 12 to 17 (from 3.2 percent in 2002 to 2.7 percent in 2007), but increases among young adults aged 18 to 25 (from 4.1 to 4.6 percent) and adults aged 26 or older (from 1.3 to 1.6 percent)
- Though the rate of use was fairly stable for females between 2002 and 2007, it increased for males

Use of prescription pain relievers without a doctor's prescription or only for the experience or feeling they caused ("nonmedical" use) is, after marijuana use, the second most common form of illicit drug use in the United States.[1] When used appropriately under medical supervision, hydrocodone (e.g., Vicodin®), oxycodone (e.g., OxyContin®), morphine, and similar prescription pain relievers provide indispensable medical benefit by reducing pain and suffering, but when taken without a physician's direction and oversight, these medications can cause serious adverse consequences and produce dependence and abuse.[2] According to the Drug Abuse Warning Network (DAWN), approximately 324,000 emergency department visits in 2006 involved the nonmedical use of pain relievers (including both prescription and over-the-counter pain medications).[3] This issue of *The NSDUH Report* examines trends in the nonmedical use of prescription pain relievers in the past month among persons aged 12 or older.

The NSDUH Report is published periodically by the Office of Applied Studies, Substance Abuse and Mental Health Services Administration (SAMHSA).

Three Opioid-Addicted Cohorts

- Age: 30s-40s, disproportionately white, mainly illicit use, opioid addiction began with Rx use (addicted after 1995)
- Age 50s y/o & up, Rx opioids for chronic pain, opioid addiction began with Rx use (addicted after 1995)
- Age 50s & up, disproportionately non-white, mostly heroin users, opioid addiction began in teen years with heroin use (addicted before1995)

In one year, drug overdoses killed more Americans than the entire Vietnam War did

Dramatic Increases in Maternal Opioid Use and Neonatal Abstinence Syndrome

Children of the Opioid Epidemic Are Flooding Foster Homes. America Is Turning a Blind Eye.

For the first time, drug overdose deaths have surpassed 100,000 in a 12-month period

How the opioid crisis decimated the American workforce

Why Did the National Survey on Drug Use and Health (NSDUH) Detect Low Level of OUD

NSDUH - Methodology

- Annual cross-sectional survey; sponsored by SAMHSA
- Begun in 1971 as “National Household Survey on Drug Use”
- Primary source for estimating national prevalence and trends of substance use, persons with SUD, and treatment use
- Approximately 65,000 people per year; 65-70% response rate
- Complex survey methodology to ensure nationally-representative estimates
- Face-to-face interviews; Computerized response to sensitive questions (this changed during and after pandemic)
- US civilian, non-institutionalized population aged 12 or older

NSDUH Limitations for Measuring OUD

- Does not include institutionalized populations (e.g., Compton et al., 2010)
- Social desirability bias (e.g., Reuters et al. 2021)
- People with moderate or severe OUD unlikely to participate in the survey (non-response bias)
- Hard to measure OUD among those on long-term opioid therapy
- Only captures people with active symptoms of OUD, not people doing well on medications such as methadone or buprenorphine
- Non-clinician interviewer is essentially making a diagnosing of OUD by asking the interviewee questions related to the Diagnostic and Statistical Manual of Mental Disorders

Alternative Methods for Measuring OUD

- Capture-recapture method (Barocas et al. 2018)
- Benchmark multiplier method (Mojtabai, 2022)
- Mortality multiplier (Keyes et al., 2022)
- Treatment gap multiplier (Roehrig and Daly, 2015)

Example #1: OUD prevalence in Massachusetts estimated at 4.6% in 2015; OUD prevalence in MA using NSDUH was 1.2% in 2015 (Barocas et al., 2018)

Example #2: Using Medicaid data as a benchmark, Mojtabai (2022) estimated that OUD prevalence was between 3.0-4.1%

OUD Prevalence Depends on Who You Assess in National Surveys

The NEW ENGLAND JOURNAL of MEDICINE

PERSPECTIVE

Screened Out — How a Survey Change Sheds Light on Iatrogenic Opioid Use Disorder

Authors: Andrew Kolodny, M.D., and Robert M. Bohler, Ph.D., M.P.H. Author Info & Affiliations

