

# Emerging Drug Trends

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# Indigenous Land Acknowledgement

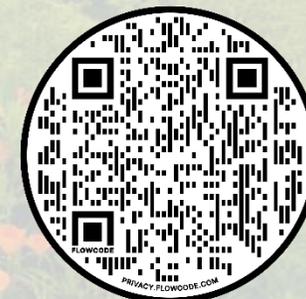
- We respectfully acknowledge that we live and work in territories where Indigenous nations and Tribal groups are traditional stewards of the land.
- Please join us in supporting efforts to affirm Tribal sovereignty across what is now known as California and in displaying respect, honor and gratitude for all Indigenous people.

## Whose land are you on?

Option 1: Text your zip code to 1-855-917-5263

Option 2: Enter your location at <https://native-land.ca>

Option 3: Access Native Land website via QR Code:



The use of affirming language inspires hope and advances recovery.

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**Words have power.**

**PEOPLE FIRST.**

The ATTC Network uses affirming language to promote the promises of recovery by advancing evidence-based and culturally informed practices.



**ATTC**

Addiction Technology Transfer Center Network  
Funded by Substance Abuse and Mental Health Services Administration



University of California Los Angeles  
Integrated Substance Abuse Programs

# Disclosures

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# Learning Objectives

- ▶ By the end of this session, participants will be able to:
  - ▶ Recognize at least two novel emerging substances in the U.S.
  - ▶ Identify at least two recent trends in stimulant and opioid use in the U.S.

# Novel Psychoactive Substances (NPS)

- ▶ NPS present continuing challenges for scientific, medical, and interventional communities
- ▶ NPS account for increasing proportion of adverse events, hospitalizations, and deaths due to increasing potency and unanticipated biological effects
- ▶ Study evaluated Reddit drug use forum as predictor or early indicator of use of NPS with potentially harmful or lethal outcomes
- ▶ NPS included **carfentanil**, **U-47700**, **eutylone** (synthetic stimulant), **flualprazolam**, **N-ethylpentylone** (synthetic cathinone), **5F-MDMB-PICA**, **isotonitazene**, and **brorphine** (synthetic opioid)

Source: Barenholtz et al., 2021

# Novel Psychoactive Substances (2)

- ▶ Seven of the NPS examined appeared in discussions on Reddit prior to their implication in poisonings or intoxications
- ▶ For most substances, a rise in Reddit mentions was soon followed by a corresponding rise in toxicology positivity rates
- ▶ However, peak positivity for carfentanil (100 times more potent than fentanyl) and flualprazolam preceded Reddit mentions
- ▶ Results confirmed that activity on social media sites can help predict changes in new or re-emerging NPS in “the real world”

Source: Barenholtz et al., 2021

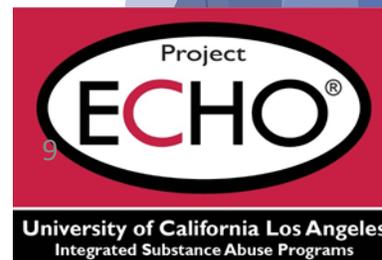


# National Drug Early Warning System

- ▶ Funded by NIDA starting in 2014 as expansion of Community Epidemiology Workgroup (CEWG)
- ▶ Led by University of Florida, NYU, and Florida Atlantic University
- ▶ Incorporates real-time surveillance to detect early signs of potential drug epidemics at 18 sentinel sites covering 66% of the U.S.
- ▶ Q4 2021 report: 24,803 meth-related 911 responses
  - ▶ 51% White, 68% male, 35% age 30-39
  - ▶ States with highest numbers of reports: Colorado, Kentucky, and California
  - ▶ 2021 meth-related EMS responses peaked in 2021 Q2 at 31,517



Source: National Drug Early Warning System, 2022



# Kratom

- ▶ Tree native to Southeast Asia, particularly Malaysia and Thailand
- ▶ Leaves sometimes chewed to control fatigue and pain, but often brewed into a tea
- ▶ Traditionally used to combat fatigue, increase stamina, and elevate mood
- ▶ Greater quantities > mild narcotic effect
- ▶ Estimated to be used by over 15 million people in the U.S.; currently not regulated although FDA has raised concerns; available in head/smoke shops or internet



Photos from DEA

Source: Ramanathan & McCurdy, 2020

# Delta-8 THC Products

- ▶ Delta-9 tetrahydrocannabinol (THC) is the psychoactive substance in the cannabis commonly sold at dispensaries
- ▶ Delta-8 THC is another psychoactive substance found in the Cannabis Sativa plant
- ▶ It is not present in significant amounts in cannabis plants, so:
  - ▶ Concentrated amounts are typically manufactured from hemp-derived cannabidiol (CBD) in combination with other chemicals and marketed as products labeled “hemp product” for medical or therapeutic uses, despite lack of FDA approval
  - ▶ Does have psychoactive/intoxicating effects
  - ▶ National poison control centers received 660 reports of exposure to delta-8 THC products in the first half of 2021, 18% of which required hospitalization

