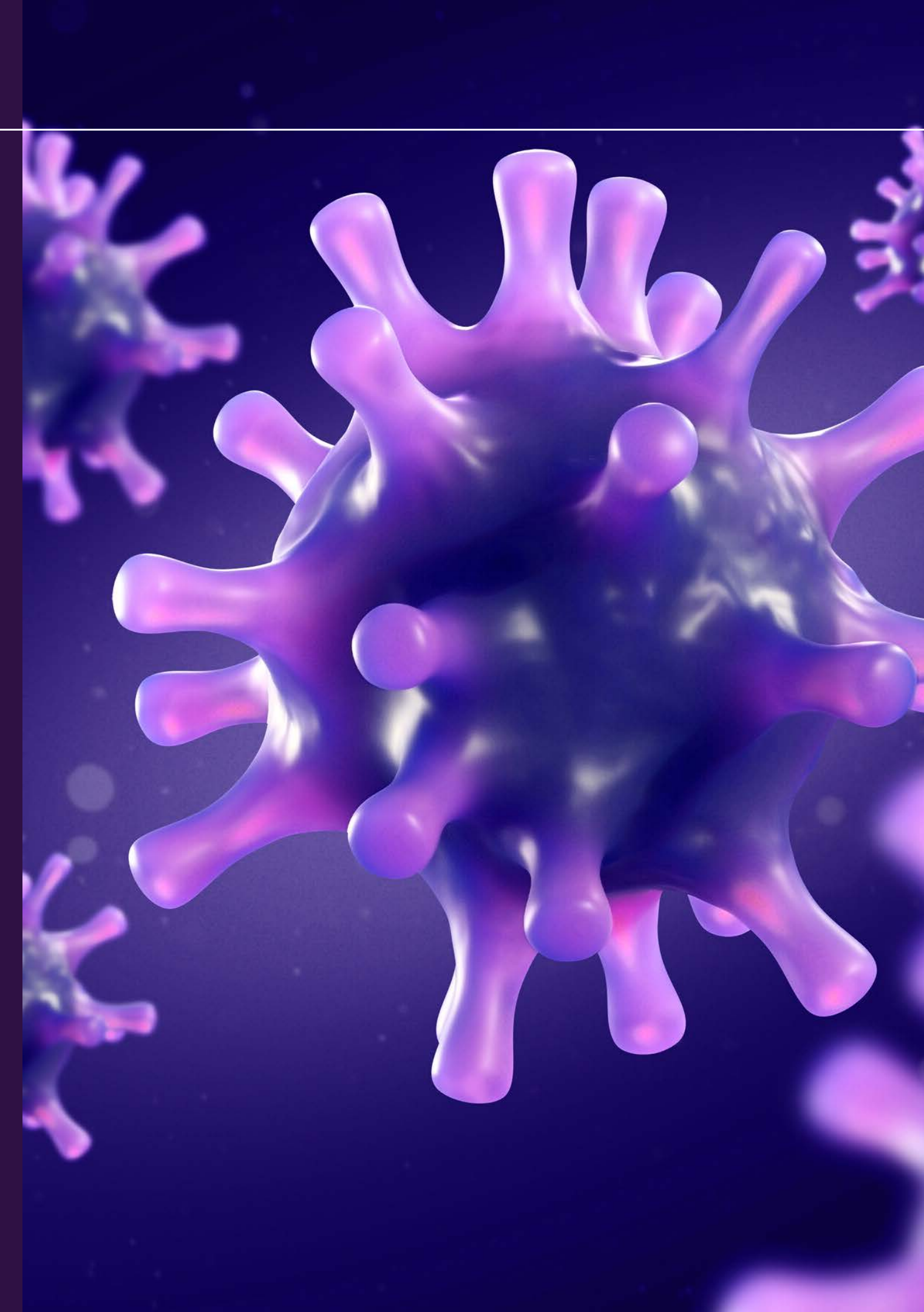


#ASAM2021

# Substance Use Disorders and COVID-19: Intertwined Epidemics

**Nora D. Volkow, M.D.**

Director  
National Institute on Drug Abuse  
National Institutes of Health



#ASAM2021

Nora D. Volkow, MD

