Where We Stand & How We Move Forward: The Current State of the Opioid Crisis

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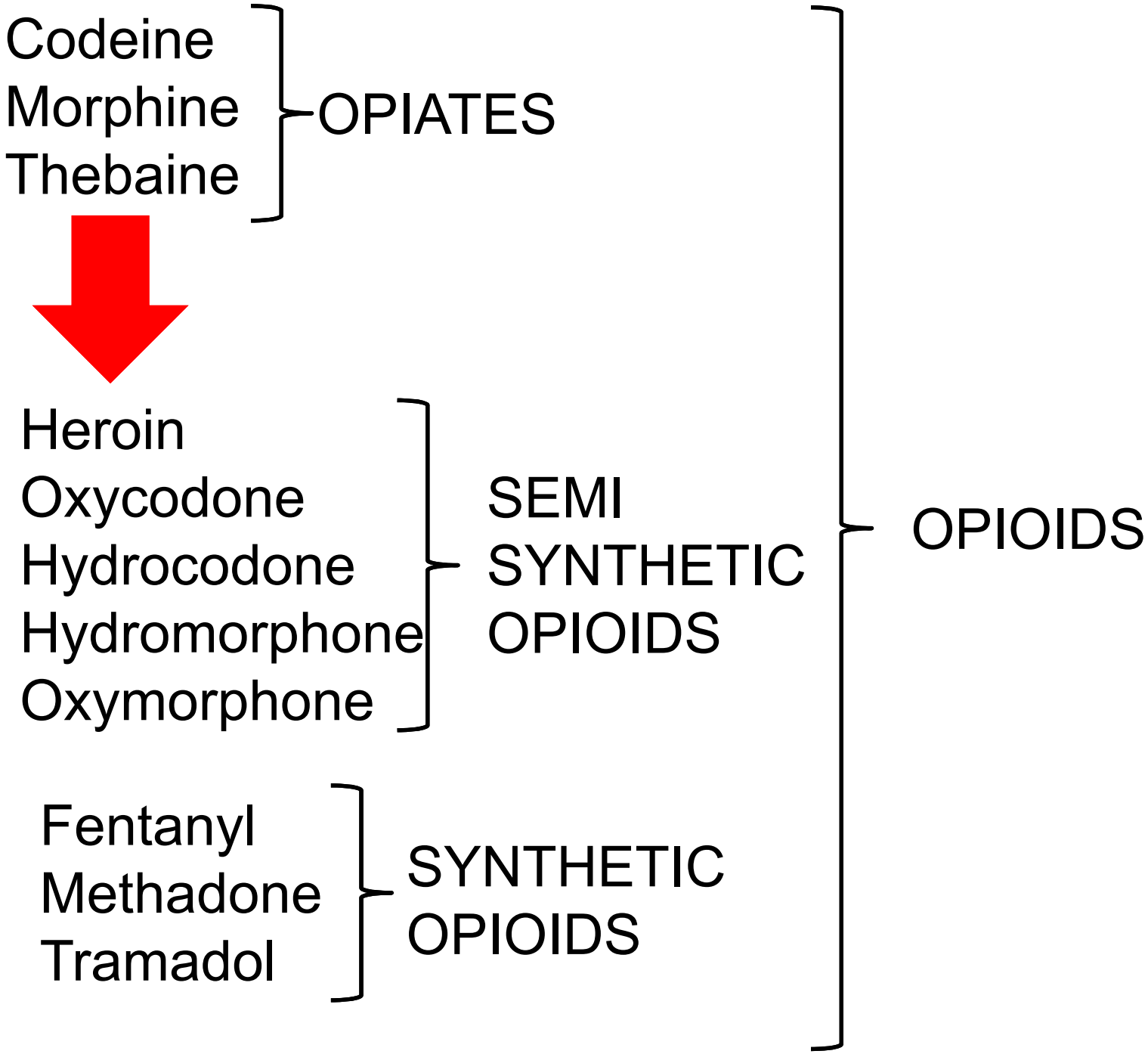
President,
Physicians for Responsible Opioid Prescribing