Published November 6, 2024 | N Engl J Med 2024;391:2183-2184 | DOI: 10.1056/NEJMp2410911

VOL. 391 NO. 23 | Copyright © 2024

Original Research

Prescription Opioid Use Disorder Among Adults Reporting Prescription Opioid Use With or Without Misuse in the United States

Beth Han, MD, PhD, MPH; Christopher M. Jones, PharmD, DrPH, MPH; Emily B. Einstein, PhD; Deborah Dowell, MD, MPH; and Wilson M. Compton, MD, MPE

Abstract

Objective: We examined prescription-related opioid use disorder (POUD) prevalence, individual symptoms, severity, characteristics, and treatment by prescription opioid misuse status among adults with prescription opioid use.

Methods: Cross-sectional study using nationally representative data from 47,291 adults aged ≥18 years who participated in the 2021 National Survey on Drug Use and Health. Past-year POUD used *DSM-5* criteria.

Results: Among US adults with past-year prescription opioid use, 12.1% (95% CI, 11.1%–13.1%) misused prescription opioids, and 7.0% (95% CI, 6.2%–8.9%) had POUD. Among adults with POUD, 62.0% (95% CI, 56.7%–67.2%) reported no prescription opioid misuse, including 49.1% (95% CI, 43.5%–54.7%) with mild POUD, 11.0% (95% CI, 6.5%–15.4%) with moderate POUD, and 1.9% (95% CI, 0.6%–3.2%) with severe POUD. Prevalence of POUD was 4.5 times higher (prevalence ratio = 4.5, 95% CI, 3.6–5.6) among those reporting prescription opioid misuse (22.0%, 95% CI, 18.6%–25.8%) than those reporting use without misuse (4.9%, 95% CI, 4.2%–5.7%). Among adults reporting prescription opioid use without misuse, high POUD prevalence was found for those with ≥3 emergency department visits (16.4%, 95% CI, 11.5%–23.0%), heroin use/use disorder (17.1%, 95% CI, 5.2%–43.8%), prescription sedative/tranquilizer use disorder (36.2%, 95% CI, 23.6%–51.1%), and prescription stimulant use disorder (21.8%, 95% CI, 11.0%–38.7%).

Conclusions: Moderate-to-severe POUD is more frequent among adults who report misusing prescription opioids. However, 62% of adults with POUD do not report prescription opioid misuse, suggesting that adults who are treated with prescription opioids and report no misuse could be at risk for developing POUD. Results highlight the need to screen for and treat POUD among adults taking prescription opioids regardless of whether they report prescription opioid misuse.

J Clin Psychiatry 2024;85(3):24m15258

Author affiliations are listed at the end of this article.

NSDUH May Have Been Influenced by Messaging from the Opioid Industry

COMMENTARY | DECEMBER 18, 2024

The Opioid Industry's Legacy: A Generation of Prescribed Suffering

Andrew Kolodny, MD; Robert M. Bohler, PhD, MPH

J Clin Psychiatry 2025;86(1):24com15664

Misrepresentations:

- Opioid addiction is rare among chronic pain patients on long-term opioid therapy
- Physiological dependence is benign and distinct from addiction
- Opioid-related harms are limited to so-called "abusers" and millions of Americans with pain are benefitting from long-term opioid use.