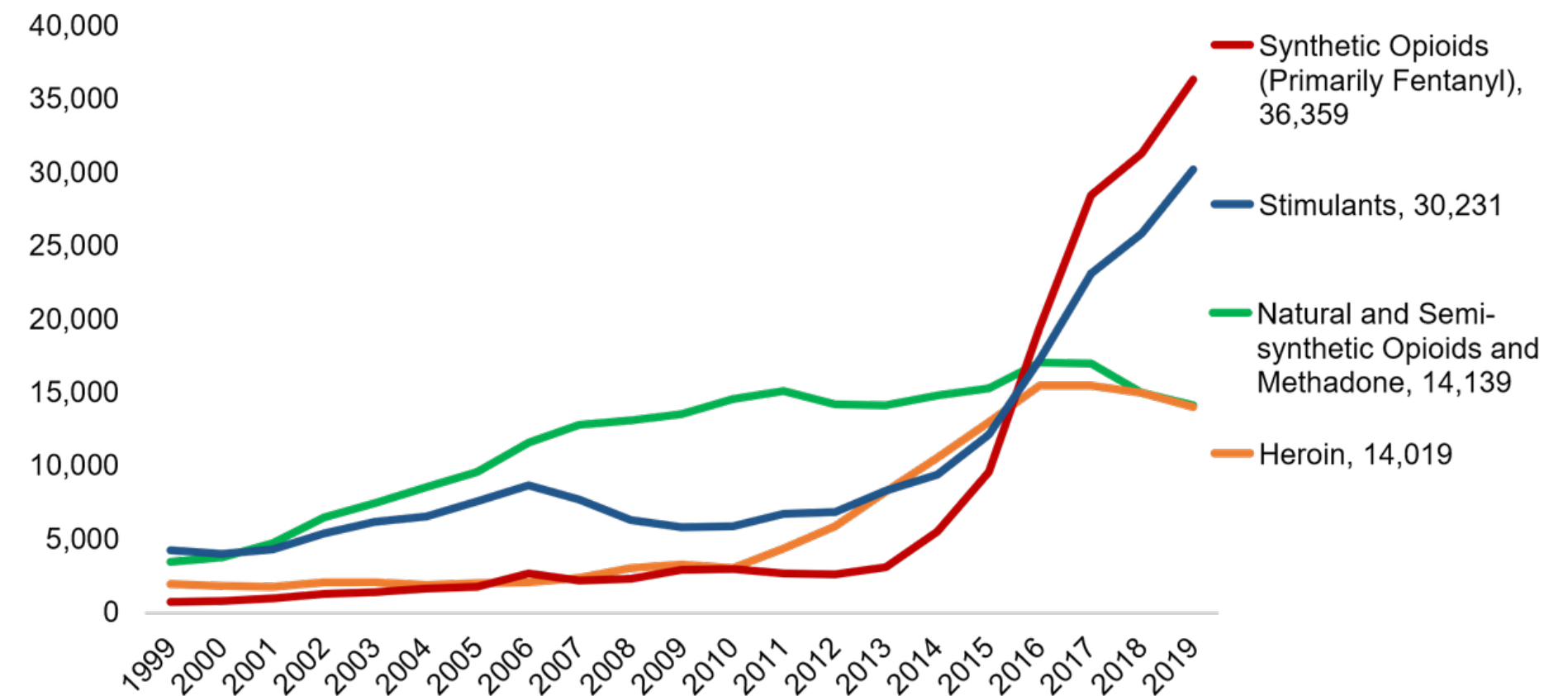
Disclosure

No relevant financial disclosures.

# Evolution of Drivers of Overdose Deaths, All Ages

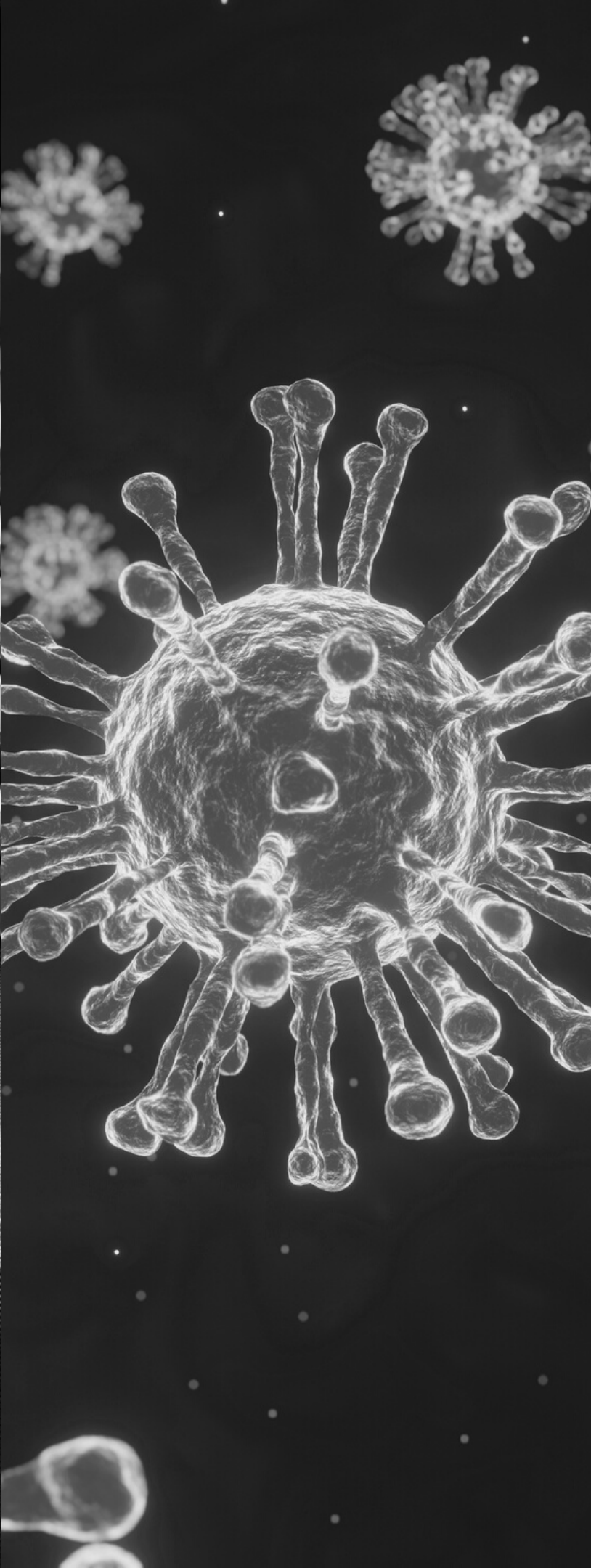
Analgesics → Heroin → Fentanyl → Stimulants

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).