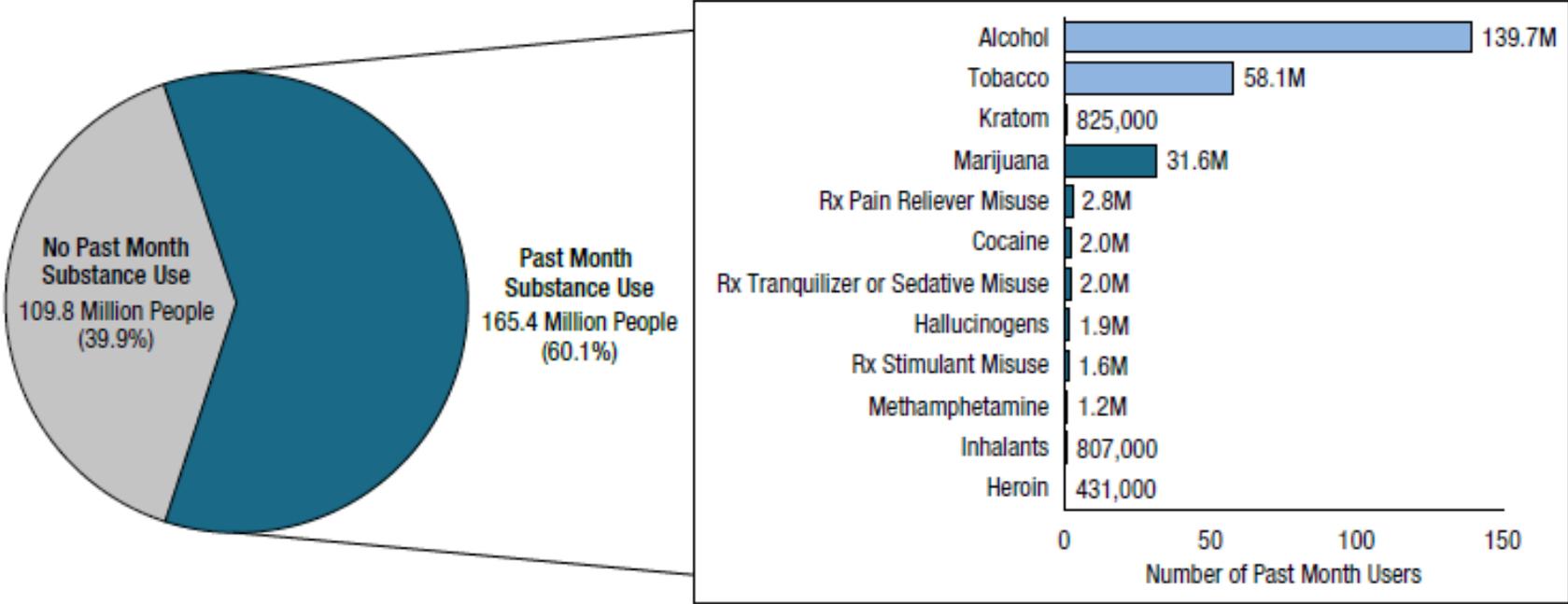
Source: FDA, 2021

# Fentanyl Hot Spots

- ▶ Hot spot: high concentration of fentanyl mixed within other substances
  - ▶ Molecular composition doesn't allow it to mix evenly into other powders without leaving behind undetectable “clumps”
  - ▶ To fully mix with another powder, must be combined with a liquid and shaken before allowing the liquid to evaporate, which then results in a powder again
  - ▶ Failure to do this results in “hot spots” of pure fentanyl that can be deadly
  - ▶ How many opioid users are going to bother to use this process?

Source: National Center for Drug Abuse Statistics, 2021

# Numbers of People Reporting Past Month Substance Use among those Aged 12 or Older: 2019



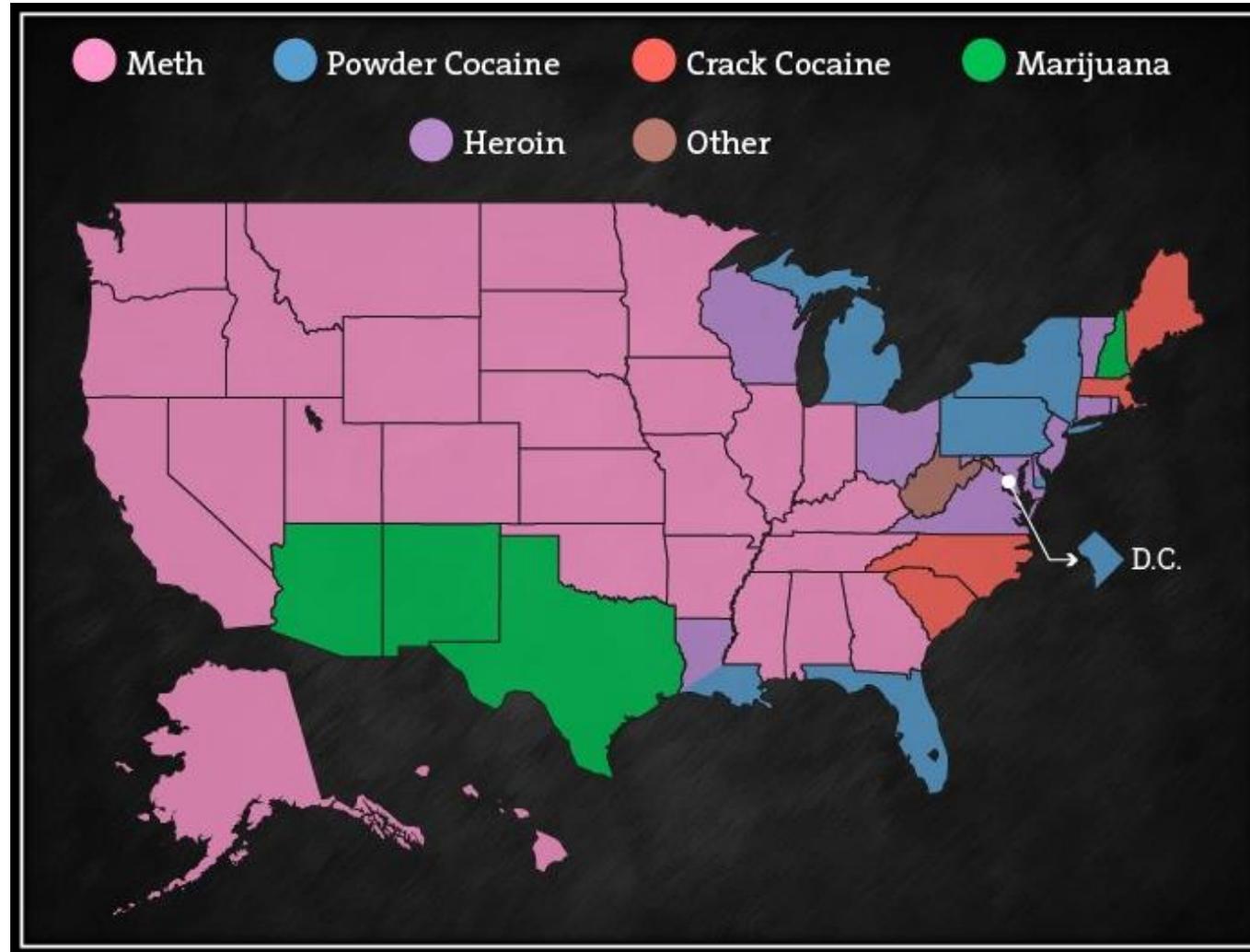
Rx = prescription.

Note: Substance Use includes any illicit drug, kratom, alcohol, and tobacco use.

Note: The estimated numbers of current users of different substances are not mutually exclusive because people could have used more than one type of substance in the past month.

