

Opioid Use in the Context of Polysubstance Use: Research Opportunities for Prevention, Treatment, and Sustained Recovery

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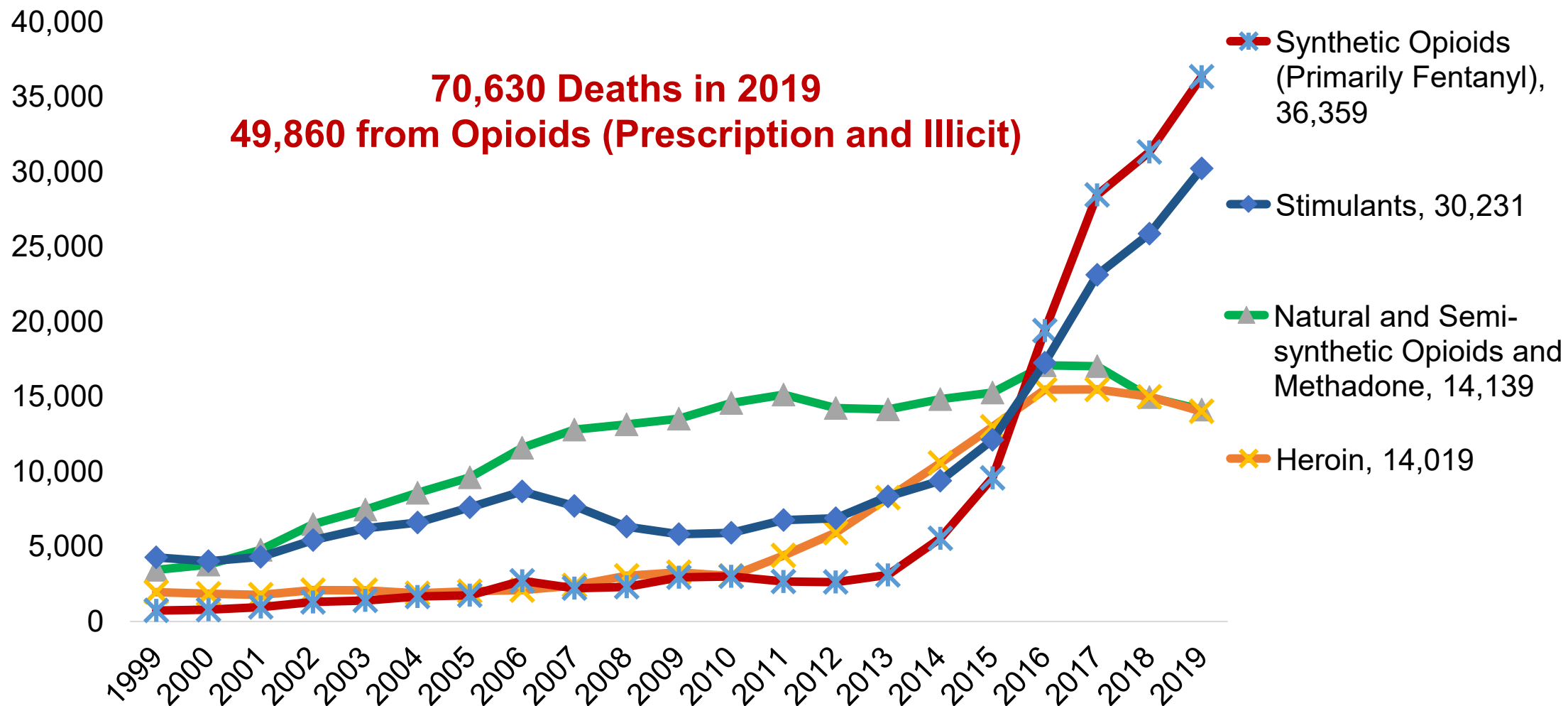
Director