**70,630 DEATHS IN 2019**  
**49,860 FROM OPIOIDS**  
**(PRESCRIPTION AND ILLICIT)**



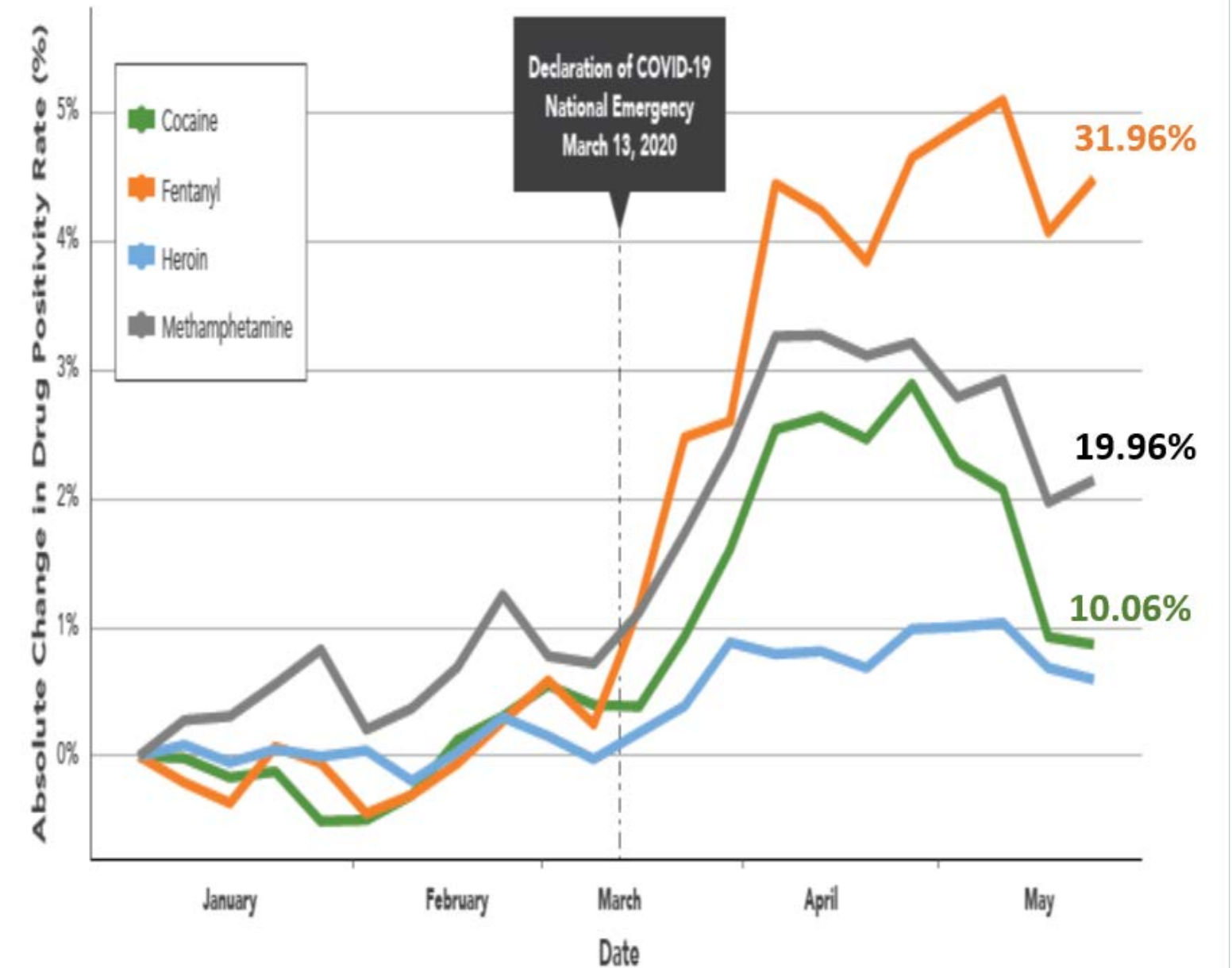


# Intersection Between Drug Crisis and COVID-19



# Drug Use Increase During COVID

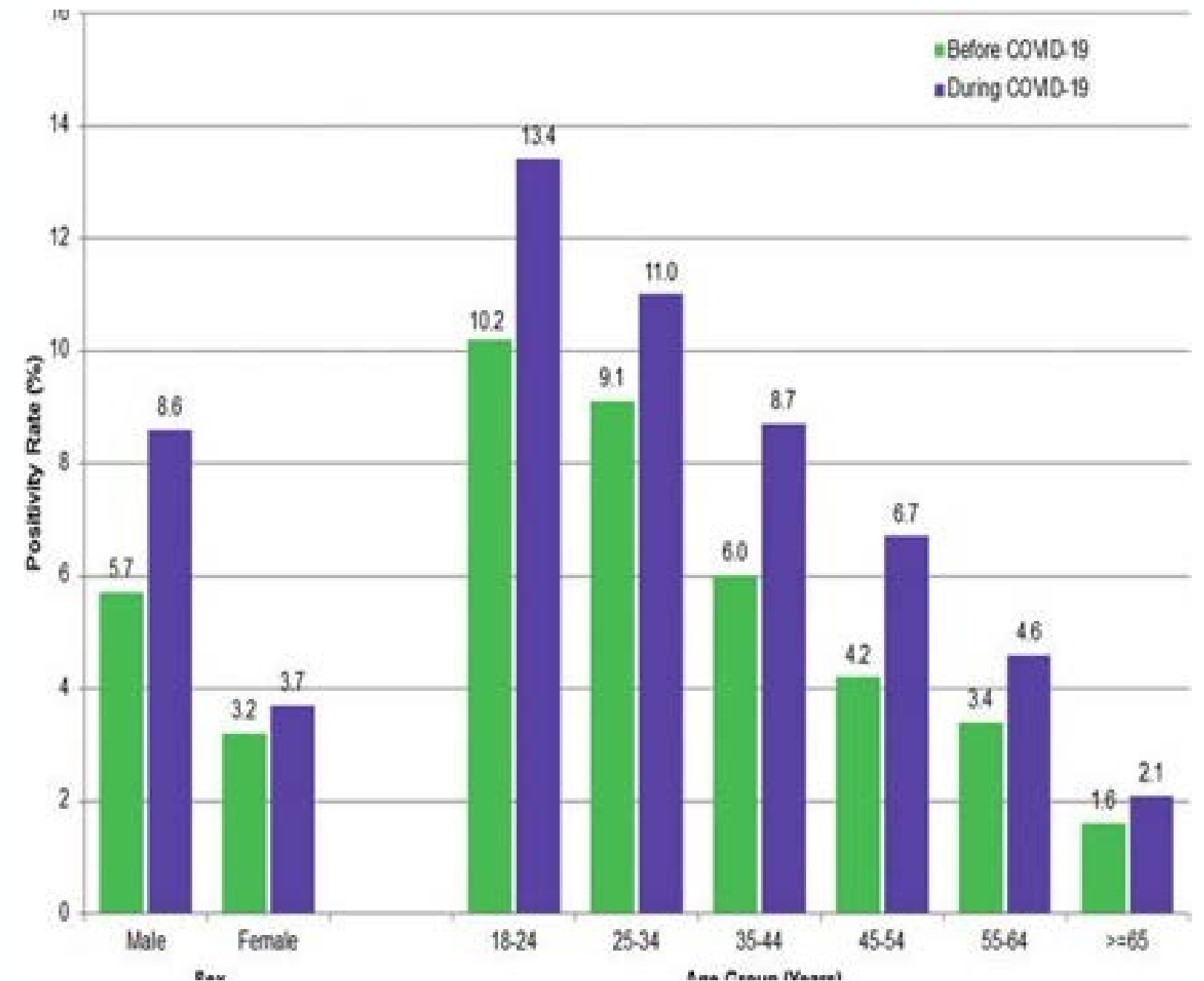
Millennium Health Signals Report™ COVID-19 Special Edition: Significant Changes in Drug Use During the Pandemic Volume 2.1 Published July 2020



# Drug Use Increase During COVID

Fentanyl Positivity, by Age and Sex, Before and During COVID-19

Niles JK et al., Population Health Management, 2020.