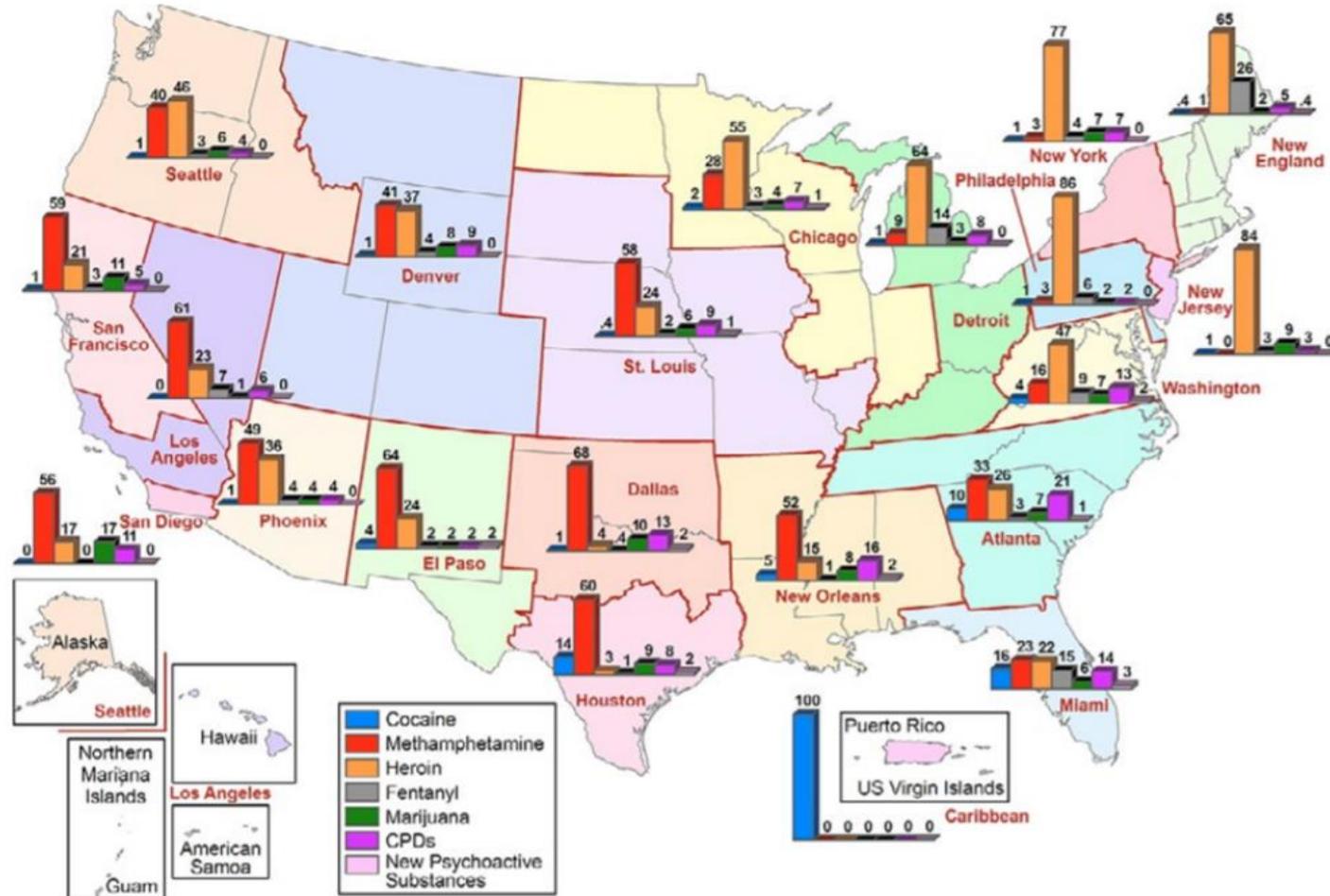
SOURCE: SAMHSA, 2020

# Top Drug Offenses, by State



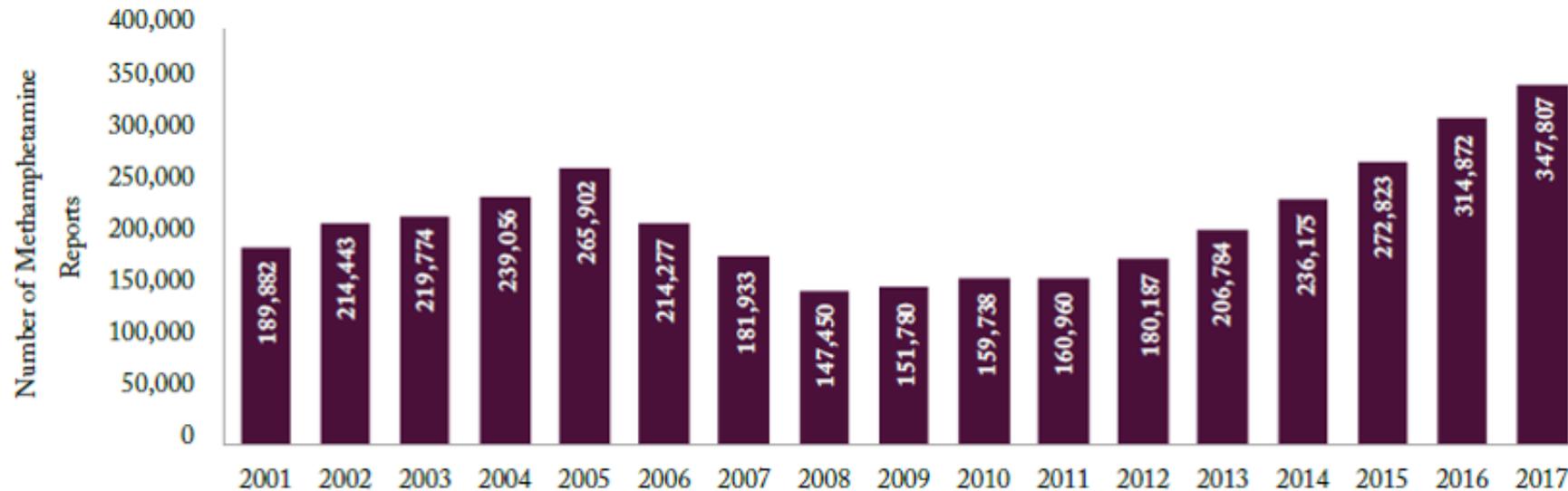
SOURCE: Abadi, 2016

# Greatest Drug Threat by Field Division as Reported by State and Local Agencies: 2017



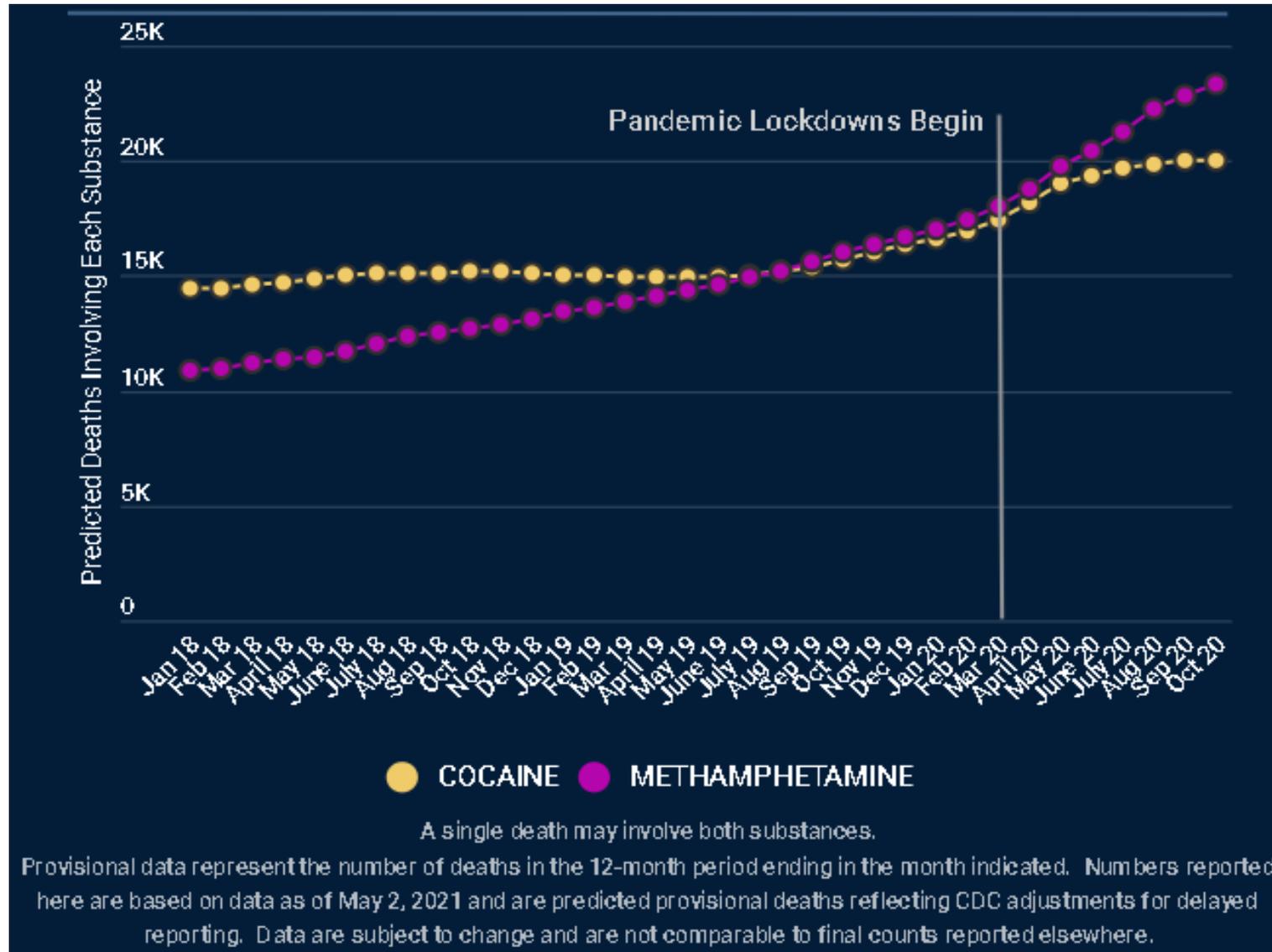
SOURCE: U.S. DEA, 2017

# Methamphetamine Reports have Increased Nationally, NFLIS, 2001-2017



SOURCE: U.S. DEA, 2019

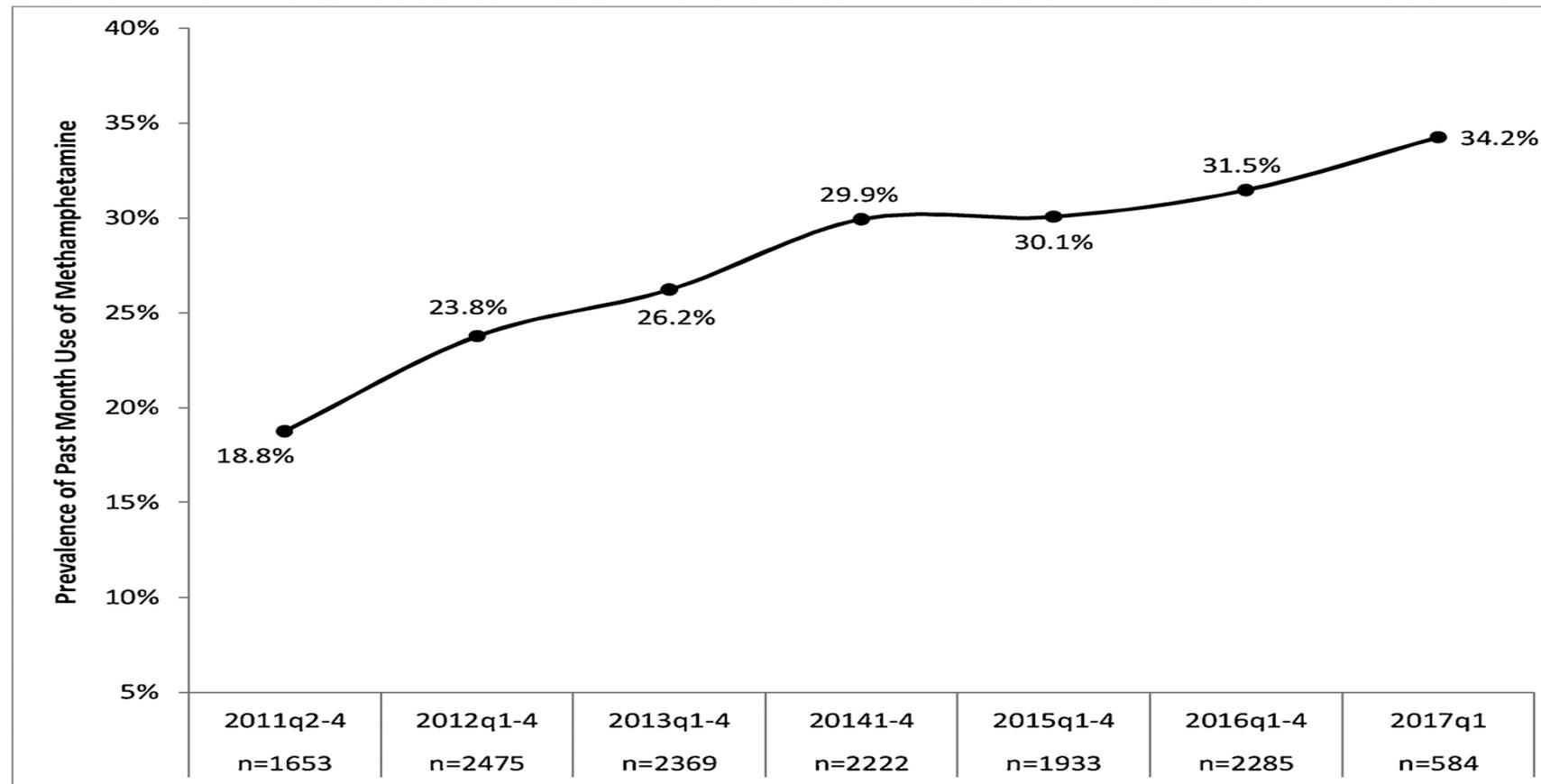
# Deaths increased after Pandemic



# Methamphetamine and Opioid Co-Ingestion - What are the Issues?

- ▶ A synergistic effect occurs when using meth and an opioid together (i.e., the result of using both is greater than either alone)
- ▶ The stimulant effect counterbalances the depressant effect, thus increasing overdose risk (respiratory depression AND cardiac arrest)
- ▶ The most potent effect seems to be in the first 90 minutes of co-ingestion