2015 Survey Change

2021 Survey Change

Broader Importance of Survey Methodology

Substance Use Disorder (SUD) is a Spectrum Disorder

Mild SUD

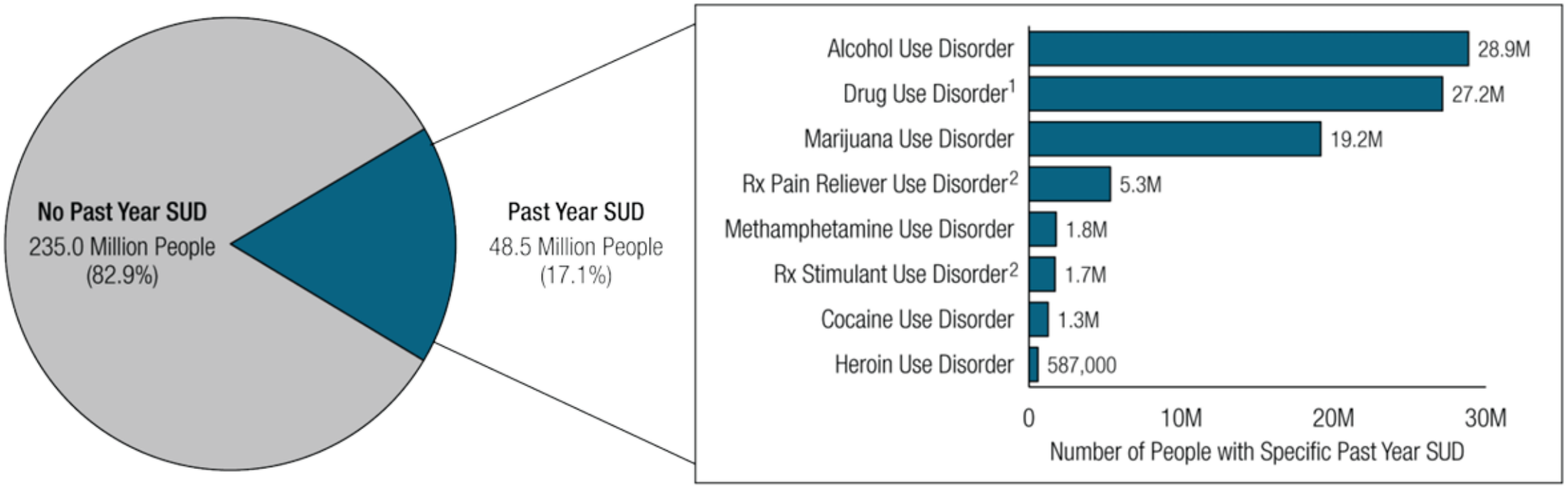
Moderate SUD

Severe SUD

DSM-5 Criteria for Substance Use Disorder

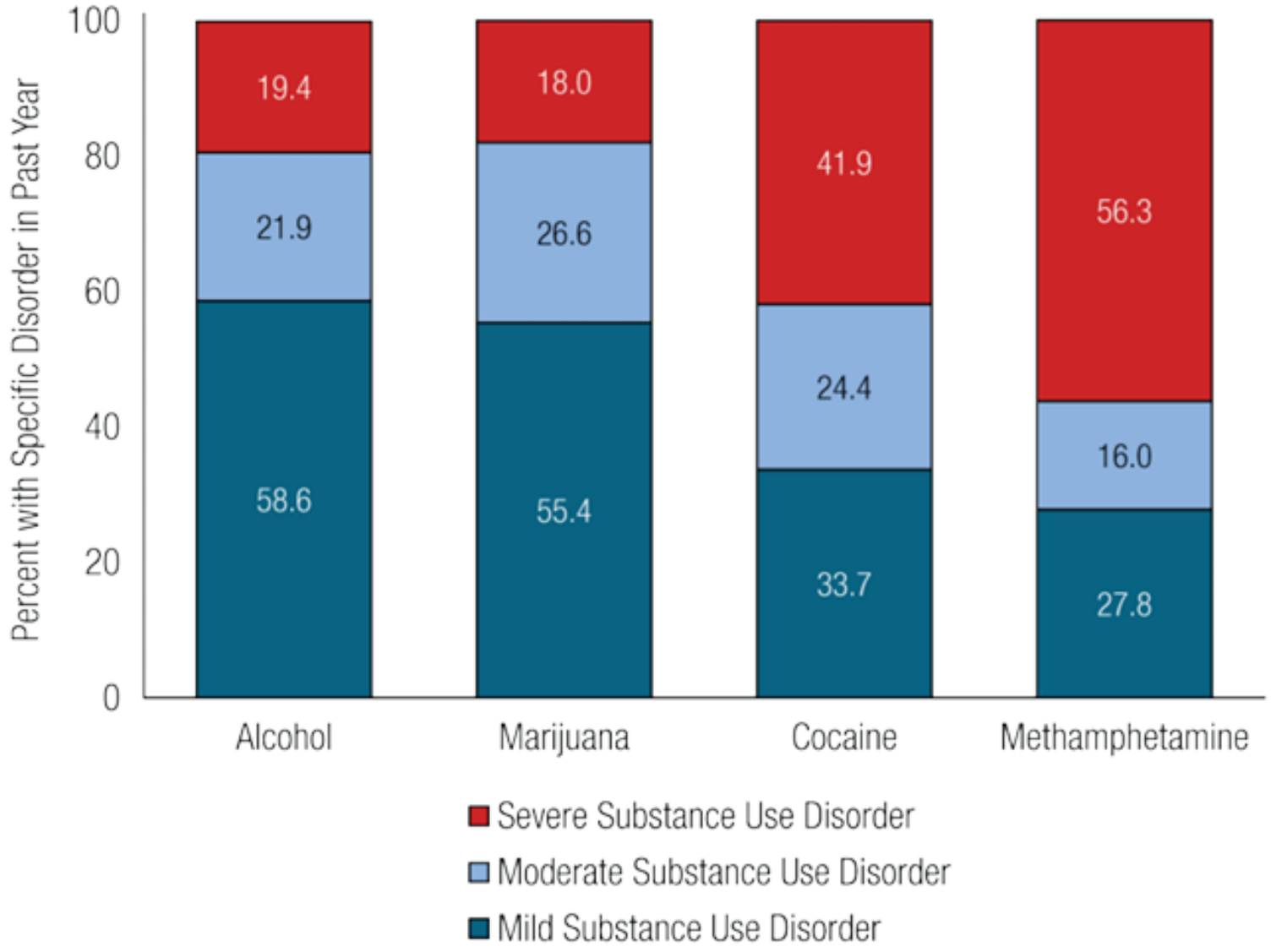
Criterion	Severity
Use in larger amounts or for longer periods of time than intended	Severity is designated according to the number of symptoms endorsed: 0-1: No diagnosis 2-3: Mild SUD 4-5: Moderate SUD 6 or more: Severe SUD
Unsuccessful efforts to cut down or quit	
Excessive time spent using the drug	
Intense desire/urge for drug (craving)	
Failure to fulfill major obligations	
Continued use despite social/interpersonal problems	
Activities/hobbies reduced given use	
Recurrent use in physically hazardous situations	
Recurrent use despite physical or psychological problem caused by or worsened by use	
Tolerance	
Withdrawal	

SUD, substance use disorder



Source: SAMHSA (2024)