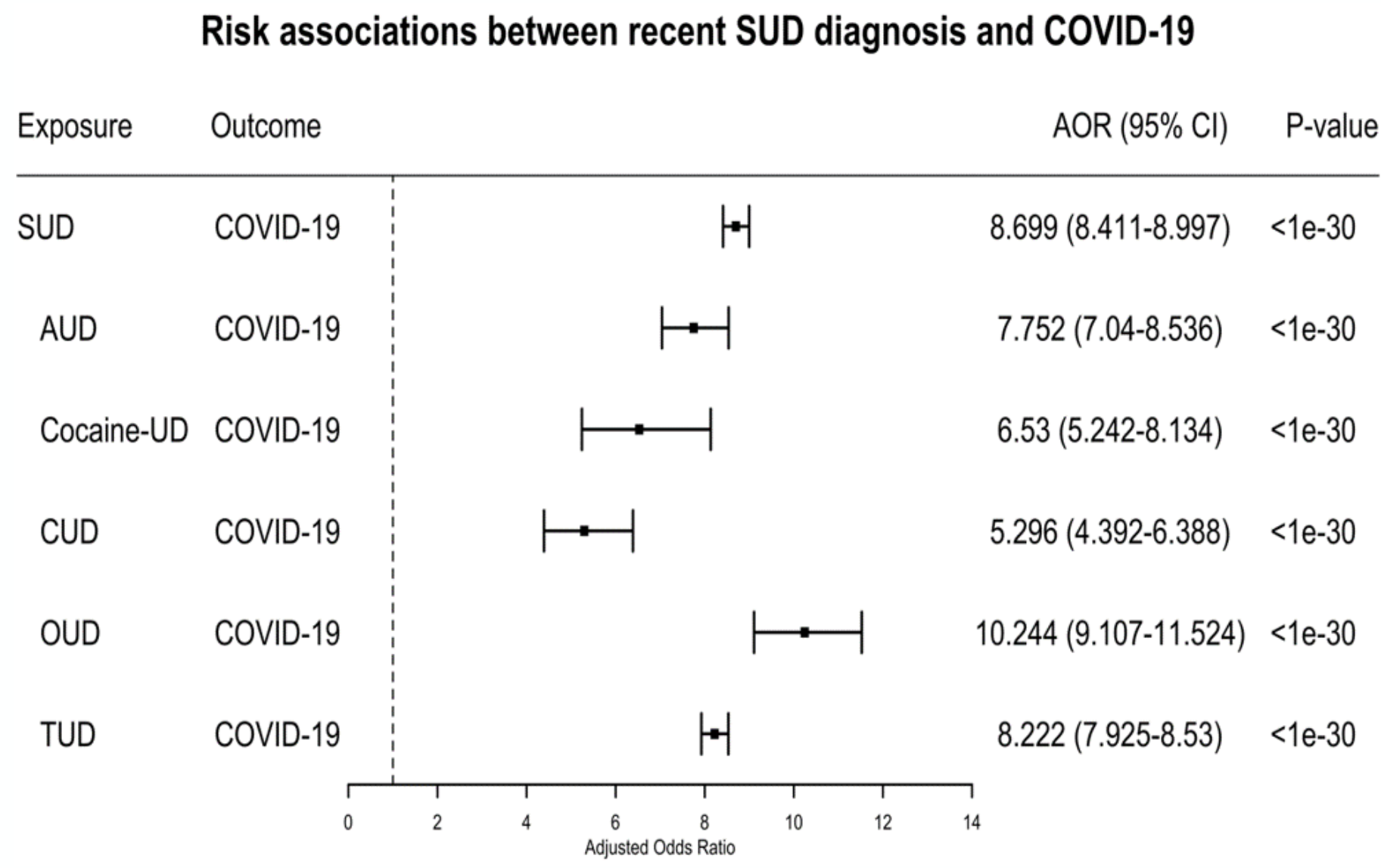
# Overdose Deaths Increased Again in 2019 (and 2020\*)

	ALL DRUGS	HEROIN	NAT & SEMI – SYNTHETIC	METHADONE	SYNTHETIC OPIOIDS	COCAINE	OTHER PSYCHO-STIMULANTS (mainly meth)
September 2019 *	70,036	14,548	12,136	2,832	34,758	15,389	15,600
March 2020*	75,687	14,145	12,349	2,837	40,756	17,465	18,033
September 2020*	90, 237	14,201	13,649	3,501	53,877	19,952	22,791
Year end September 2019-September 2020 Change	+28.8%	-2.4%	+12.5%	+23.6%	+55.0%	+30.0%	+46.0%

\*NCHS Provisional Drug Overdose Death Counts: <https://www.cdc.gov/nchs/nvss/vsrr/drug-overdose-data.htm>

# COVID-19 risk and outcomes in patients with substance use disorders: Analyses from electronic health records in the United States