Opium

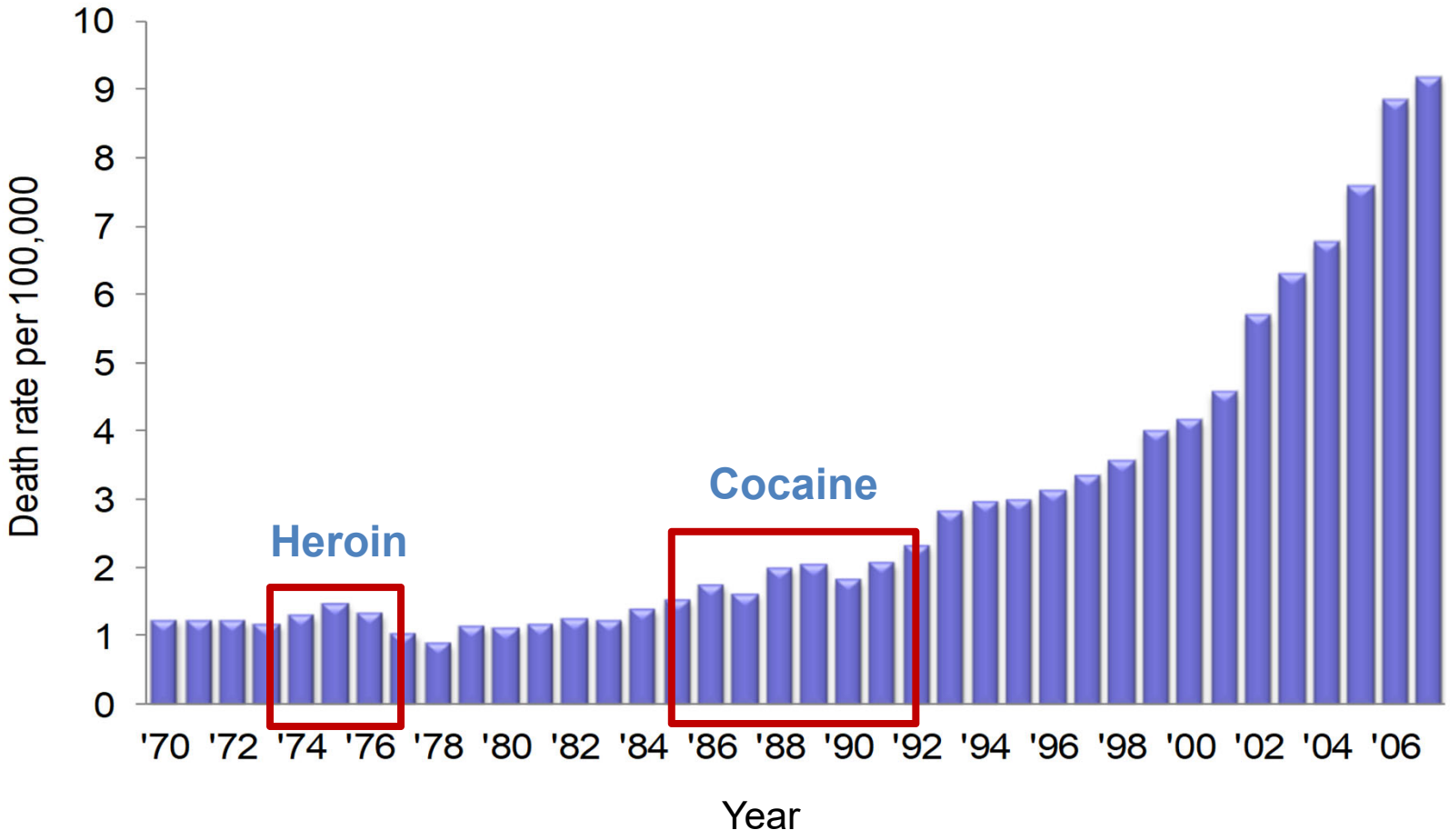
Opium

Codeine
Morphine
Thebaine

Heroin
Oxycodone
Hydrocodone
Hydromorphone
Oxymorphone

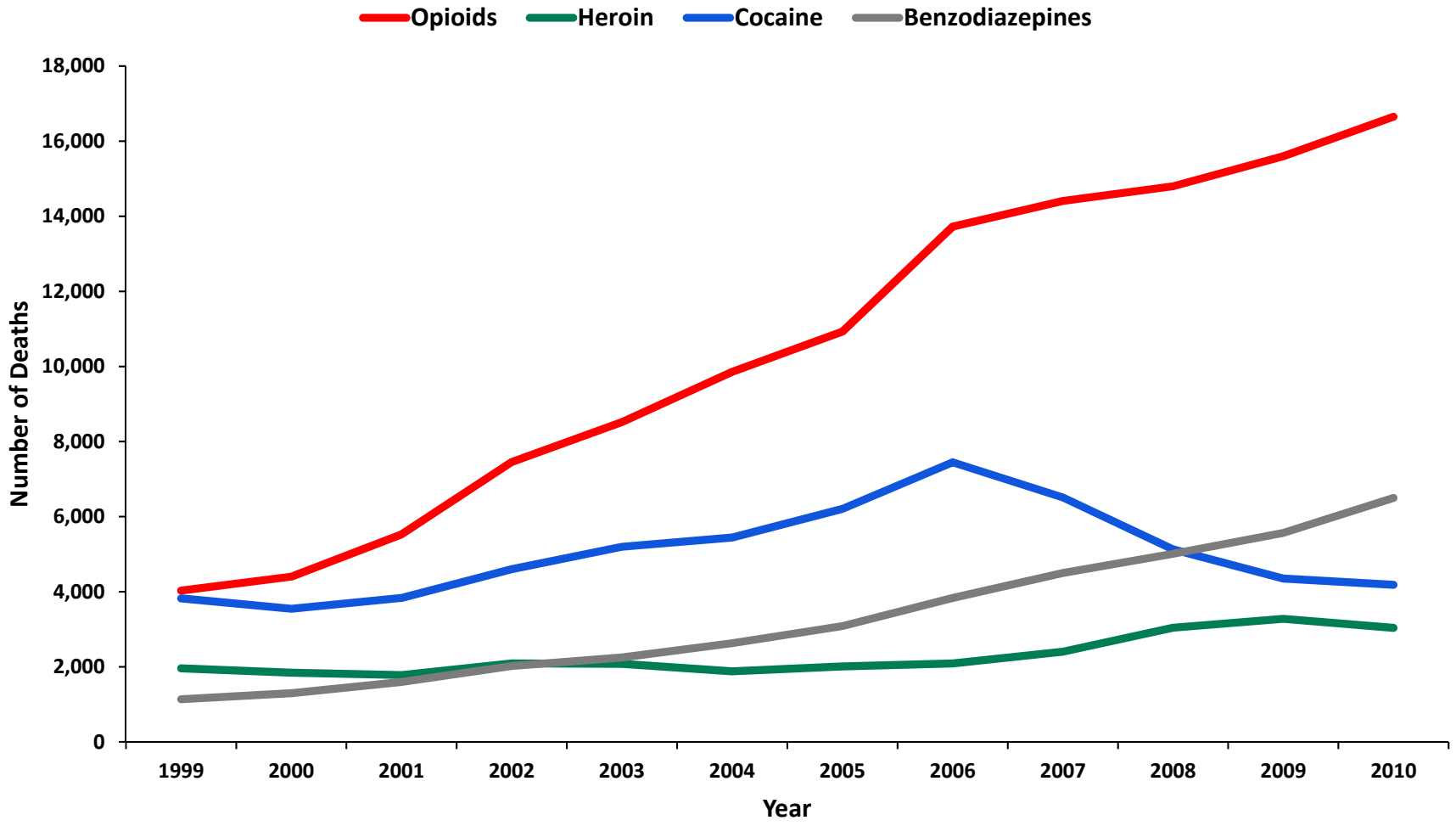

Codeine
Morphine
Thebaine
OPIATES
Heroin
Oxycodone
Hydrocodone
Hydromorphone
Oxymorphone
SEMI
SYNTHETIC
OPIOIDS
Fentanyl
Methadone
Tramadol
SYNTHETIC
OPIOIDS
OPIOIDS

Unintentional Drug Overdose Deaths
United States, 1970–2007



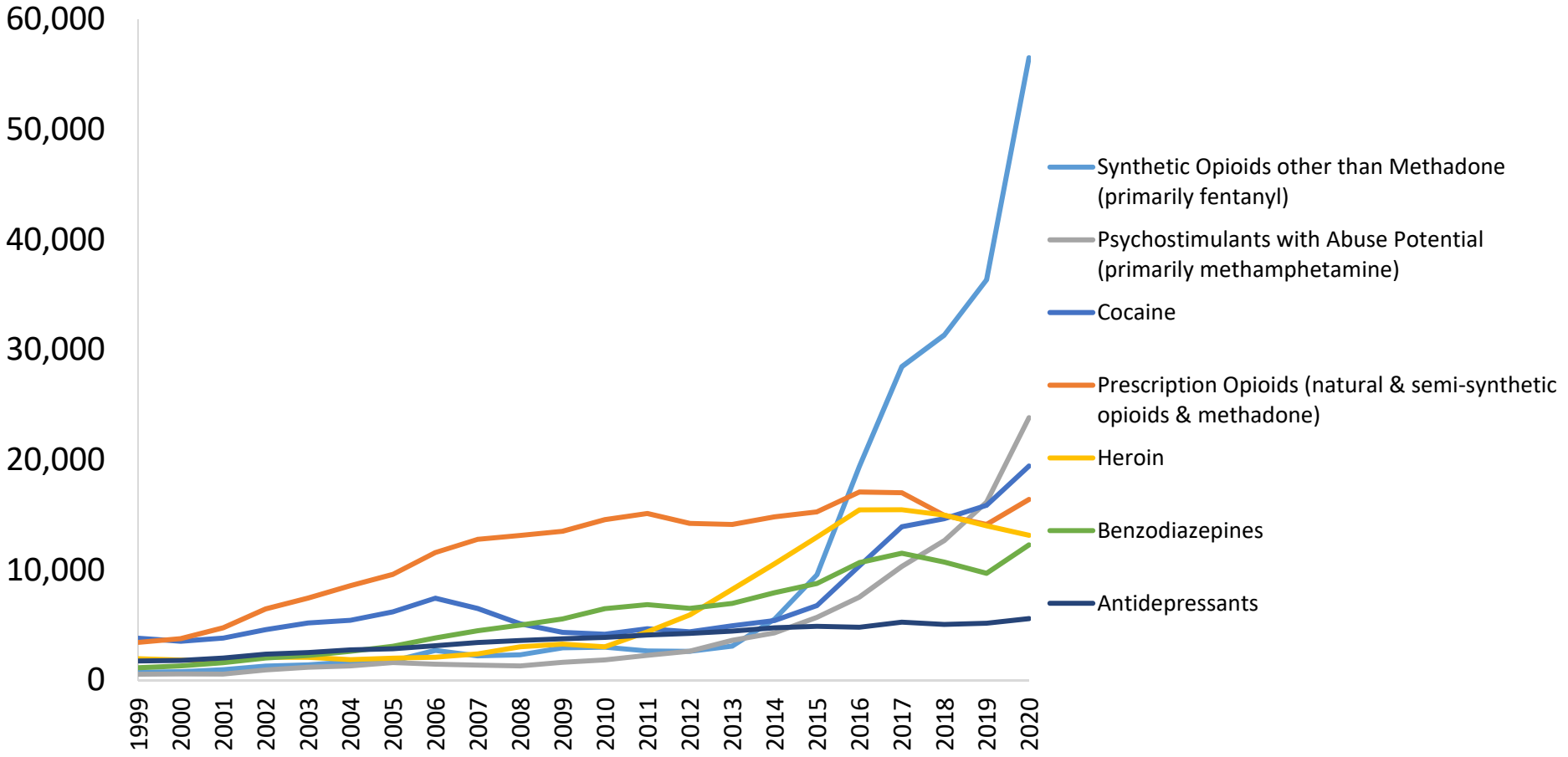
National Vital Statistics System, http://wonder.cdc.gov

Drug Overdose Deaths by Major Drug Type, United States, 1999–2010



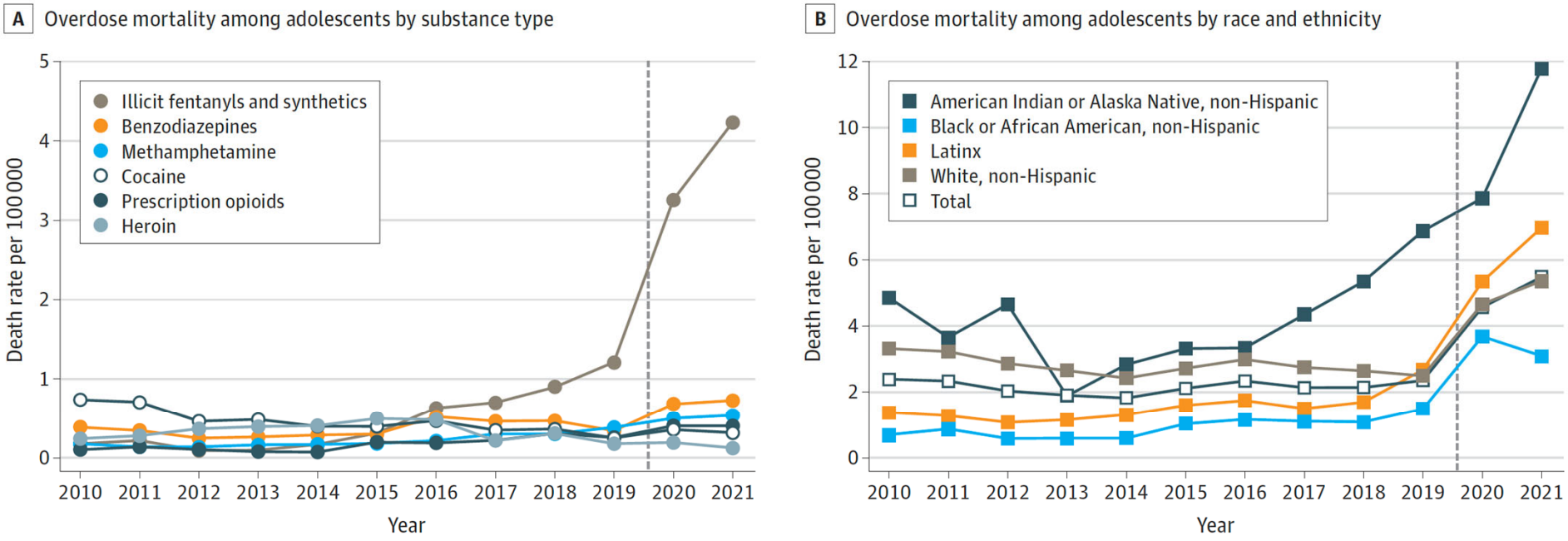
CDC, National Center for Health Statistics, National Vital Statistics System, CDC Wonder. Updated with 2010 mortality data.