# Past Month Use of Methamphetamine among People Seeking Treatment for an Opioid Use Disorder

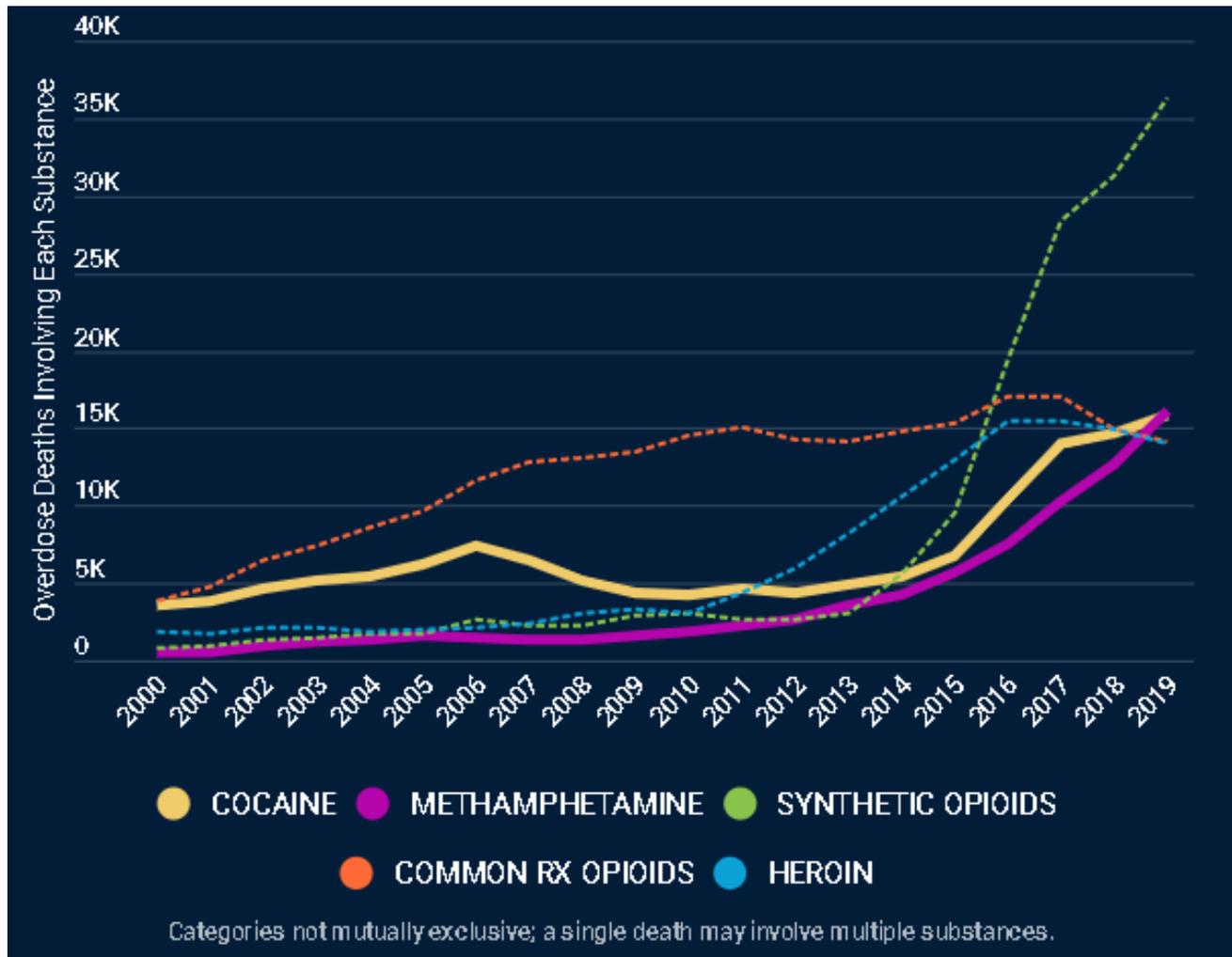


SOURCE: Ellis et al., 2018

# What are Some Treatment Implications for Methamphetamine and Opioid Co-Ingestion?

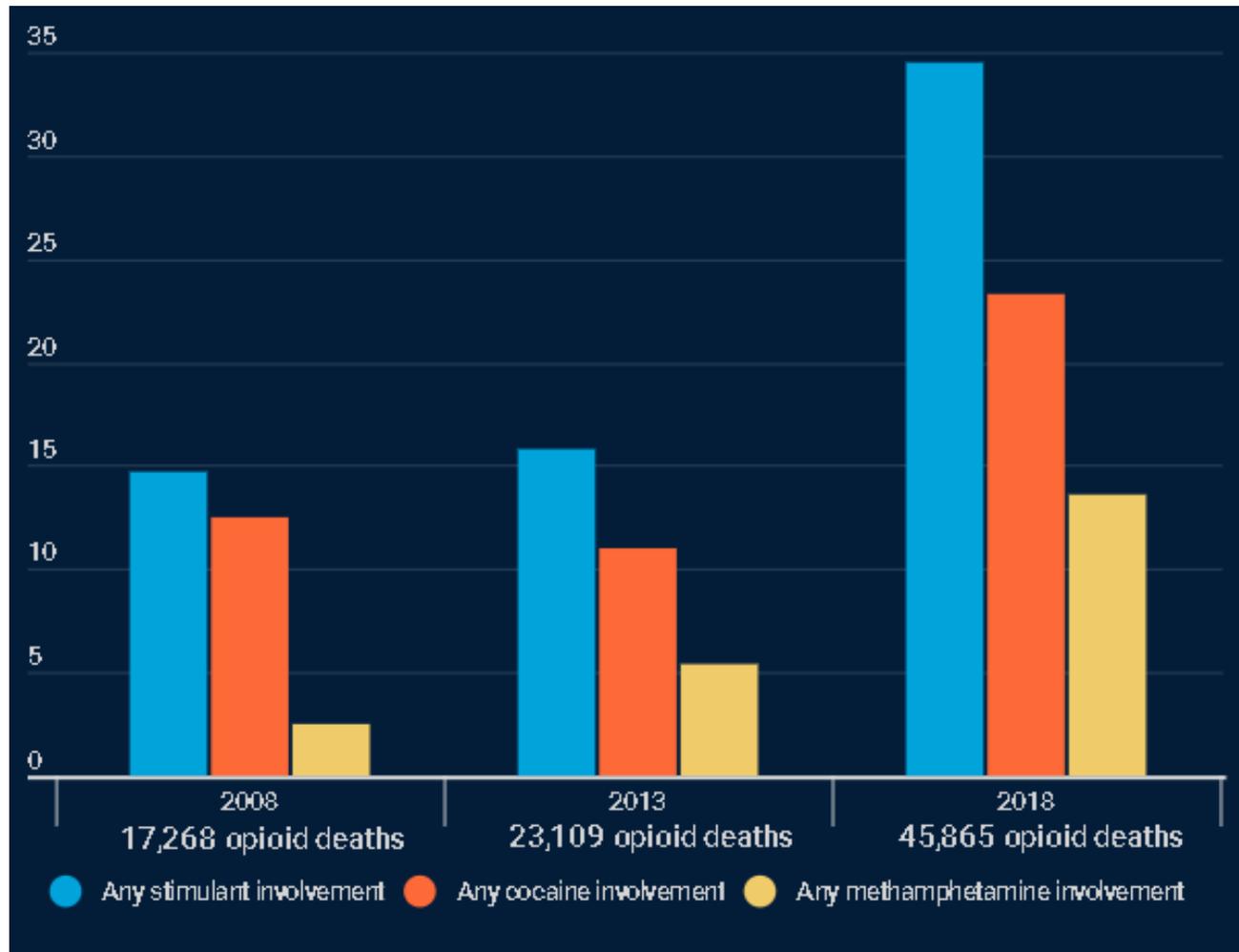
- ▶ Make sure you have sufficient **naloxone kits** available for overdoses
  - ▶ Because of the interaction effect, it may require more than one dose to counteract the effects of meth and heroin
- ▶ Combine **medication-assisted treatment for heroin with contingency management for meth**
  - ▶ It may be better to use buprenorphine rather than methadone, since methadone and meth would still have a potent interaction (for people who relapse on meth during treatment)
- ▶ **Exercise may help to reduce methamphetamine use and reduce depression and anxiety symptoms**