SUD By Severity: Mild Most Common

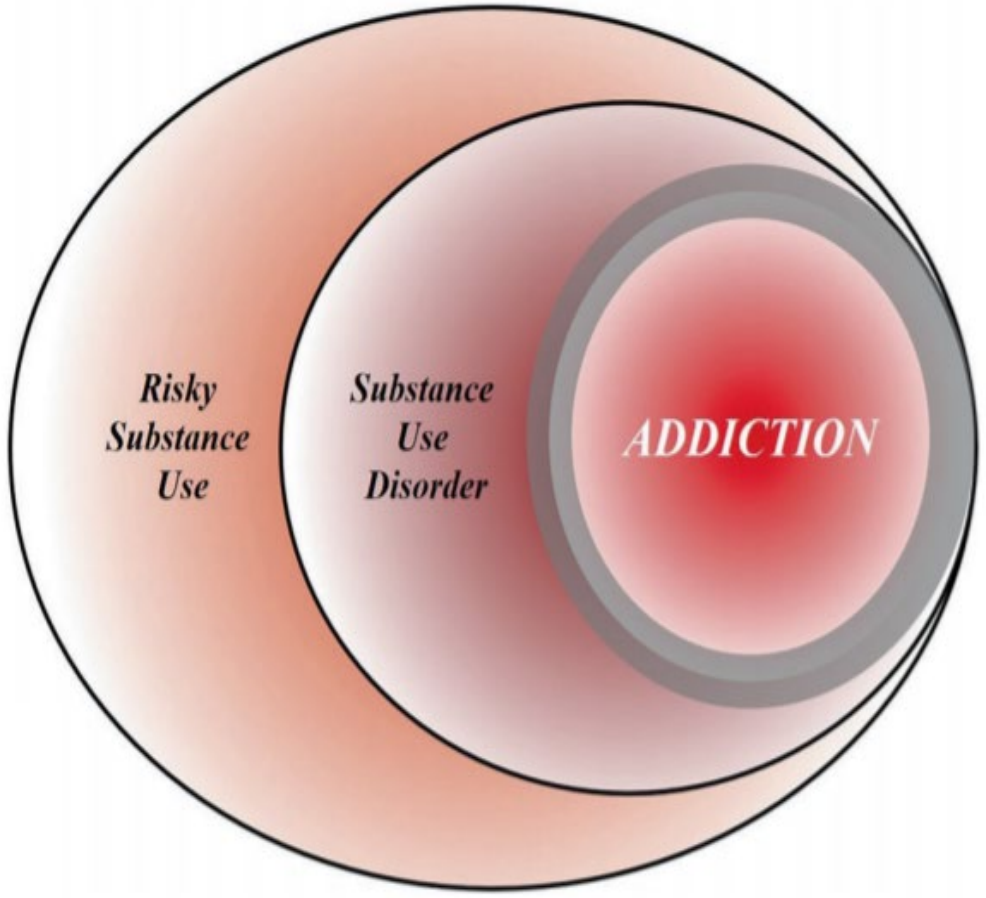


Source: SAMHSA (2024)

SUD vs. Addiction

	Mild	Moderate	Severe
Alcohol Use Disorder	67.1%	19.6%	13.3%
Cannabis Use Disorder	75.9%	16.9%	7.3%
Opioid Use Disorder	41.2%	22.9%	36.0%

Source: Bohler (2023)



The New York Times
https://www.nytimes.com › 2023/12/13 › opinion › add...

48 Million Americans Live With Addiction. Here's How to ...

Dec 13, 2023 — More than 48 million **Americans** are living with a substance use disorder right now, according to the best estimates of the nation's premier health agencies.

Source: Heilig et al. (2021)

Recent Significant NSDUH Changes

- In 2020, NSDUH switched from the Diagnostic and Statistical Manual of Mental Disorders, Fourth Edition (DSM-IV) to the DSM-V to measure SUD, which increased the prevalence of SUD including a marked increase in detection of those with mild SUD.
- Also in 2020, NSDUH switched to in-person + web-based data collection.
- In 2021, NSDUH began assessing all respondents for OUD who reported past-year prescription opioid use instead of limiting OUD assessments to individuals who reported opioid misuse, greatly increasing the prevalence of OUD.
- In 2022, NSDUH made considerable changes to the definition of substance use treatment receipt, broadening this definition to reflect changes in the SUD delivery system.