Figure 2. National Drug-Involved Overdose Deaths*, Number Among All Ages, 1999-2020



*Includes deaths with underlying causes of unintentional drug poisoning (X40–X44), suicide drug poisoning (X60–X64), homicide drug poisoning (X85), or drug poisoning of undetermined intent (Y10–Y14), as coded in the International Classification of Diseases, 10th Revision.
Source: Centers for Disease Control and Prevention, National Center for Health Statistics. Multiple Cause of Death 1999-2020 on CDC WONDER Online Database, released 12/2021.

Figure. Adolescent Overdose Deaths, 2010-2021

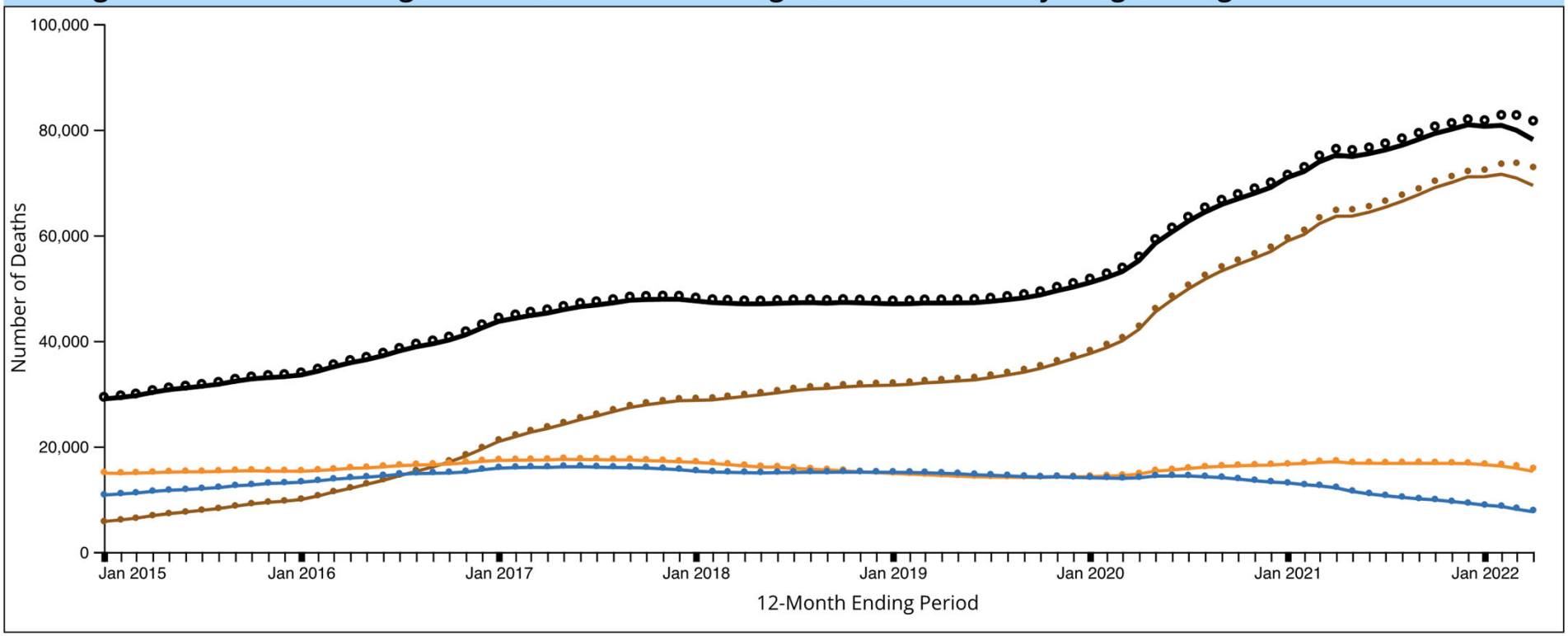


Drug overdose rates per 100 000 adolescents are shown by (A) substance involved and (B) race and ethnicity. The year 2021 refers to January to June 2021, and rates have been annualized. The vertical dashed lines delineate the prepandemic and pandemic periods of observed data.

Friedman J, Godvin M, Shover CL, Gone JP, Hansen H, Schriger DL. Trends in Drug Overdose Deaths Among US Adolescents, January 2010 to June 2021. JAMA. 2022 Apr 12;327(14):1398-1400.

12 Month-ending Provisional Number of Drug Overdose
Based on data available for analysis on: September 04, 2022

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



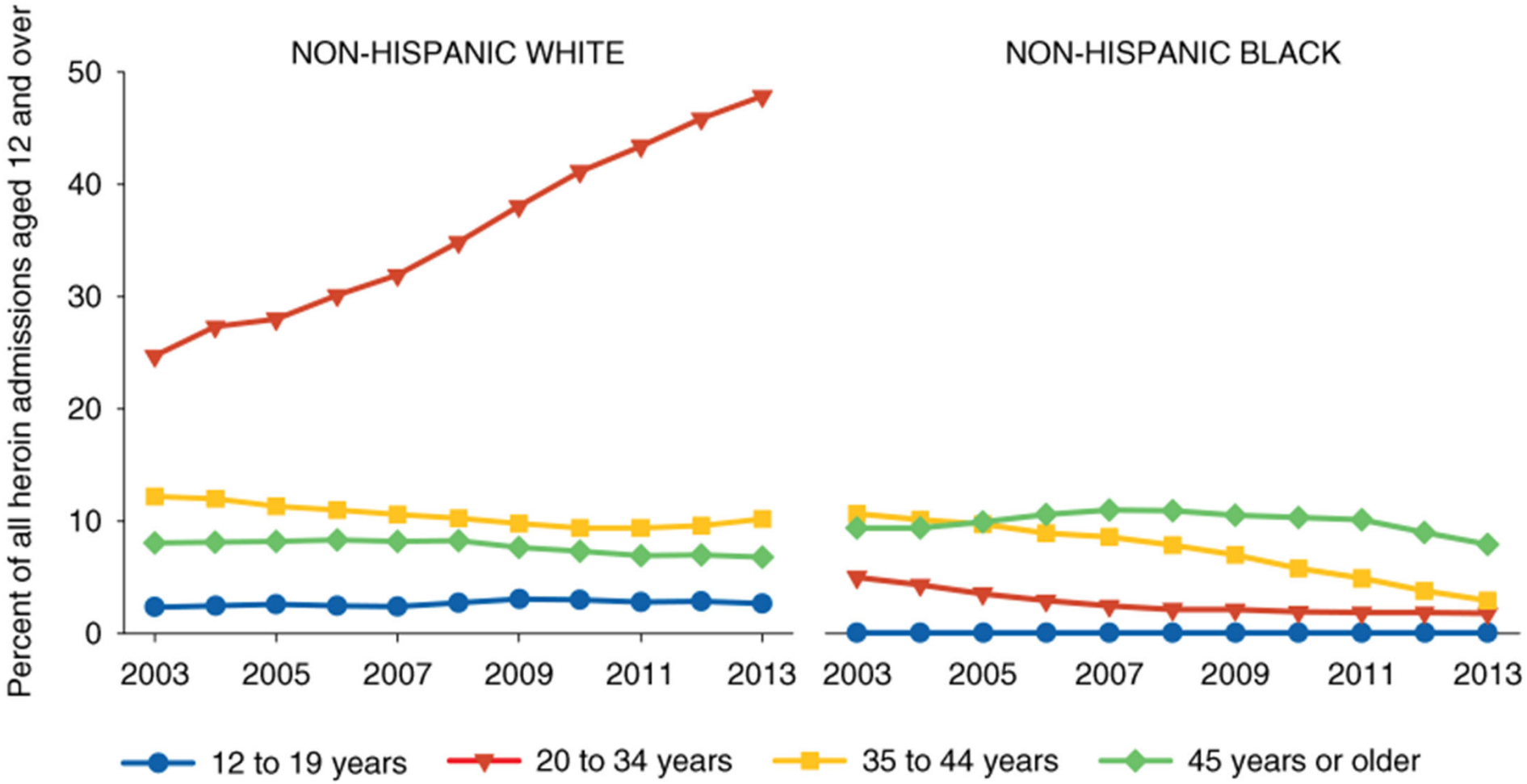
Legend for Drug or Drug Class

- Heroin (T40.1)
- Natural & semi-synthetic opioids, incl. methadone (T40.2, T40.3)
- Opioids (T40.0-T40.4,T40.6)
- Synthetic opioids, excl. methadone (T40.4)