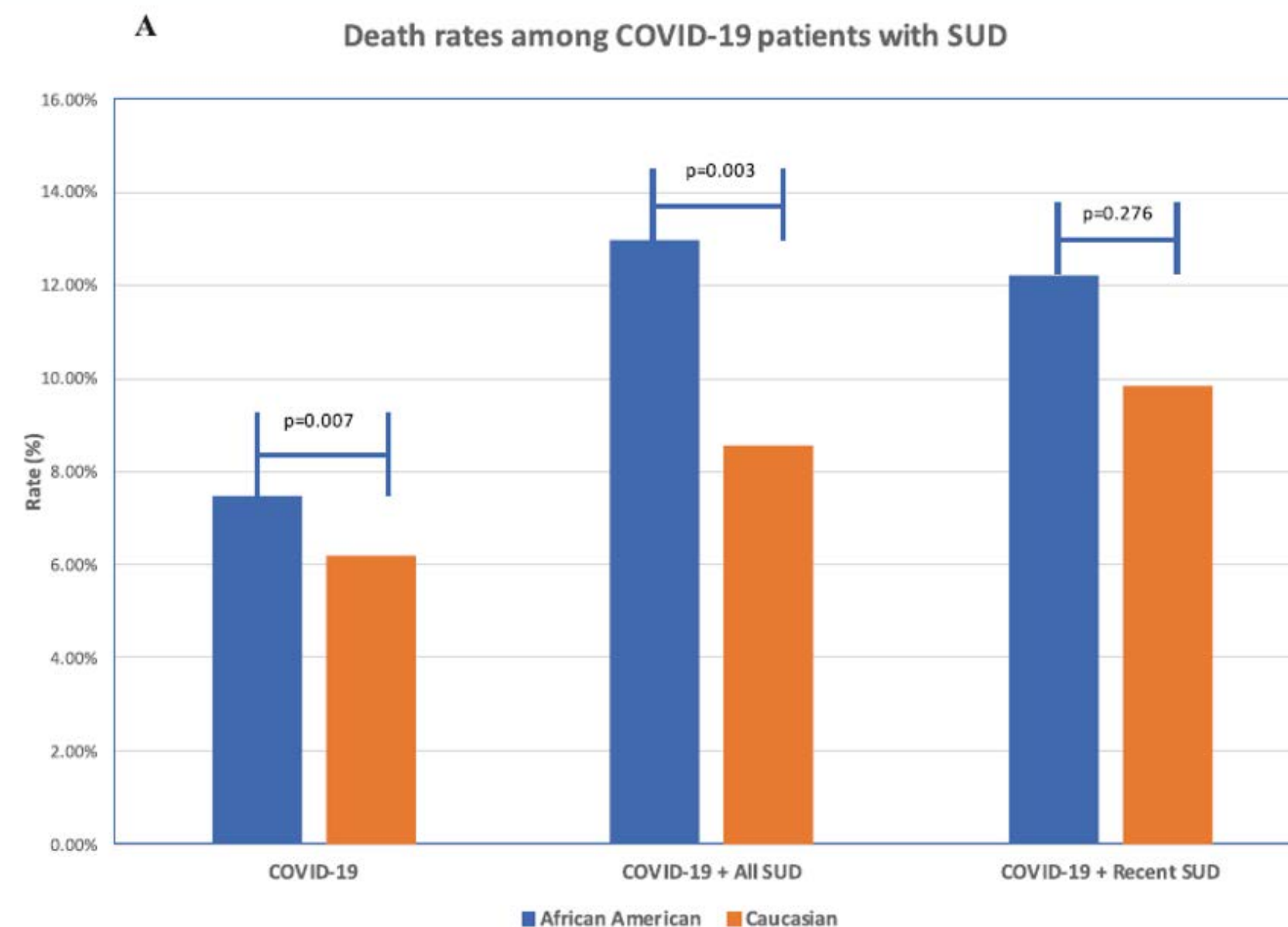
Wang, Q. Q., Kaelber, D. C., Xu, R., & Volkow, N. D. (2021). COVID-19 risk and outcomes in patients with substance use disorders: analyses from electronic health records in the United States. *Molecular psychiatry*, 26(1), 30-39.





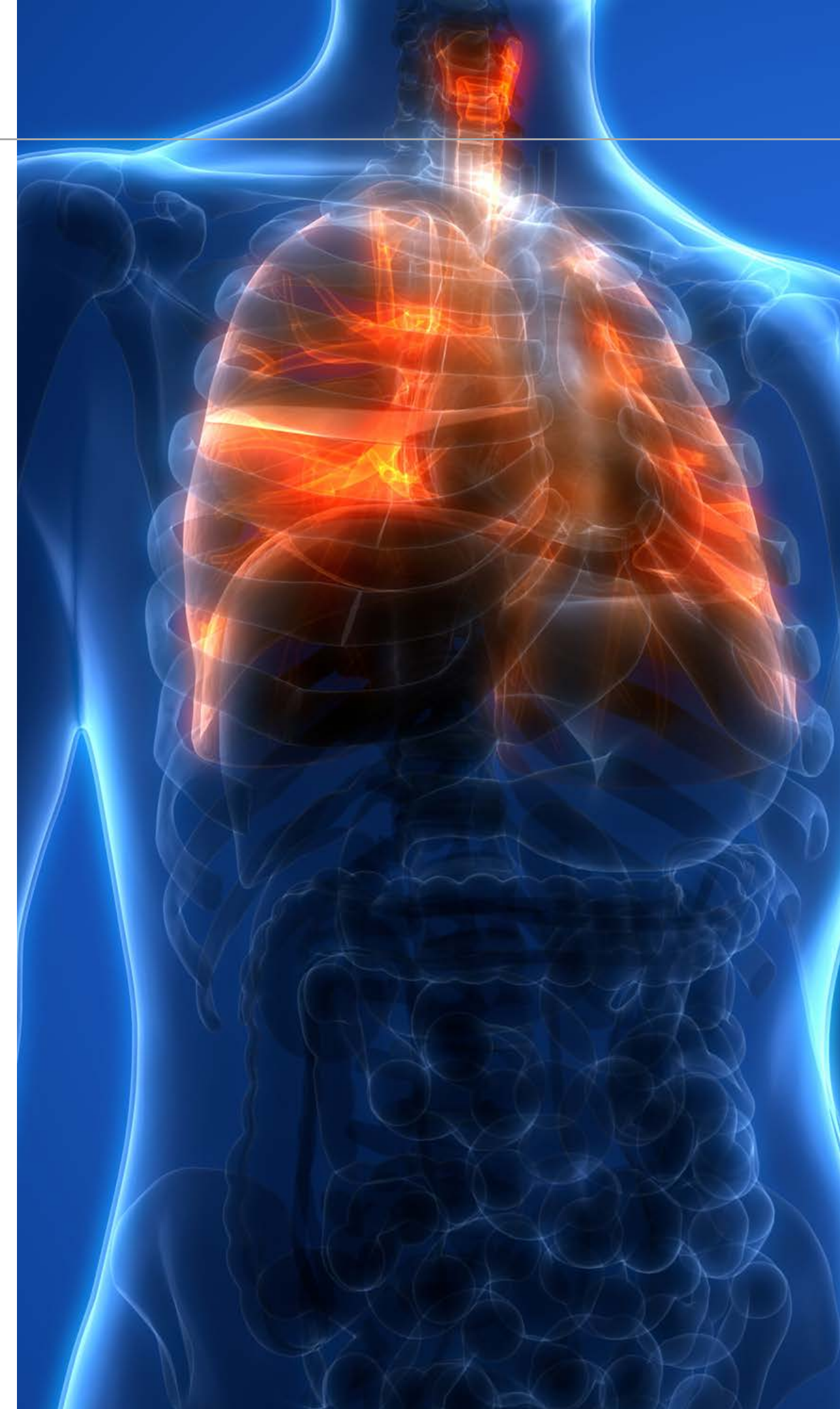
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# Among the Most Vulnerable To COVID-19 Are People With Compromised Respiratory and Cardiovascular Systems

- Tobacco Smoking
- Vaping (Nicotine and/or THC)
- Opiate Use
- Psychostimulant use
- Cannabis