Research Letter | Substance Use and Addiction

January 6, 2025

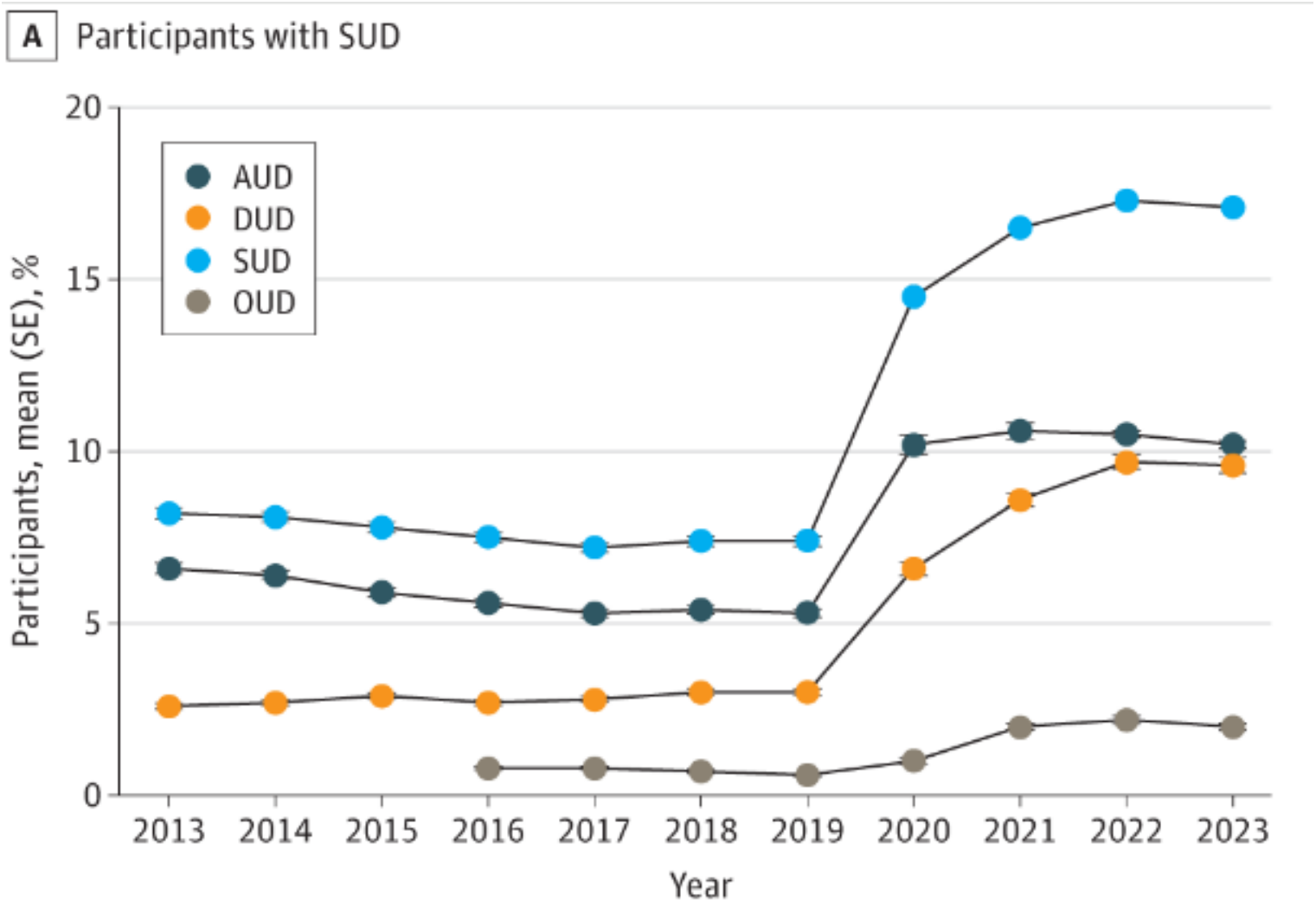
Trends in Treatment Need and Receipt for Substance Use Disorders in the US

Ligang Liu, PharmD[1]; Chen Zhang, PhD[2]; Milap C. Nahata, PharmD, MS[1,3]