---- Reported Value

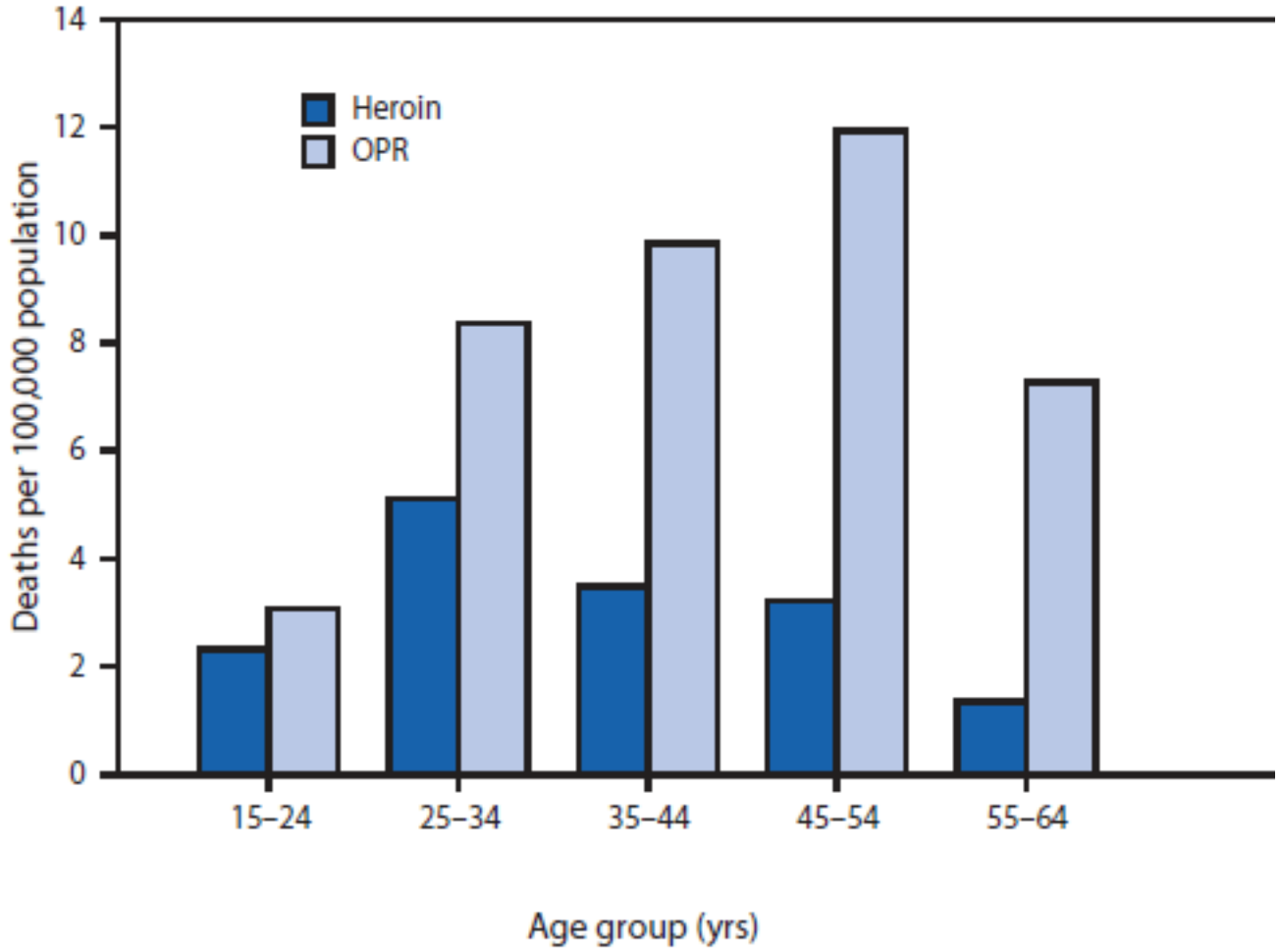
O Predicted Value

Heroin treatment admissions : 2003-2013

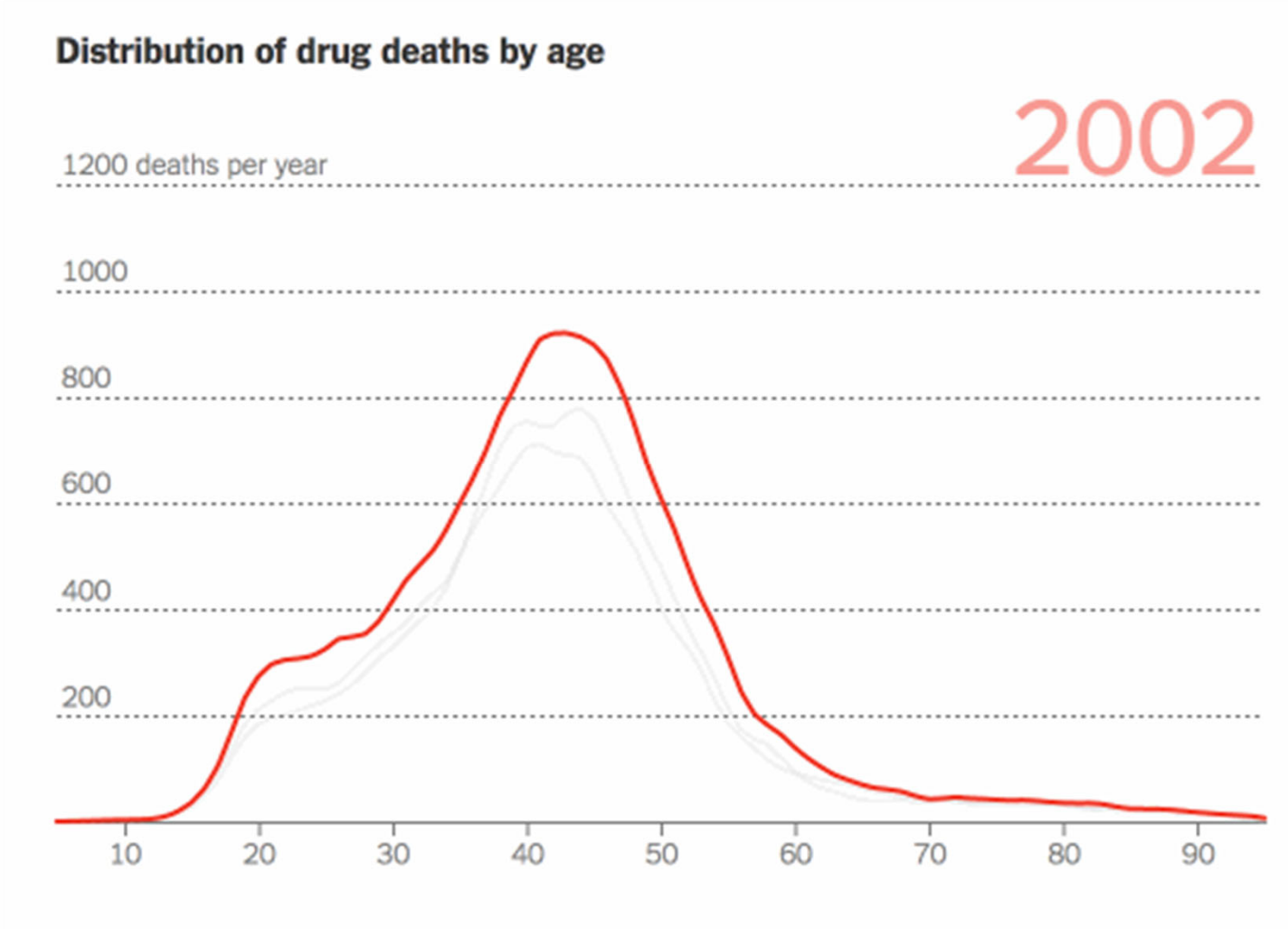


SOURCE: Center for Behavioral Health Statistics and Quality, Substance Abuse and Mental Health Services Administration, Treatment Episode Data Set (TEDS). Data received through 01.23.15.