National Institute on Drug Abuse

National Institutes of Health

Evolution of Drivers of Overdose Deaths, All Ages

Analgesics → Heroin → Fentanyl → Stimulants

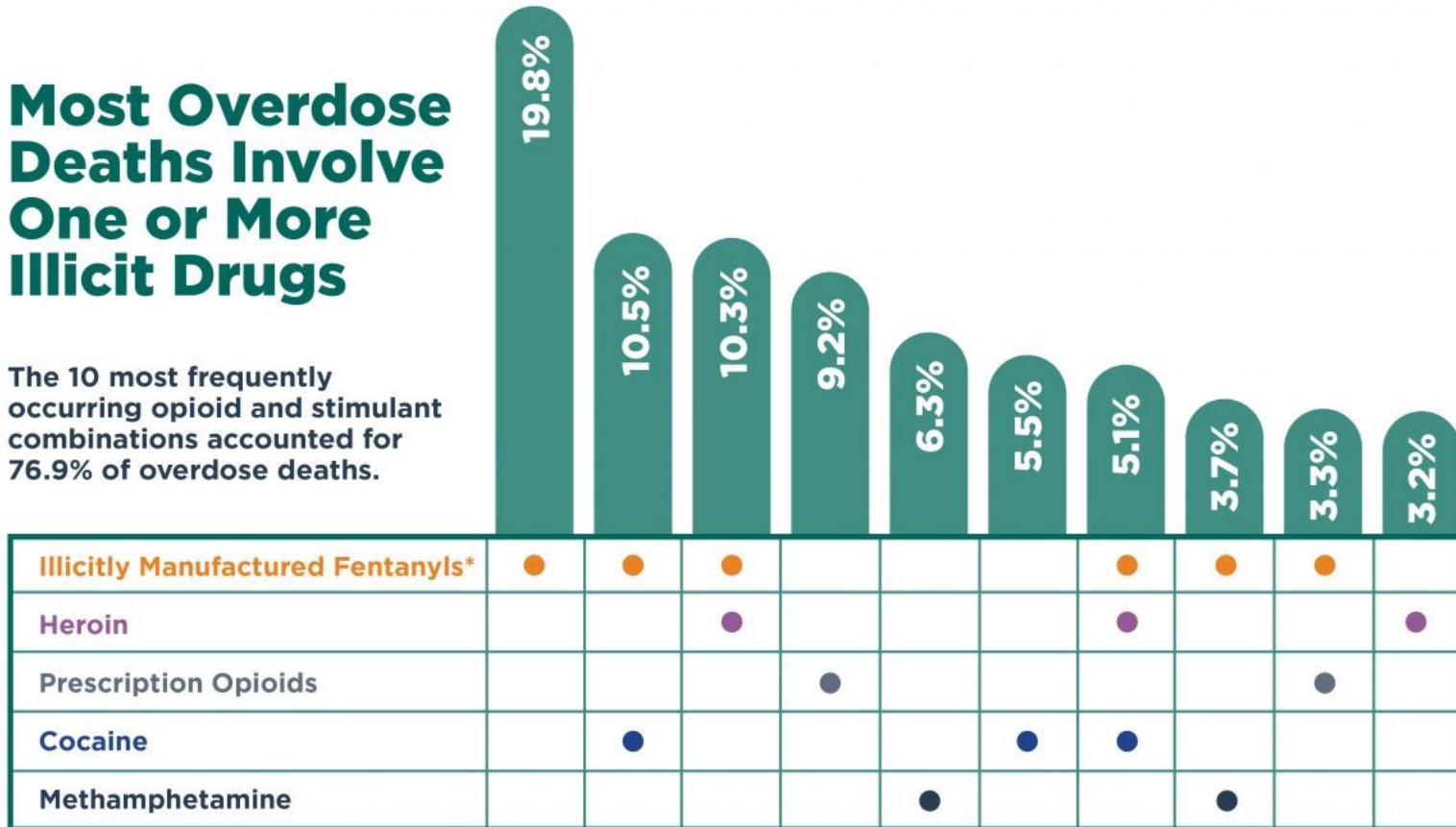


Source: The Multiple Cause of Death data are produced by the Division of Vital Statistics, National Center for Health Statistics (NCHS), Centers for Disease Control and Prevention (CDC), United States Department of Health and Human Services (US DHHS).