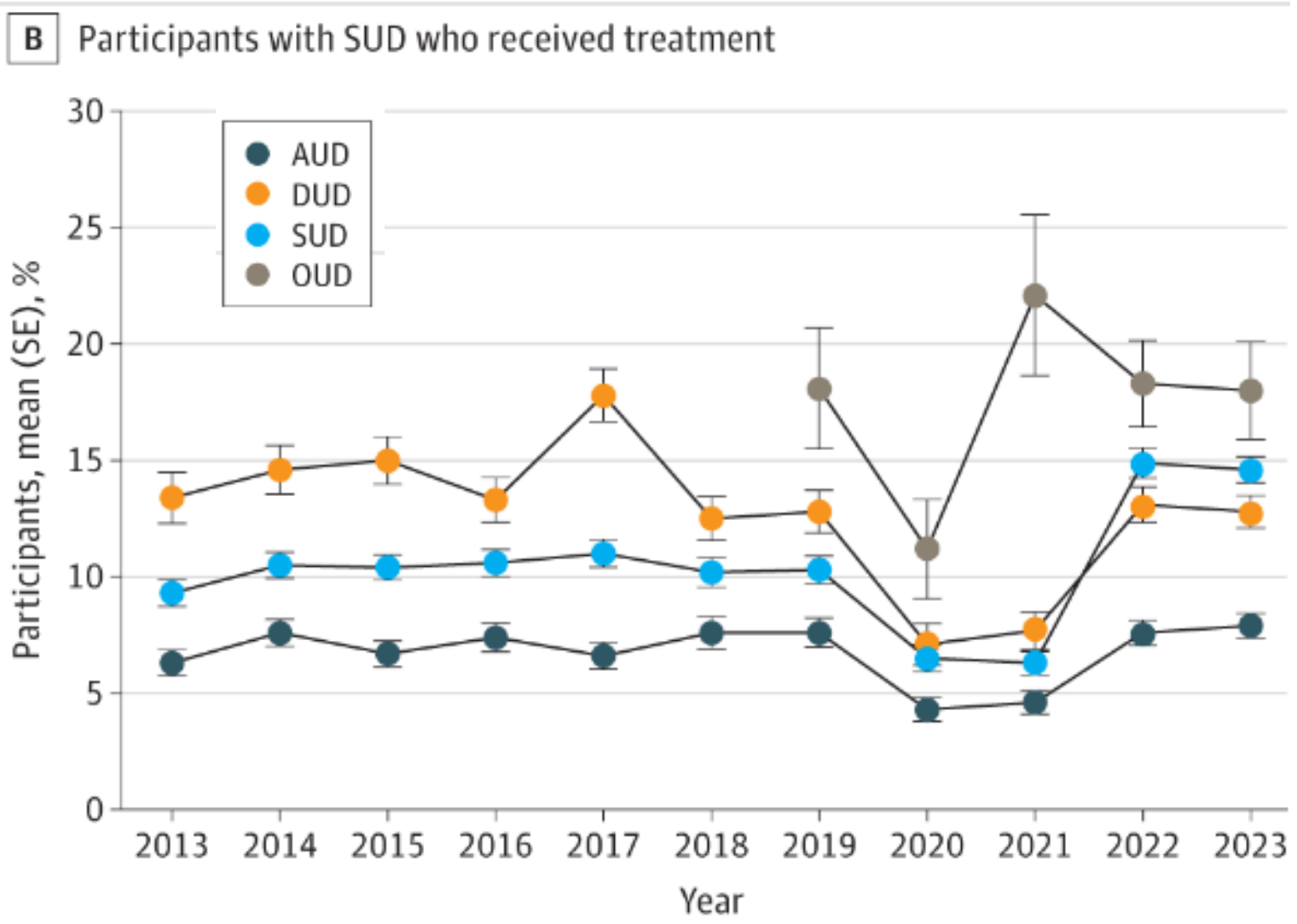
» Author Affiliations | Article Information