# An Emerging Pattern of Increased Deaths Involving Stimulants



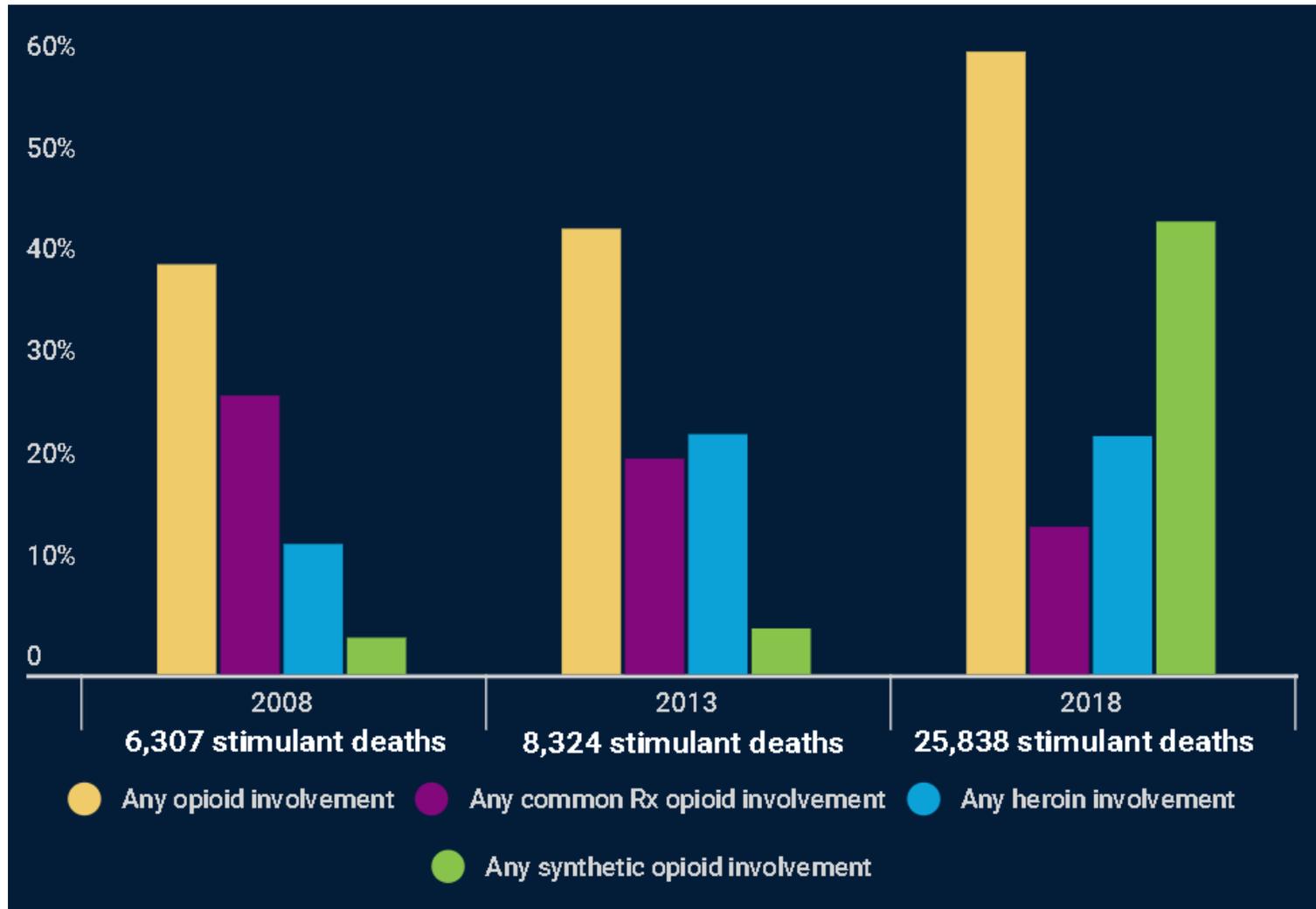
SOURCE: NIHCM Foundation, 2020

# A Growing Percentage of Opioid-Related Deaths also Involve Stimulants



SOURCE: NIHCM Foundation, 2020

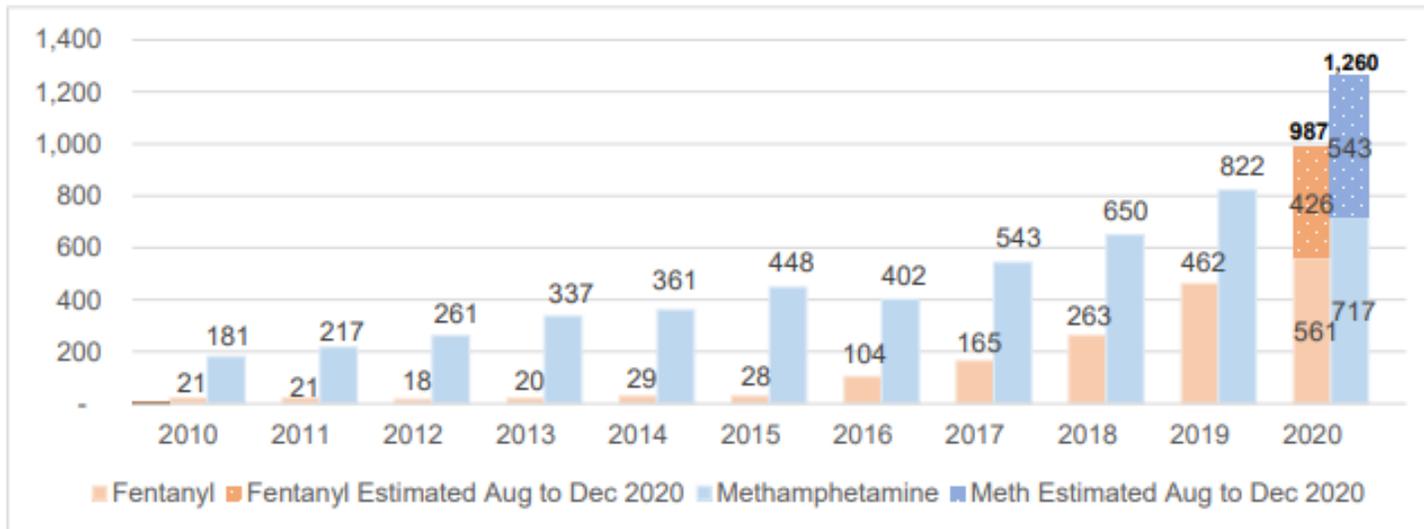
# Increases Seen in Stimulant-Related Deaths that also Involve Opioids



SOURCE: NIHCM Foundation, 2020

# LA County: Fentanyl and Meth Overdose Deaths by Year

Figure 4. Number of Fentanyl and Methamphetamine Overdose Deaths by Year, 2010-2020



**Note:** Predicted values for fentanyl (n=426) and methamphetamine (n=543) from August to December 2020 (dotted bar graph) were added to project full year drug overdose deaths in 2020 to allow for comparisons with other years.

Source: Los Angeles County Department of Public Health, 2020