Death rates from overdoses of heroin or prescription opioid pain relievers (OPRs), by age group

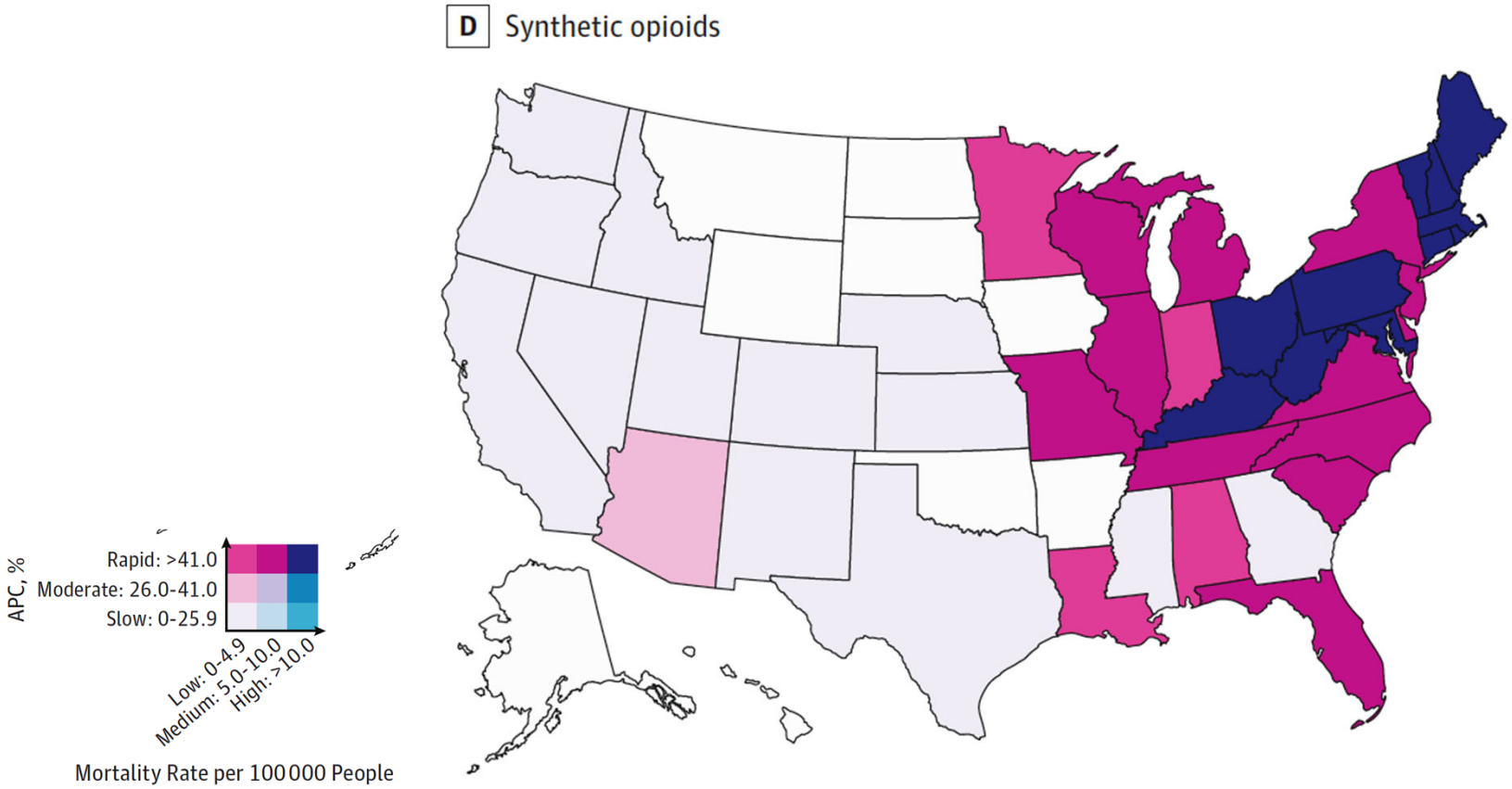


SOURCE: CDC. *Increases in Heroin Overdose Deaths — 28 States, 2010 to 2012* MMWR. 2014, 63:849-854



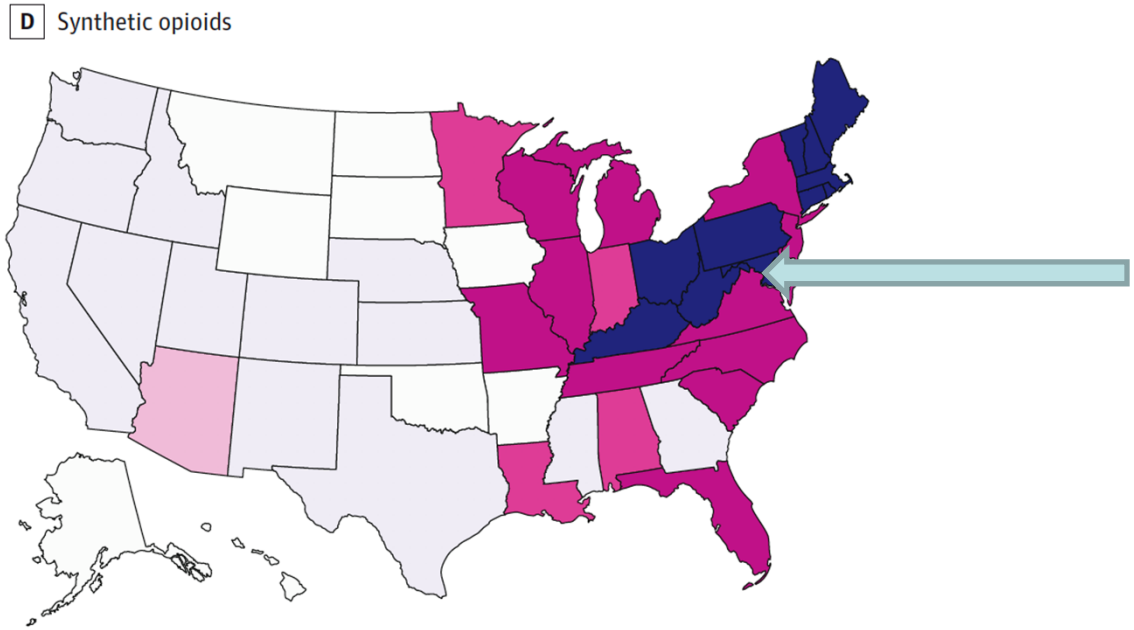
Source: J. Katz. NYT Short Answers to Hard Questions About the Opioid Crisis August 10, 2017

Growth and Level of the Synthetic Opioid OD Deaths, 2016



Source: JAMA Network Open. 2019;2(2):e190040. doi:10.1001/jamanetworkopen.2019.0040

Growth and Level of the Synthetic Opioid OD Deaths, 2016



The District of Columbia had the fastest rate of increase in mortality from opioids in the country, more than tripling every year since 2013

Source: JAMA Network Open. 2019;2(2):e190040. doi:10.1001/jamanetworkopen.2019.0040

Three Opioid-Addicted Cohorts

1. ***20-40 y/o, disproportionately white, significant heroin use, opioid addiction began with Rx use (addicted after 1995)***

2. ***40 y/o & up, disproportionately white, mostly Rx opioids, opioid addiction began with Rx use (addicted after 1995)***

3. ***50 y/o & up, disproportionately non-white, mostly heroin users, opioid addiction began in teen years with heroin use (addicted before 1995)***

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

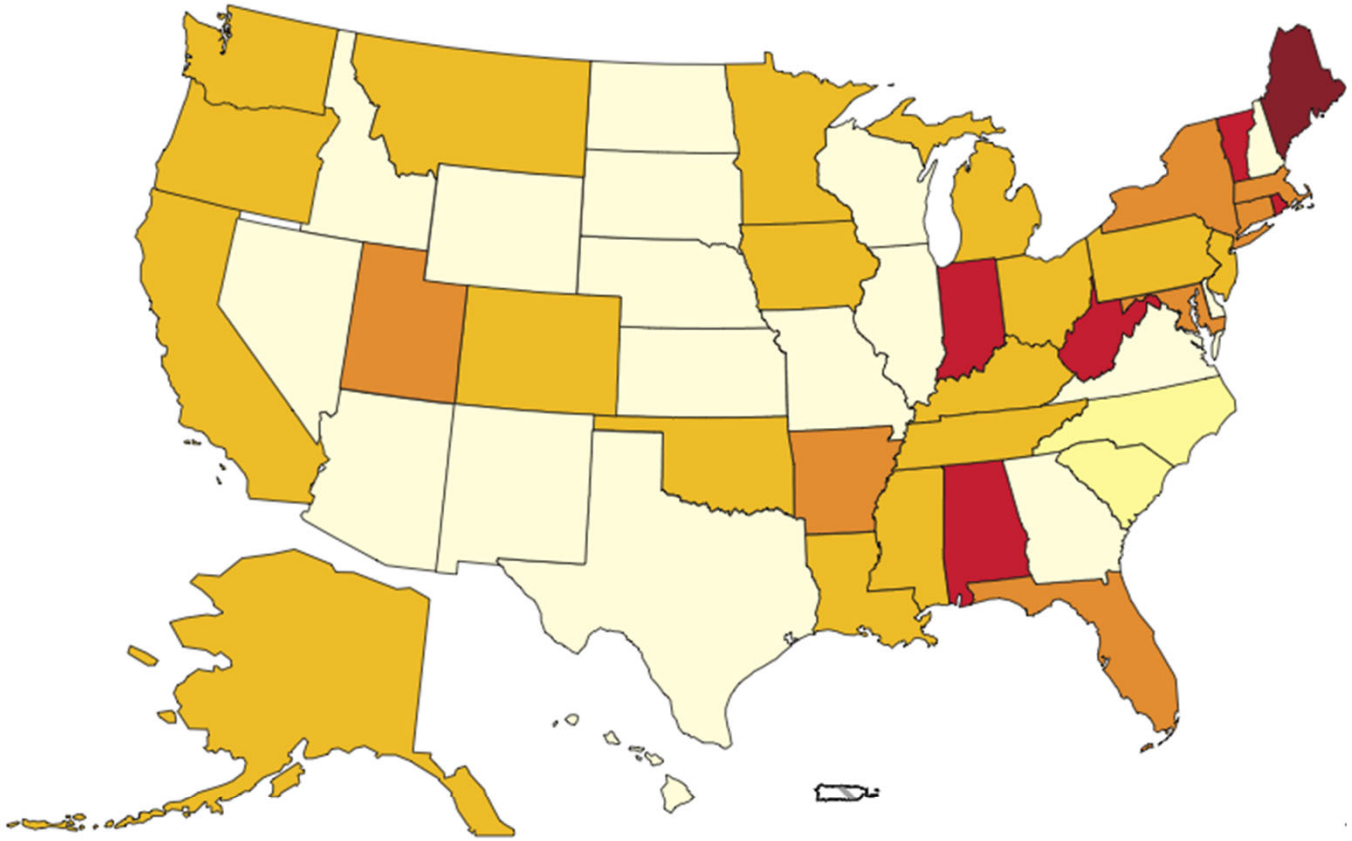
Dramatic Increases in Maternal Opioid Use and Neonatal Abstinence Syndrome

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

Primary non-heroin opiates/synthetics admission rates, by State (per 100,000 population aged 12 and over)



1999

(range 1 - 50)

< 8	15 - 18	45 or more
8 - 14	19 - 44	Incomplete data

SOURCE: Center for Behavioral Health Statistics and Quality, Substance Abuse and Mental Health Services Administration, Treatment Episode Data Set (TEDS). Data received through 11.03.10.