More than 80% of overdose deaths involved opioids, and most of these deaths specifically involved Fentanyl frequently in combination with other drugs (2019)

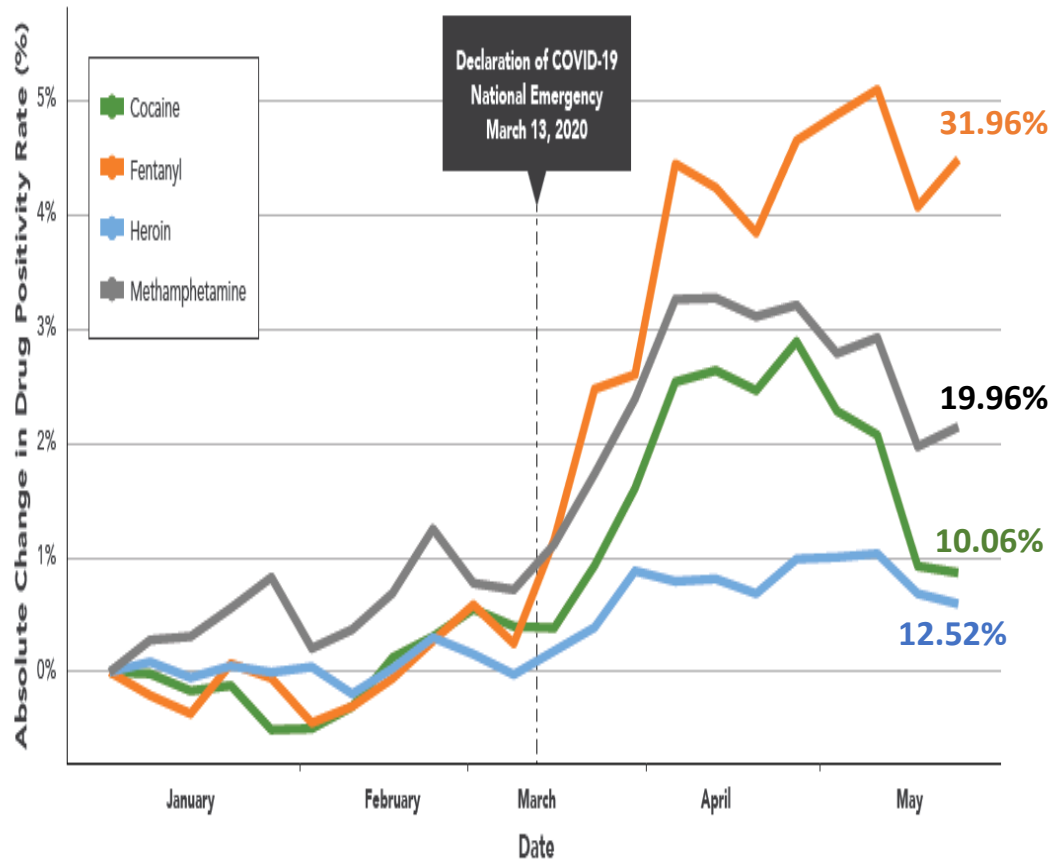
Most Overdose Deaths Involve One or More Illicit Drugs

The 10 most frequently occurring opioid and stimulant combinations accounted for 76.9% of overdose deaths.