# Structural Challenges for SUD During COVID-19

- Stress
- STIGMA
- Access to OUD medications
- Limited access to peer-support groups
- Social distancing (increases risk of relapse, interferes with overdose reversal)
- Homelessness
- Loss of jobs



Buffalo NY Methadone Clinic, March  
2020



# COVID-Related Policy Changes for Prescribing Medications for OUD

## Methadone

### Prior to COVID:

- Only federally-approved opioid treatment programs
- In-person for daily dosing

### Under COVID, SAMHSA allowed:

- 3/16/2020: 28 day take home
- 3/20/2020: for those under quarantine—surrogate take home or door-step delivery
- Still requires in person visit for first dose

## Buprenorphine

### Prior to COVID:

- Prescribed through pharmacies in outpatient settings
- DATA 2000, limited to clinicians with bup. waivers that required additional training and federal registration
- Limited number of patients to treat
- In-person evaluation for initial dose

### Under COVID, DEA allowed:

- 3/17/2020: Buprenorphine initiation through telehealth (including phone) without i-person visit
- Follow up can be via phone

# Additional Opportunities In SUD Treatment Under COVID

## Increased use of telemedicine and its reimbursement

- Expanded access to treatment of co-morbid conditions
- Expanded access to behavioral treatments
- Establishment of mental health hot lines
- Deployment of virtual support meetings and coaches

## Changes in justice settings

- Release of non-violent offenders with SUD from jails/prisons
- Expanded use of telemedicine including for medications for opioid use disorder
- Expanded opportunities for education via web-based program

# Fentanyl Overdoses (OD): Reversal with Naloxone

Deaths from fentanyl or analogs are increasing in spite of naloxone

R Torralva and A Janowsky, 2019

OD from fentanyl frequently requires multiple naloxone administrations

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

(Schumann et al., 2007, Somerville et al., 2017)

Rapid injection of fentanyl can result in chest wall rigidity, which is not MOR-mediated and might reflect noradrenergic and cholinergic effects.



# MOUD for Fentanyl

- Limited data on methadone or buprenorphine or naltrexone on fentanyl associated OUD
- Methadone maintenance therapy (MMT) is effective in fentanyl OUD.
  - Retrospective study in RI showed that 6 months of MMT protected against death and promoted abstinence, but relapse rates were high (Stone, et al., 2018).
  - Repeated exposure to fentanyl common while in MMT, but no deaths for those who remained in treatment, 4 deaths in those who left treatment (Stone, et al. 2020).
- Buprenorphine is effective in fentanyl OUD
  - Wakeman, et al., 2019
  - Harder to initiate patients on buprenorphine
- MOUD can reduce demand for fentanyl in rats
  - Hammerslag, et al., 2020

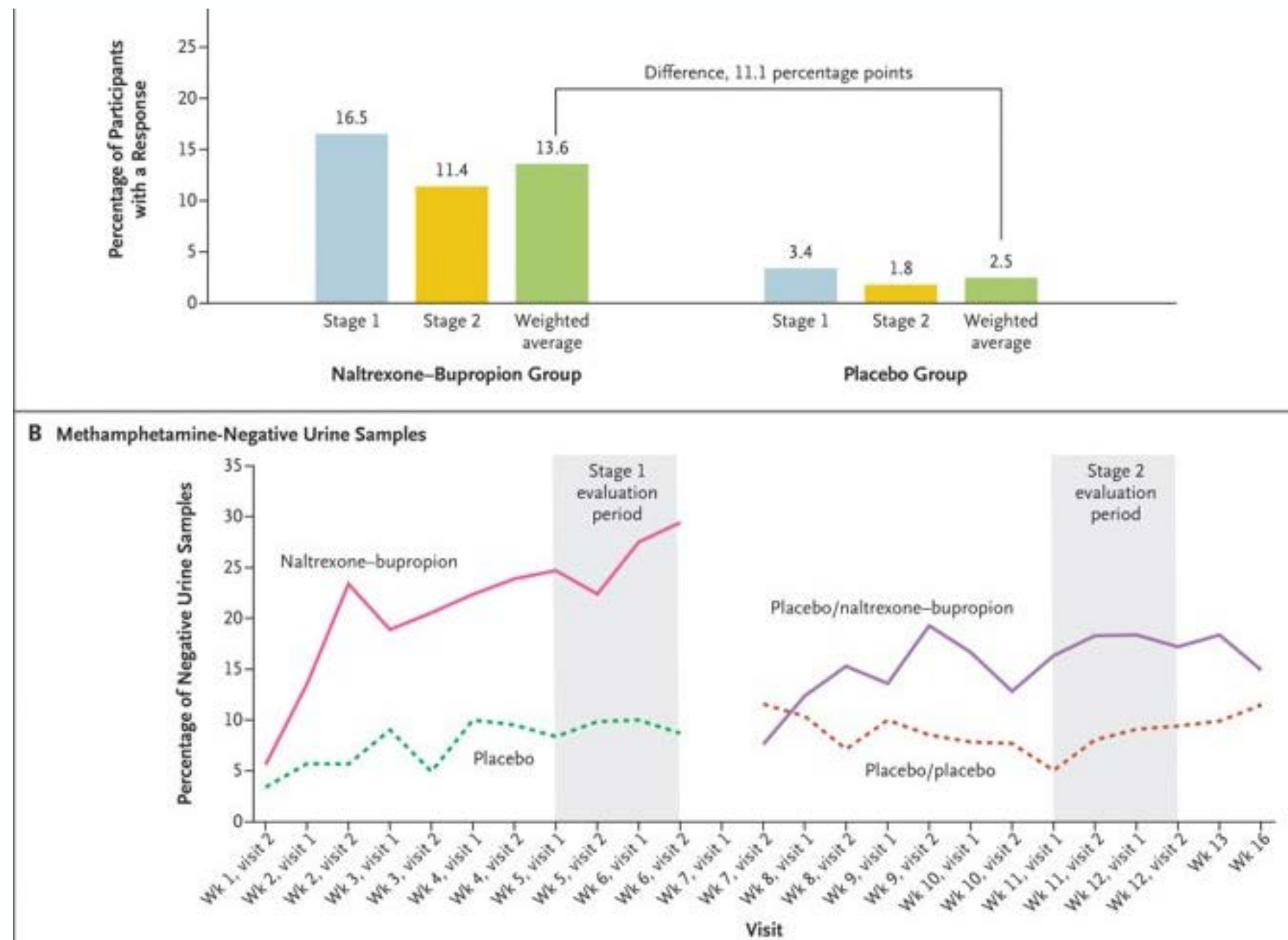


# Treating Methamphetamine Use Disorder and Overdoses

- 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

# Combination Treatment (Bupropion + Naltrexone) For Methamphetamine Use Disorder

Trivedi MH, et al. Trial of Bupropion and Naltrexone in Methamphetamine Use Disorder. New England Journal of Medicine. January 14, 2021.