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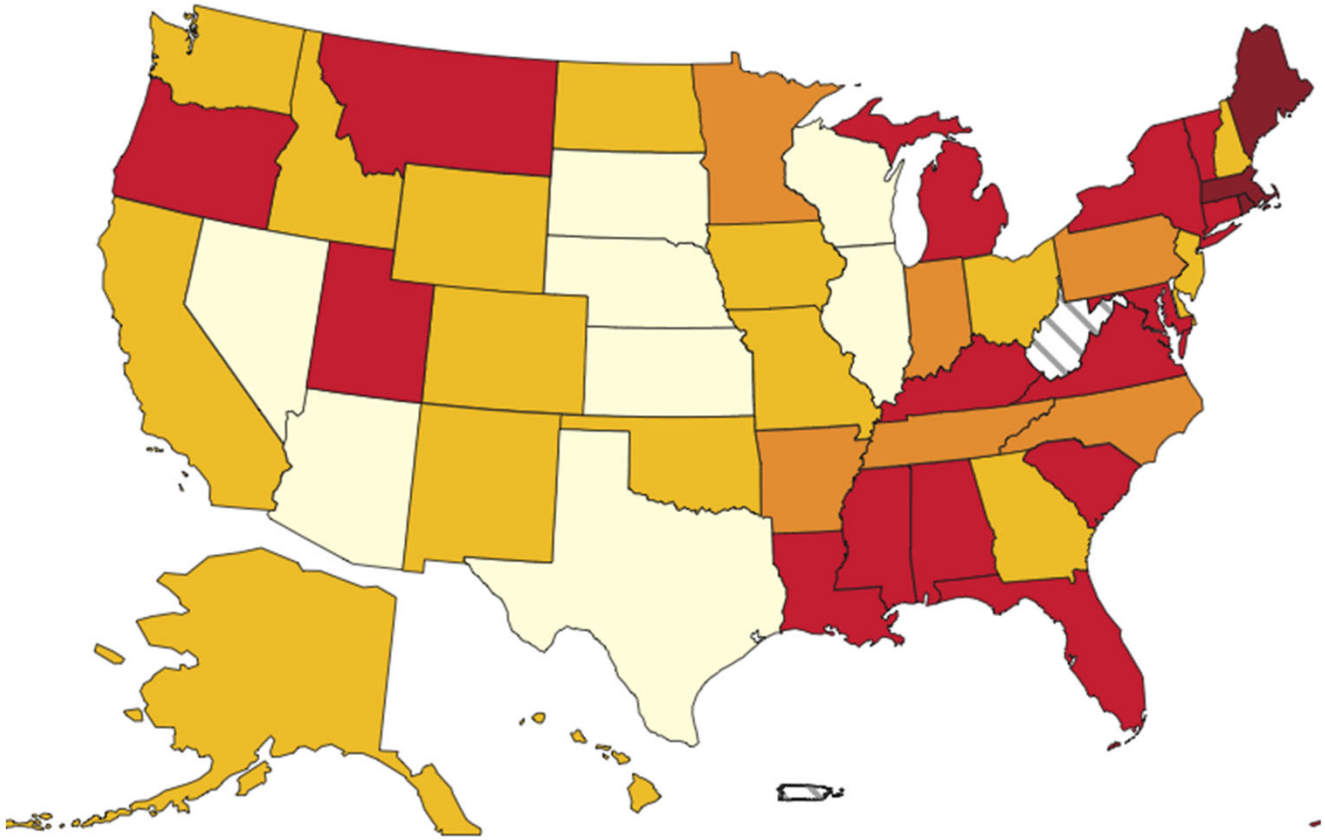

2001

(range 1 – 71)

< 8	15 - 18	45 or more
8 - 14	19 - 44	Incomplete data

SOURCE: Center for Behavioral Health Statistics and Quality, Substance Abuse and Mental Health Services Administration, Treatment Episode Data Set (TEDS). Data received through 11.03.10.

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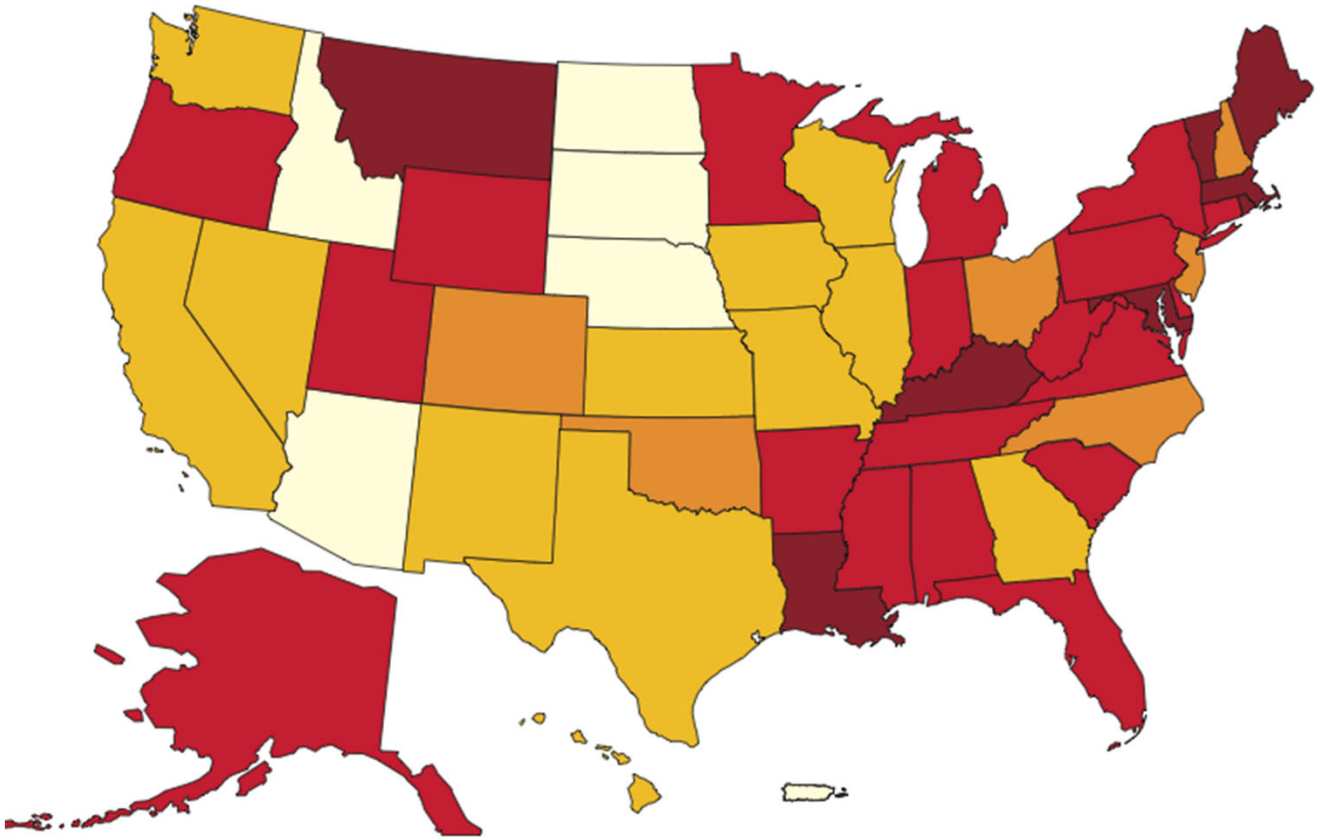