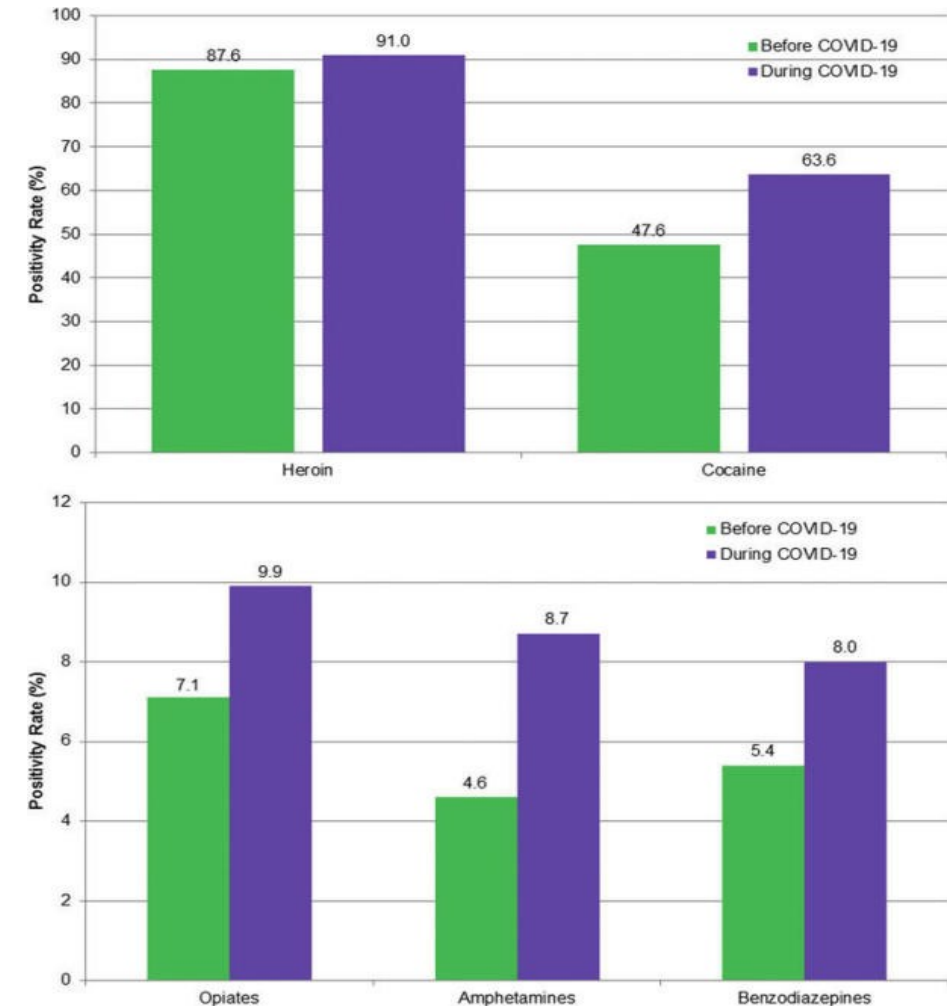
CDC's State Unintentional Drug Overdose Reporting System (SUDORS) 24 states and DC reporting, January-June 2019

Drug Use Increase During COVID



Millennium Health Signals Report™ COVID-19 Special Edition: Significant Changes in Drug Use During the Pandemic Volume 2.1 Published July 2020

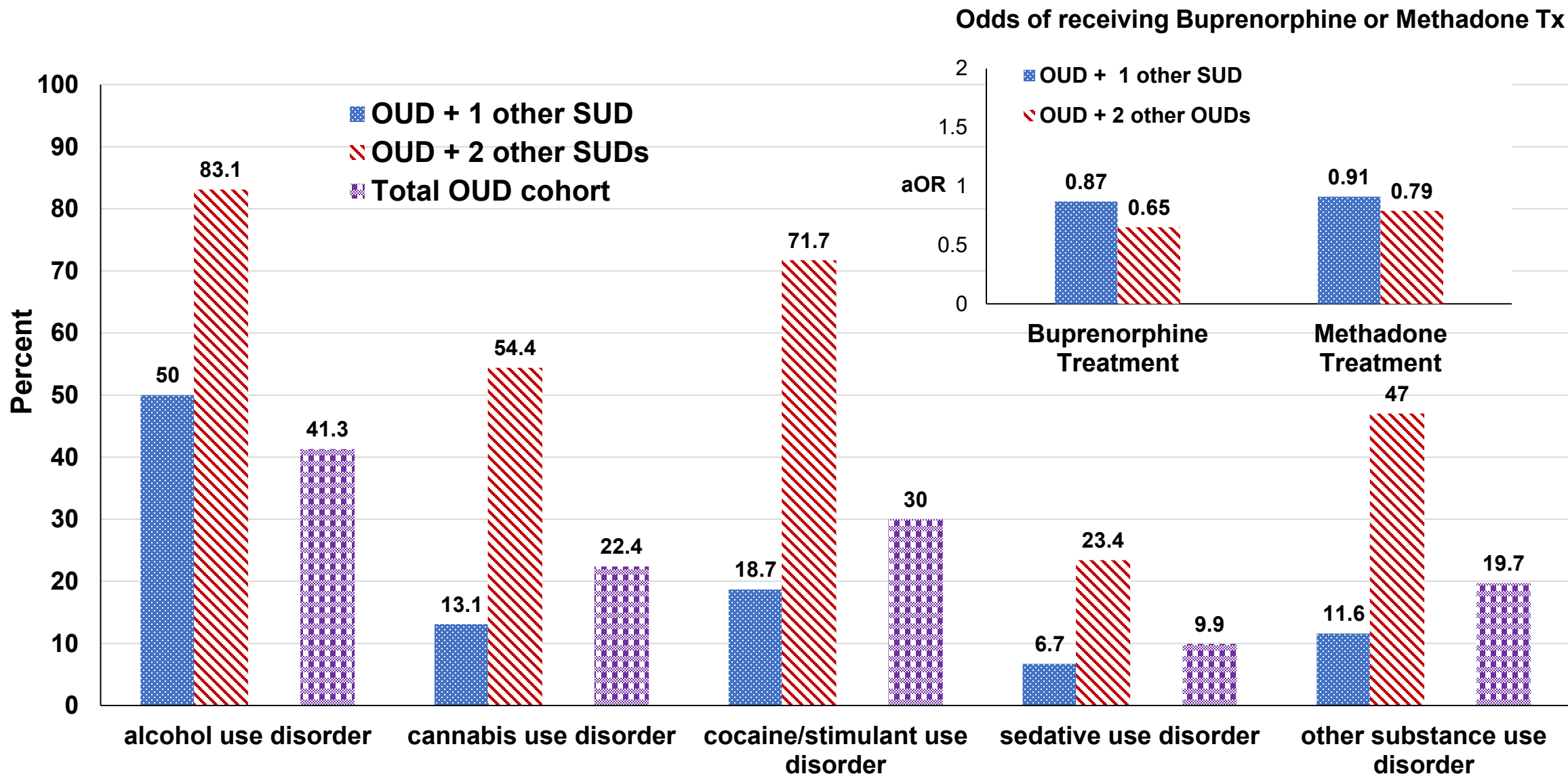
Fentanyl Positivity with Other Drugs Before and During COVID