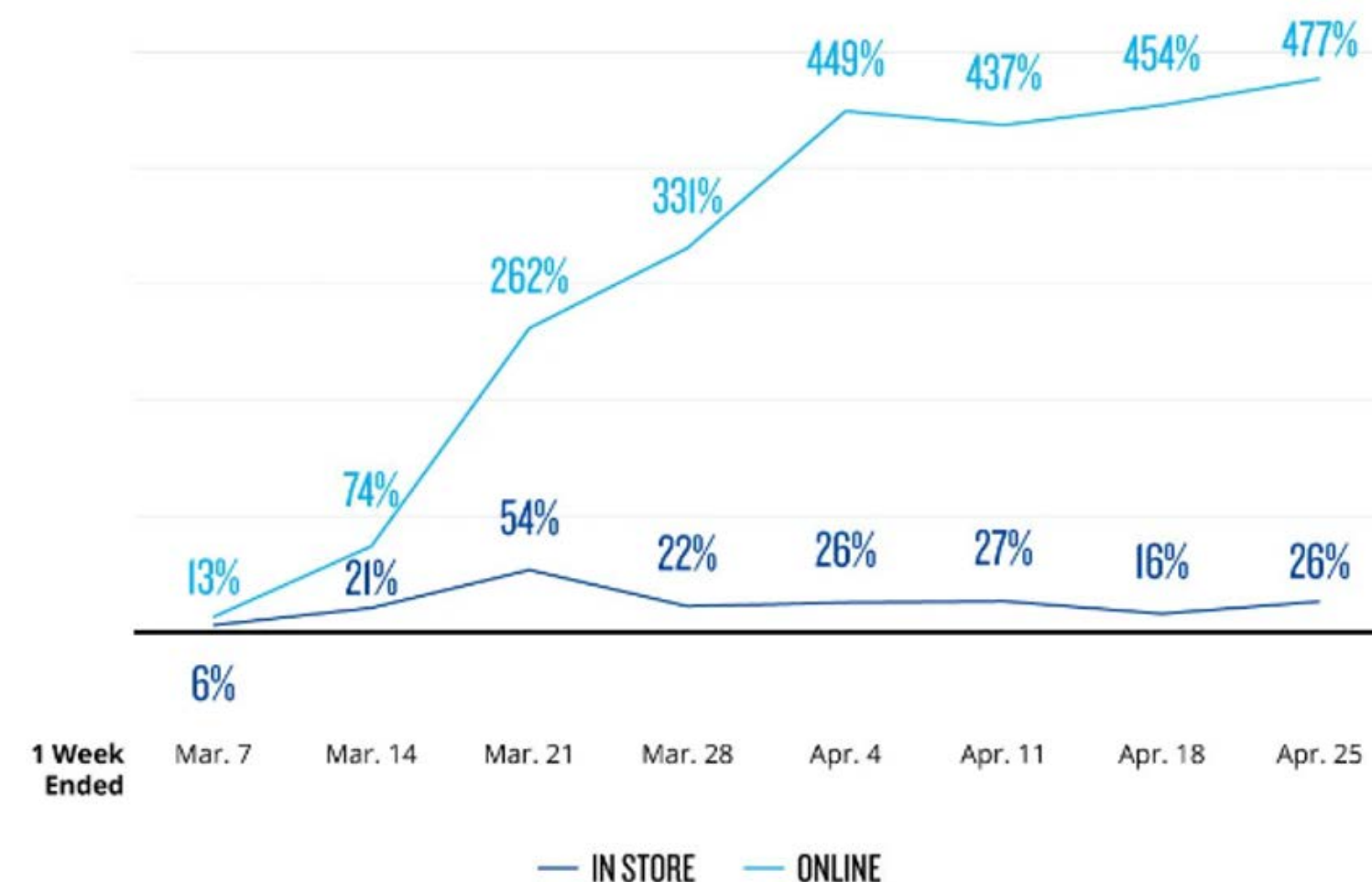


# Alcohol and Cannabis Use During COVID-19 has Increased

Changes in Alcohol Sales  
(in stores and on line) During COVID-19

Niles JK et al., Population Health Management, 2020.