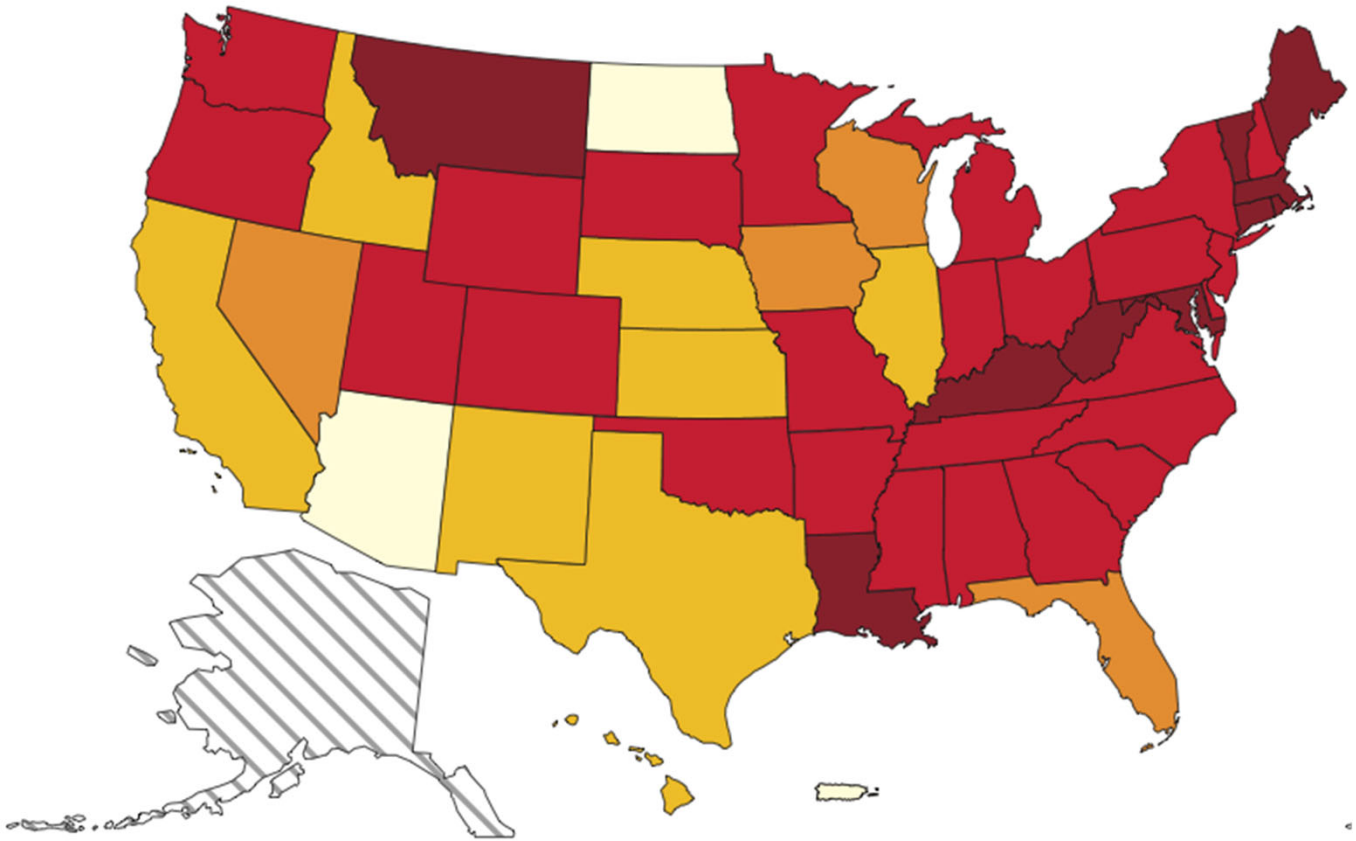
2003

(range 2 – 139)

< 8	15 - 18	45 or more
8 - 14	19 - 44	Incomplete data

SOURCE: Center for Behavioral Health Statistics and Quality, Substance Abuse and Mental Health Services Administration, Treatment Episode Data Set (TEDS). Data received through 11.03.10.

Primary non-heroin opiates/synthetics admission rates, by State (per 100,000 population aged 12 and over)



2005

(range 0 – 214)

< 8	15 - 18	45 or more
8 - 14	19 - 44	Incomplete data

SOURCE: Center for Behavioral Health Statistics and Quality, Substance Abuse and Mental Health Services Administration, Treatment Episode Data Set (TEDS). Data received through 11.03.10.

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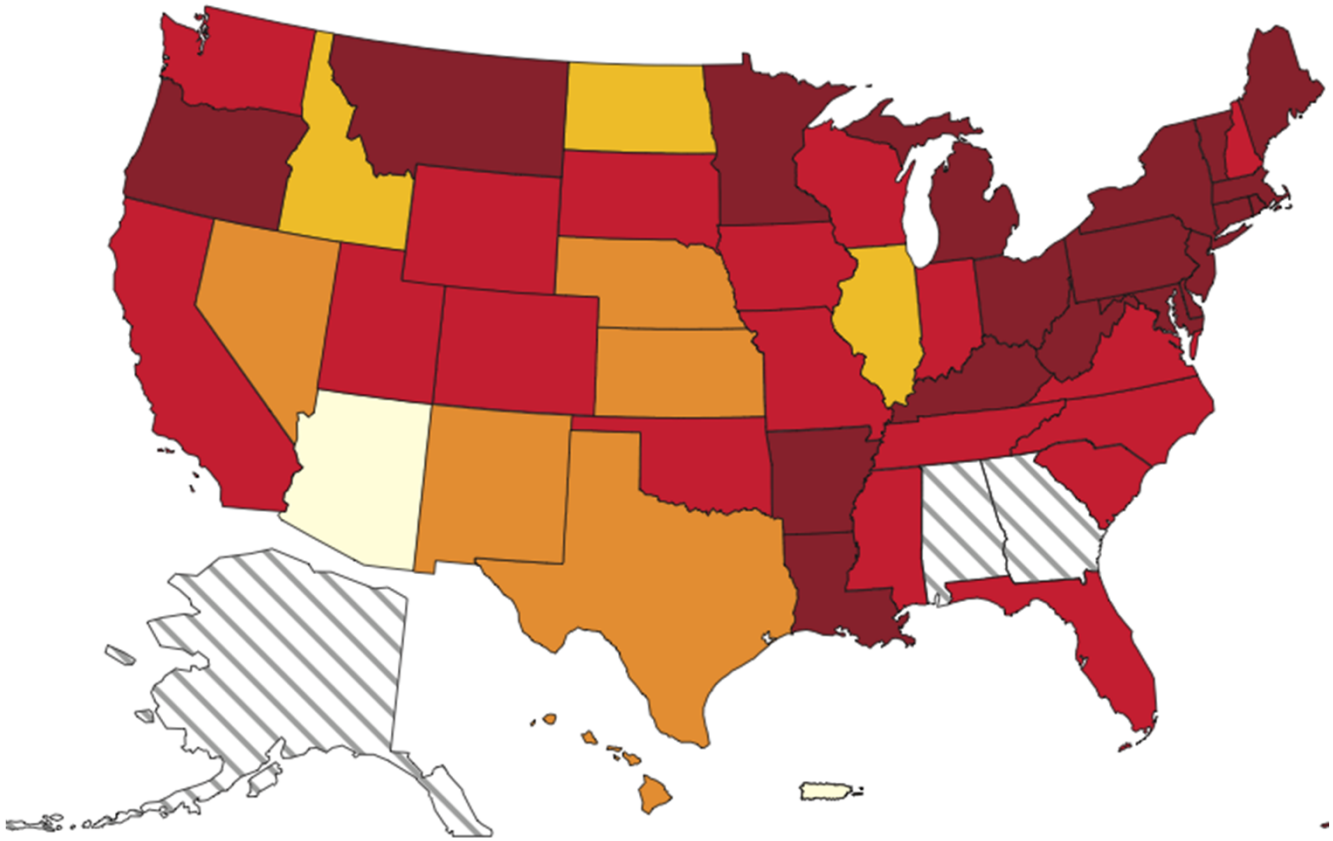