Overdose Deaths Increased Again in 2019 (and 2020*)

	ALL DRUGS	HEROIN	NAT & SEMI – SYNTHETIC	METHADONE	SYNTHETIC OPIOIDS	COCAINE	OTHER PSYCHO-STIMULANTS (mainly meth)
August 2019 *	69,640	14,671	12,152	2,869	34,203	15,205	15,217
March 2020*	75,687	14,145	12,349	2,837	40,756	17,465	18,033
August 2020*	88,295	14,316	12,986	3,423	51,998	19,719	21,405
August 2019- August 2020 Change	+26.8%	-2.4%	+6.9%	+19.3%	+52.0%	+29.7%	+40.7%

Polysubstance Use and Association With Opioid Use Disorder Treatment In The US Veterans Health Administration



Treating Fentanyl OUD and Overdoses

- Limited data on efficacy of medication to treat fentanyl OUD
- Methadone is effective in fentanyl OUD.
 - Methadone protected against death, but relapse rates were high ([Stone, et al., 2018](#), [Stone, et al. 2020](#)).
- Buprenorphine is effective in fentanyl OUD ([Wakeman, et al., 2019](#)).
 - Harder to initiate patients on buprenorphine
- Naltrexone no published data
- Deaths from fentanyl are increasing in spite of naloxone ([Torralva and Janowsky, 2019](#)).
- OD from fentanyl require multiple naloxone doses ([Schumann et al., 2007](#), [Somerville et al., 2017](#))
 - Shorter duration of naloxone ($t_{1/2}$ 1.3–2.4 h) than fentanyl ($t_{1/2}$ 7-8 h)
 - Slower clearance of fentanyl in frequent users
- Chest wall rigidity induced by fentanyl, which might reflect noradrenergic and cholinergic effects.

Treating Methamphetamine Use Disorder and Overdoses

- No FDA approved medications
- Behavioral therapies: Most effective intervention is **contingency management** (uses rewards for evidence of abstinence) **combined with a community reinforcement approach** (uses recreational, familial, social, and vocational reinforcers, to make non-drug-using lifestyle more rewarding than substance use) (De Crescenzo et al., 2018).
- No overdoses reversal medications currently available

THANK YOU!