Alcohol Weekly Sales Growth vs. Year Ago



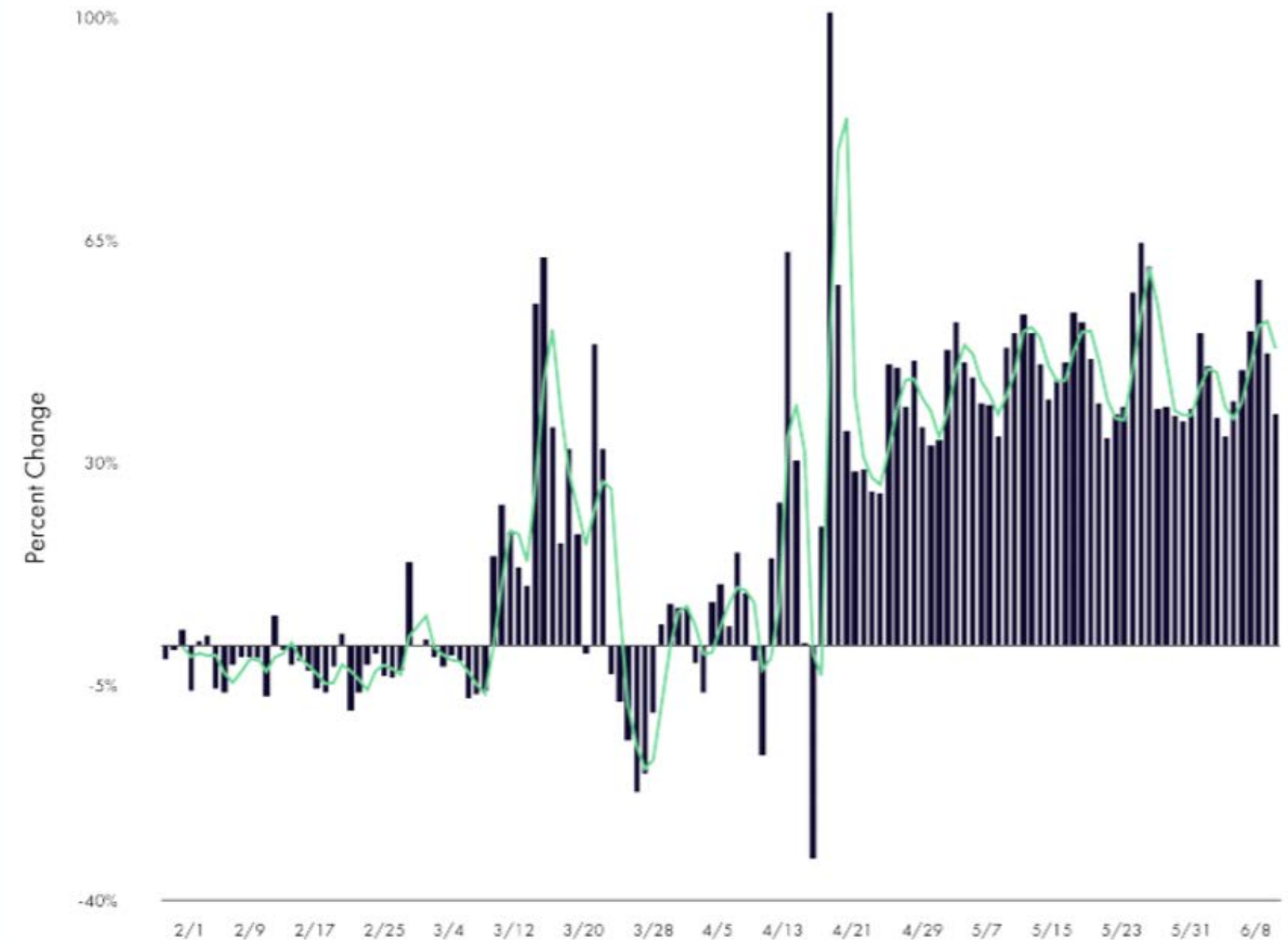
Source: 1) Nielsen Retail Measurement Services, Total US All Outlets Combined (xAOC) including Convenience and Liquor Stores, 2) Nielsen e-commerce measurement powered by Rakuten Intelligence, Total US, 1-week periods, latest period to Apr. 25, 2020

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# Alcohol and Cannabis Use During COVID-19 has Increased

Changes in Cannabis Sales  
(1-6, 2020 versus 1-6, 2019)

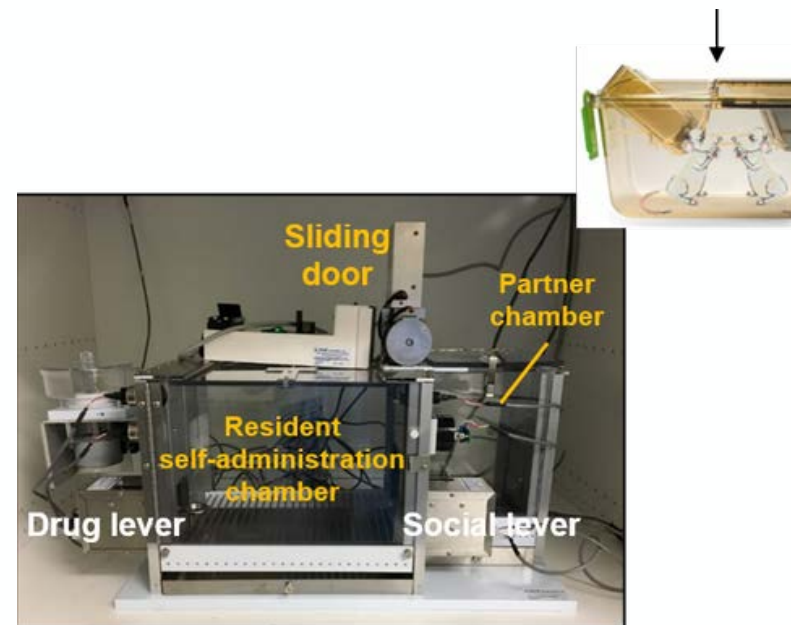
Vangst, Flowhub, and Leaflink. The state of the cannabis industry, 2020



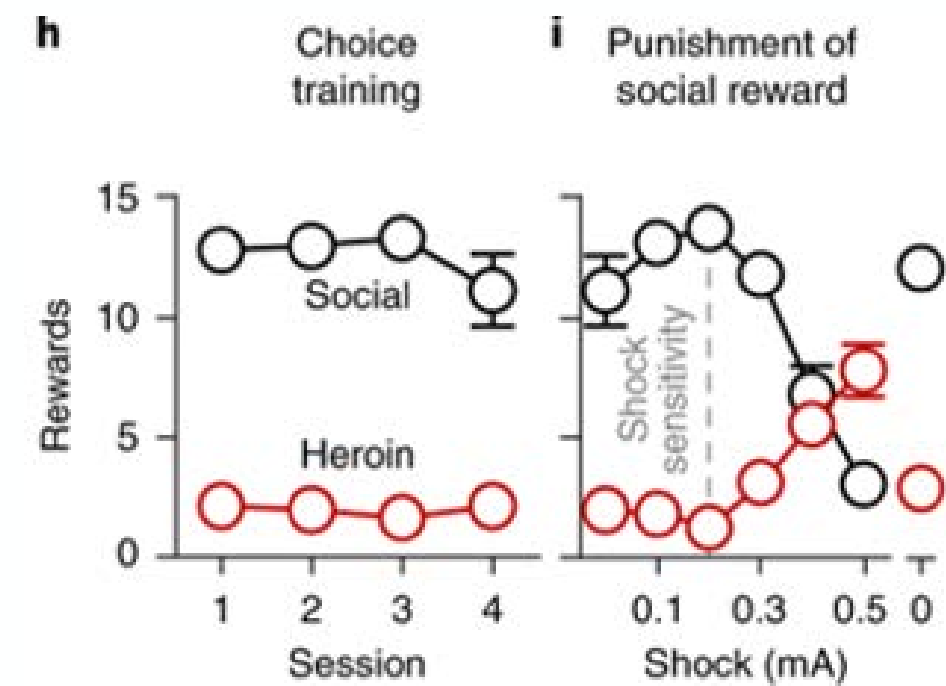
# Social Factors Influencing Drug Use



James Nachtwey.  
TIME Special Report



Venniro et al., 2018



HEROIN





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**THANK YOU!**