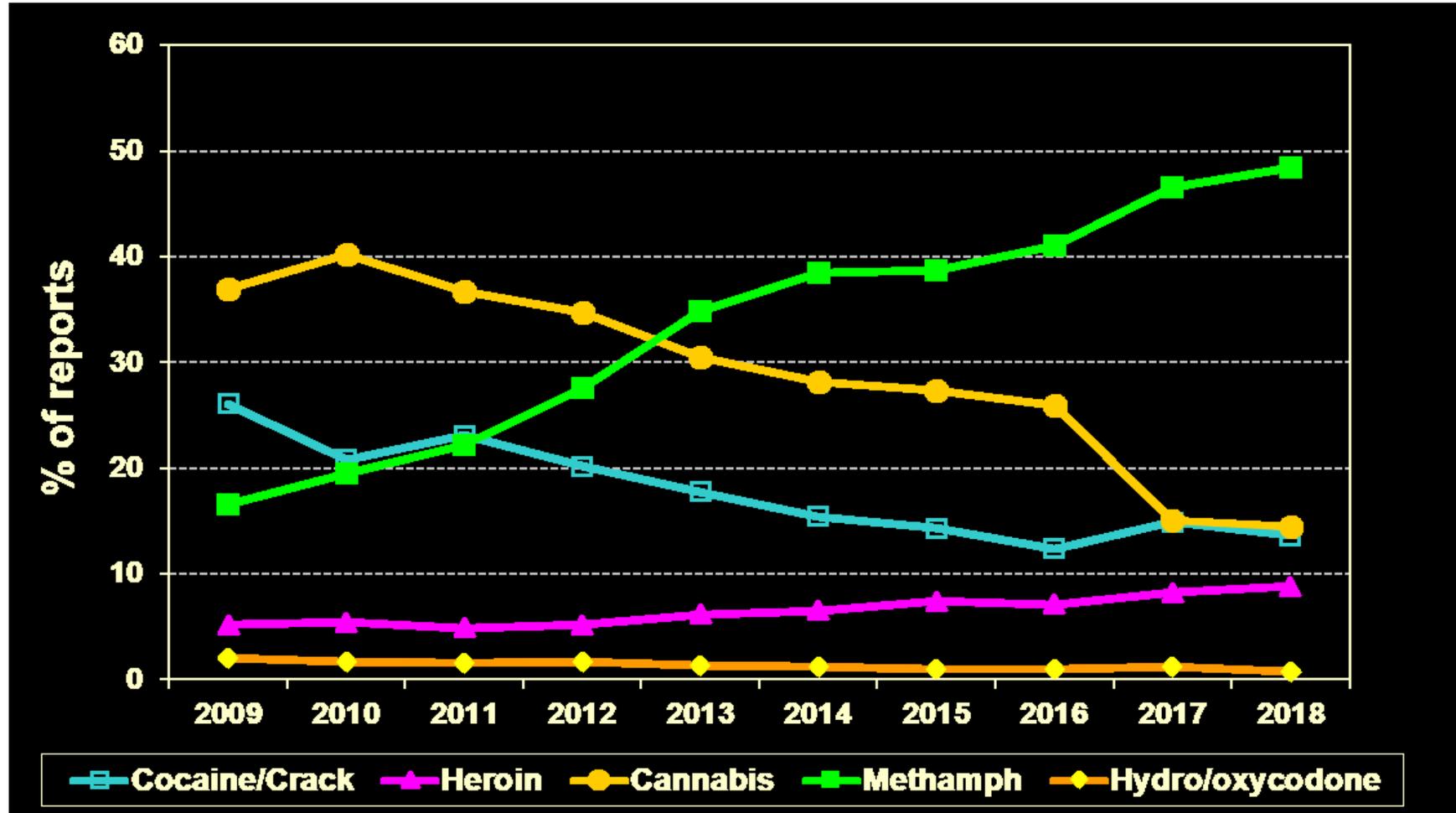


# Los Angeles County Trends

- ▶ Medical Examiner toxicology cases (2019):
  - ▶ 40.3% tested positive for methamphetamine
  - ▶ 14.6% tested positive for heroin, up from 2018
  - ▶ 28% tested positive for opioid painkillers (incl. fentanyl)
- ▶ Treatment admissions (2019):
  - ▶ 35.2% of admissions were for methamphetamine (11 straight years of increases)
  - ▶ 21.9% of admissions were for heroin, down from 2018
  - ▶ 3.3% of admissions were for prescription opioids, no change from 2018
- ▶ Methamphetamine also detected in over 50% of cases of heroin-related deaths