JAMA Netw Open. 2025;8(1):e2453317. doi:10.1001/jamanetworkopen.2024.53317

Misleading Trends in SUD and OUD Prevalence



Misleading Trends in Treatment Receipt



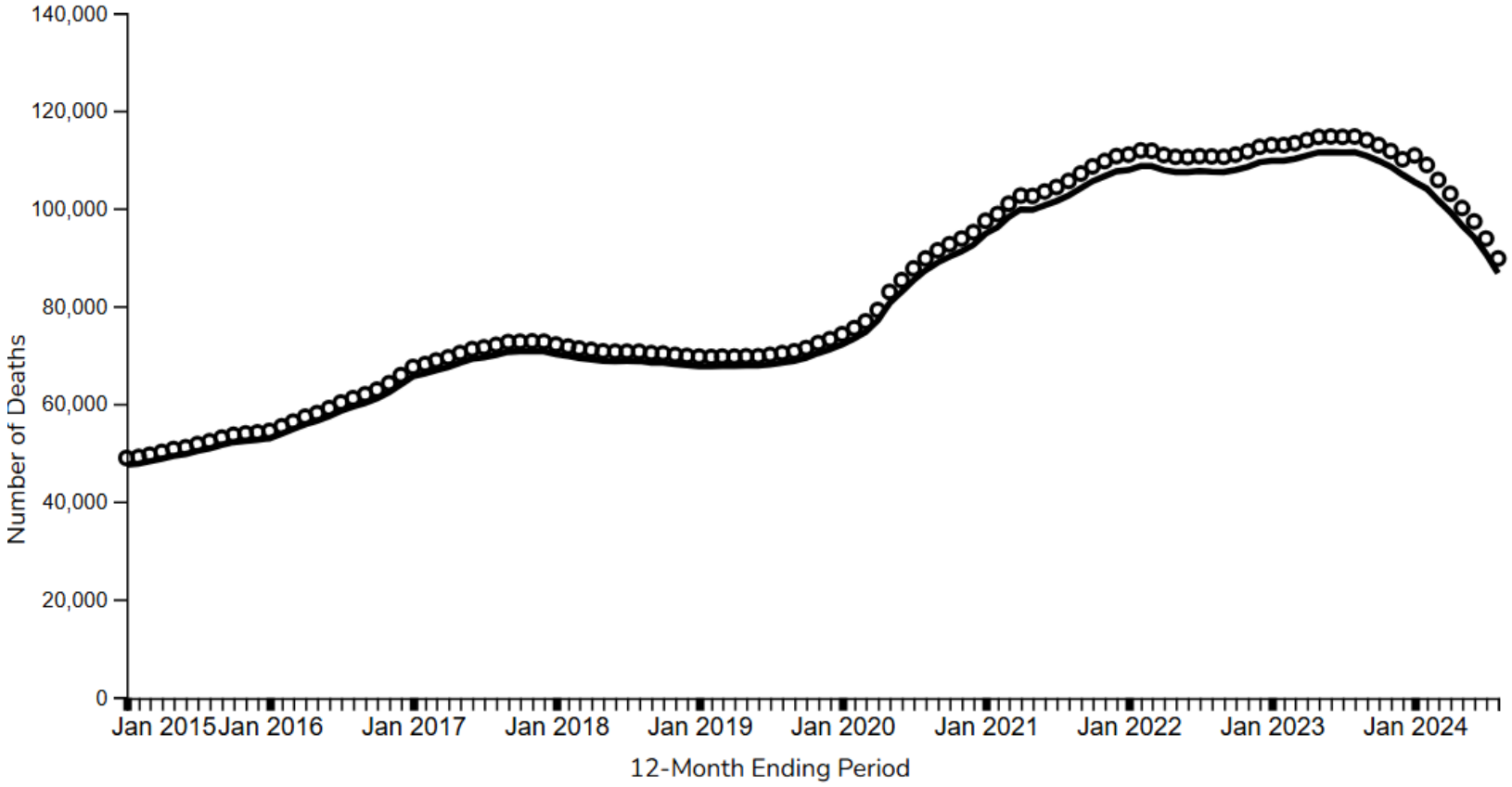
Policy Implications

Summary of Policy Implications

- An improved understanding of OUD incidence and prevalence would permit limited treatment resources to be more efficiently directed toward the populations and geographic areas with the greatest need
- There are millions of previously undetected victims of the opioid industry's efforts to increase aggressive prescribing of opioids who are taking opioids as prescribed and have OUD
- An improved understanding of SUD epidemiology is critical to the nation's public health response, but this understanding must be informed by accurate prevalence and trends.

Preliminary Data Shows Decreasing Mortality

- **Increased access to medication treatment?**
- **Increased naloxone distribution?**
- **Preventing new cases of OUD?**
- **Less dangerous drug supply?**
- **Decreased risk pool?**



Source: CDC (2025)