Source: NDEWS, 2020

# NFLIS Drug Seizures, Los Angeles County, 2009-2018



Source: NDEWS, 2020

# Heroin and Methamphetamine Injection

- ▶ National HIV Behavioral Surveillance system:
  - ▶ Of nearly 600 participants, 29.2% reported injecting only heroin
  - ▶ 20.8% reported injecting only methamphetamine
  - ▶ 50% reported injecting both drugs
  - ▶ Injecting both drugs was associated with a 2.8x increase in reported overdose in the past 12 months compared with only injecting heroin
  - ▶ Proportion of individuals reporting meth as most frequently injected drug increased from 2.1% in 2005 to 29.6% in 2015

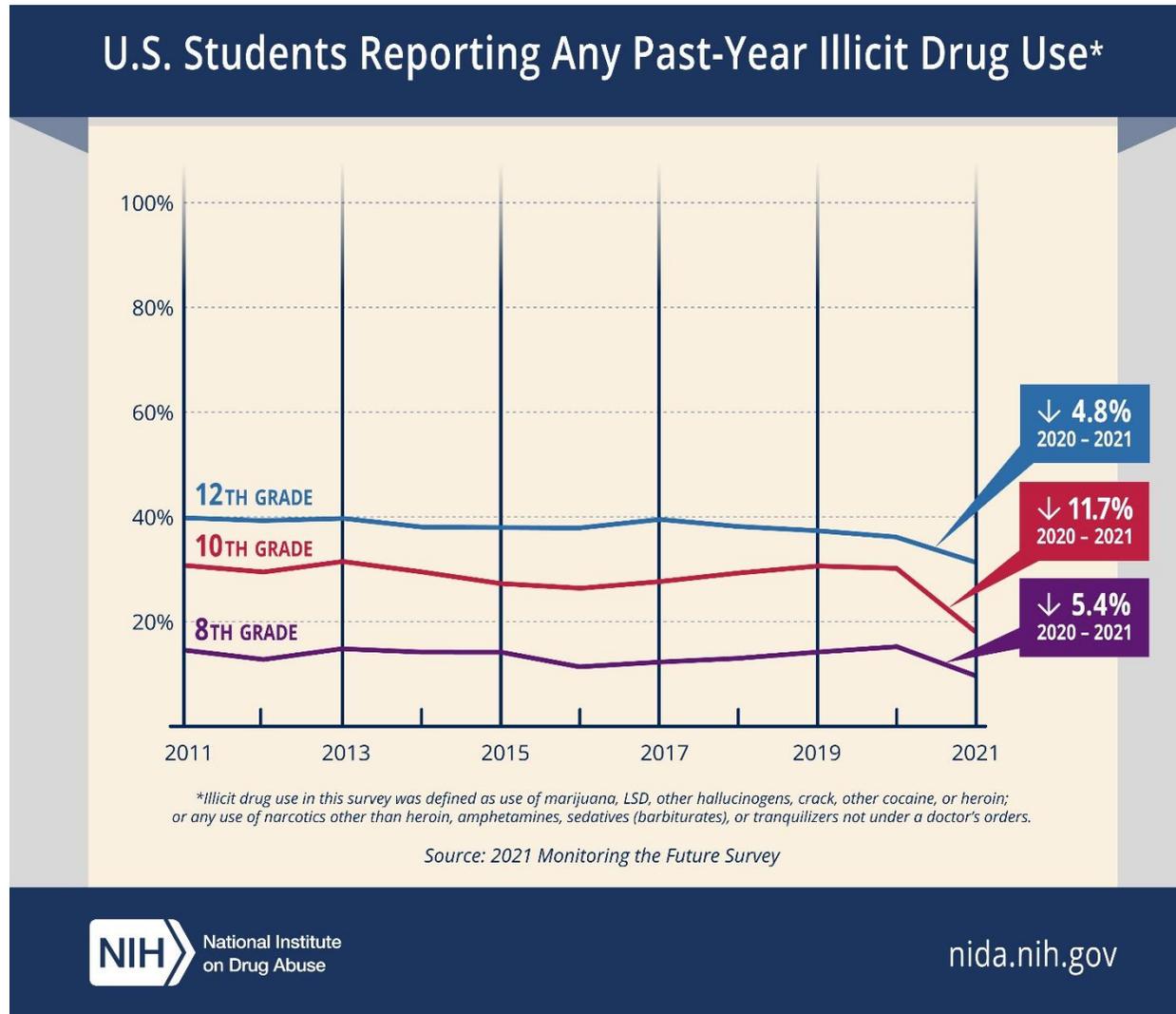
Source: Al-Tayyib et al., 2017

# Monitoring the Future

- ▶ 2021 decrease in vaping of both cannabis and tobacco among adolescents follows sharp *increases* in vaping between 2017 and 2019, which then leveled off in 2020
- ▶ The 2021 MTF study also found that students in all 3 grades (8<sup>th</sup>, 10<sup>th</sup>, and 12<sup>th</sup>) reported moderate increases in feelings of boredom, anxiety, depression, loneliness, worry, and difficulty sleeping

Source: NIDA, 2021

# U.S. Students Reporting Past-Year Illicit Drug Use



# “Fourth Wave” of Overdose Deaths

- ▶ Three “waves” of overdose deaths involving opioids
  - ▶ Prescription opioids 1999-2017
  - ▶ Heroin-related 2010-2017
  - ▶ Synthetic opioids i.e. fentanyl 2015-present
- ▶ Fourth wave: stimulants in combination w/opioids
  - ▶ Methamphetamine purity and potency near 100%
  - ▶ Methamphetamine supply decreased slightly early during COVID but by mid-2020 seizures were above pre-COVID levels
  - ▶ Co-ingestion of stimulants and opioids is increasingly common
  - ▶ Combination stimulant and opioid use in the form of injection drug use are associated with increases in HIV and HCV infection

Source: Ciccarone, 2021; Cai et al., 2020

# Thanks for Joining Us Today!

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