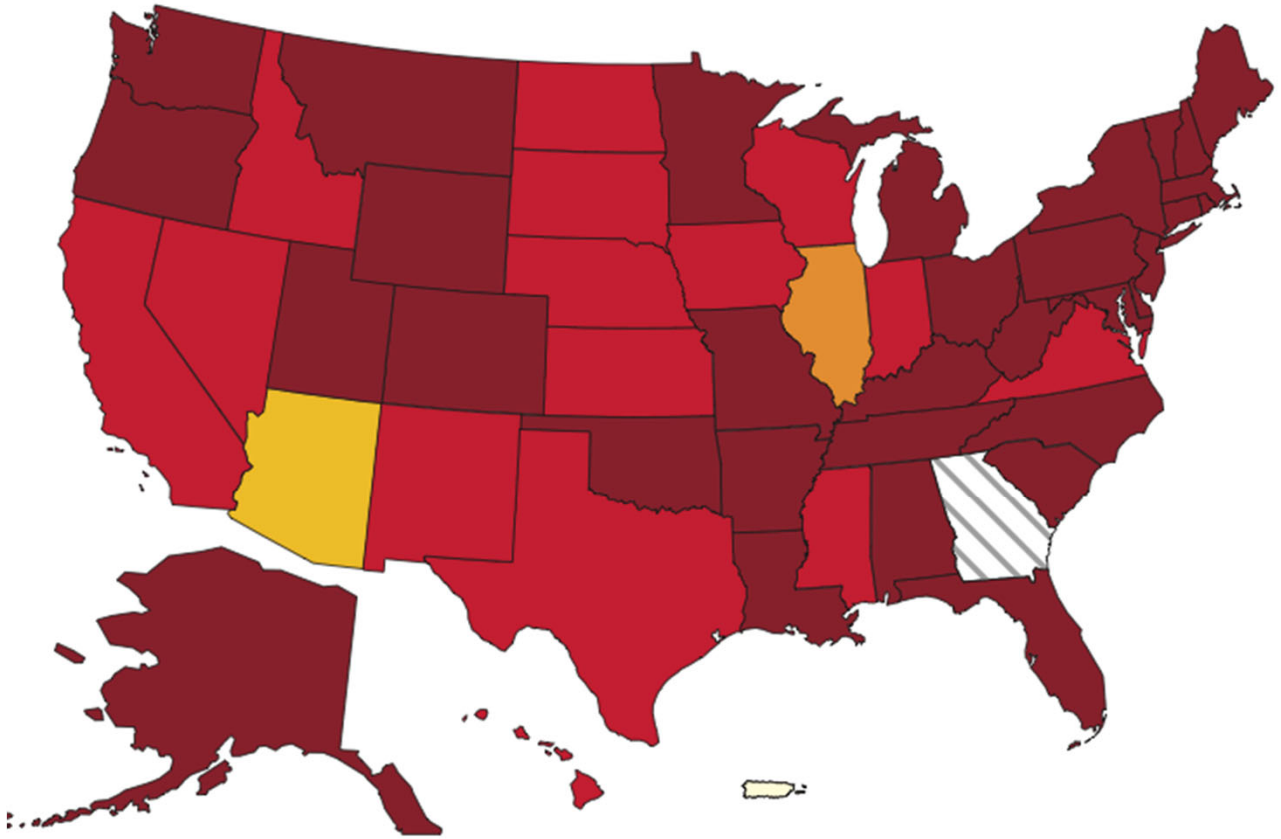
2007

(range 1 – 340)

< 8	15 - 18	45 or more
8 - 14	19 - 44	Incomplete data

SOURCE: Center for Behavioral Health Statistics and Quality, Substance Abuse and Mental Health Services Administration, Treatment Episode Data Set (TEDS). Data received through 11.03.10.

Primary non-heroin opiates/synthetics admission rates, by State (per 100,000 population aged 12 and over)



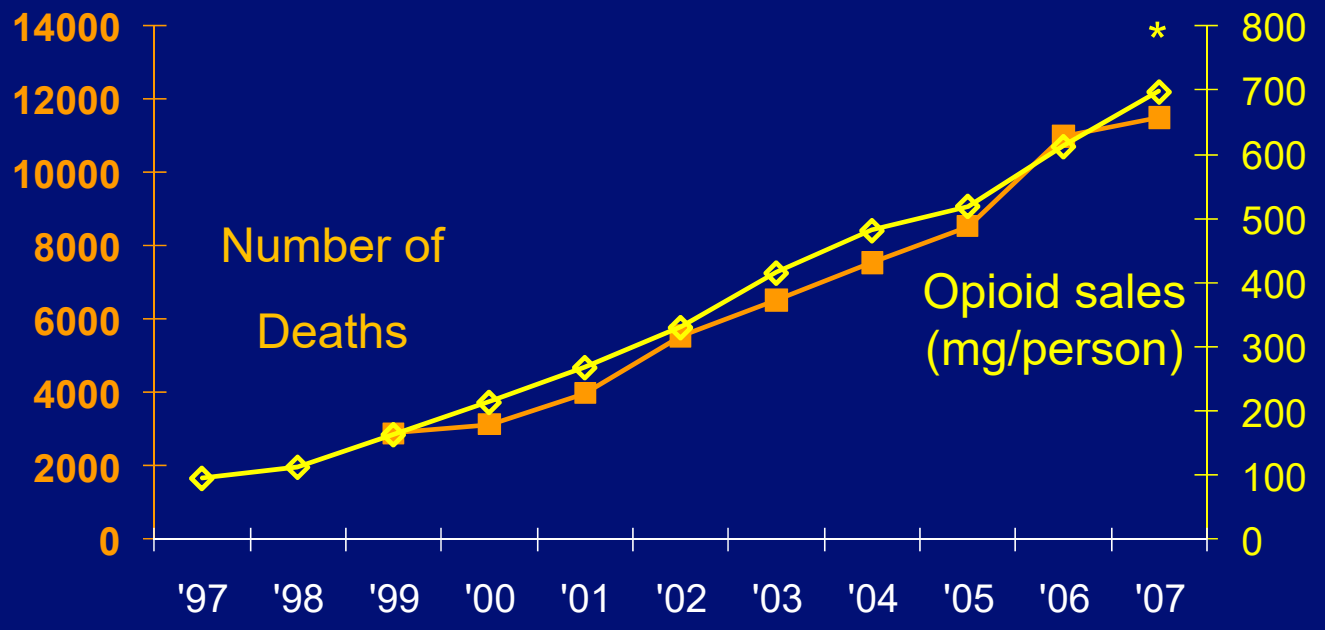
2009

(range 1 – 379)

< 8	15 - 18	45 or more
8 - 14	19 - 44	Incomplete data

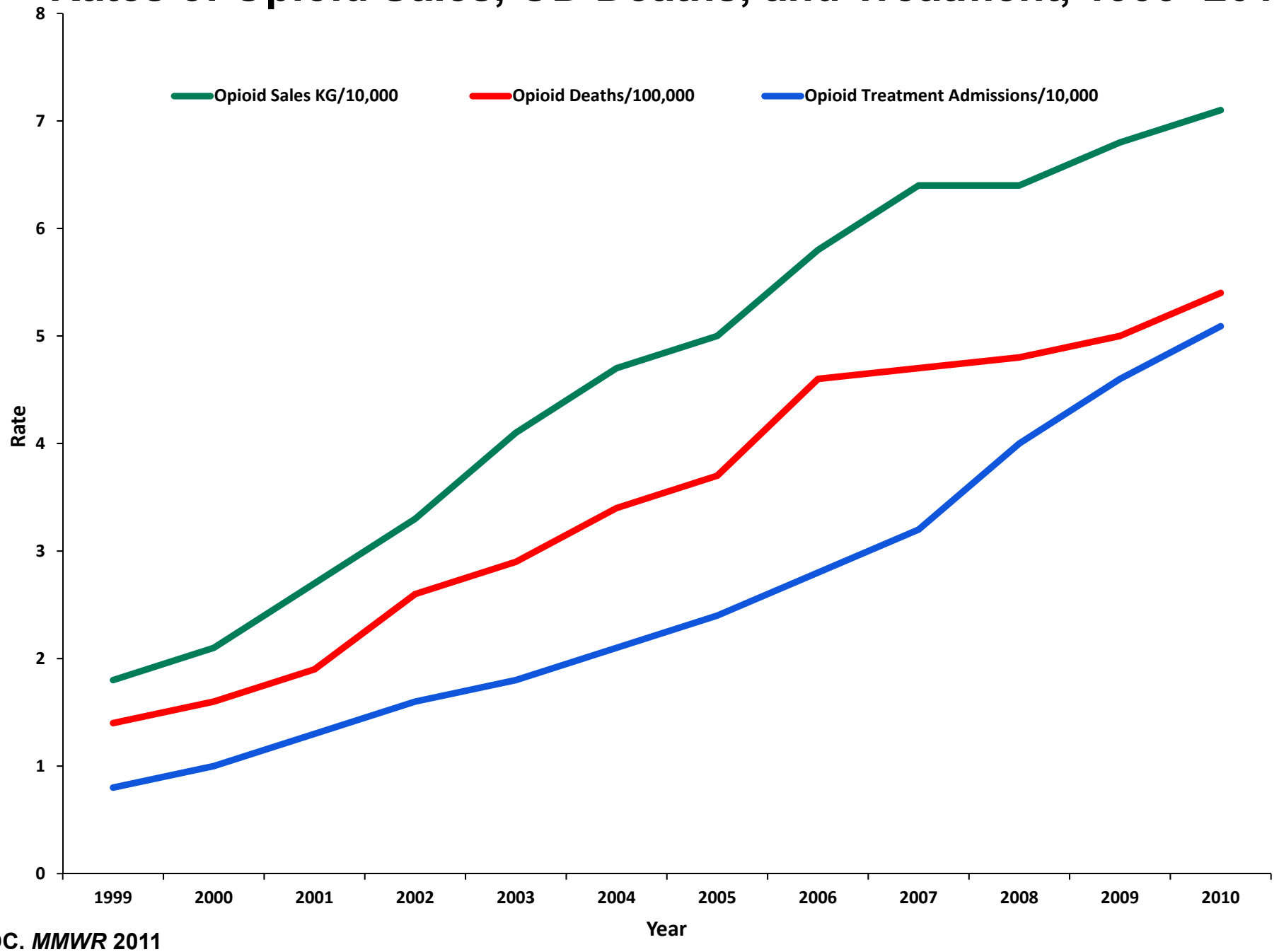
SOURCE: Center for Behavioral Health Statistics and Quality, Substance Abuse and Mental Health Services Administration, Treatment Episode Data Set (TEDS). Data received through 11.03.10.

Unintentional overdose deaths involving opioid analgesics parallel per capita sales of opioid analgesics in morphine equivalents by year, U.S., 1997-2007



Source: National Vital Statistics System, multiple cause of death dataset, and DEA ARCOS
* 2007 opioid sales figure is preliminary.

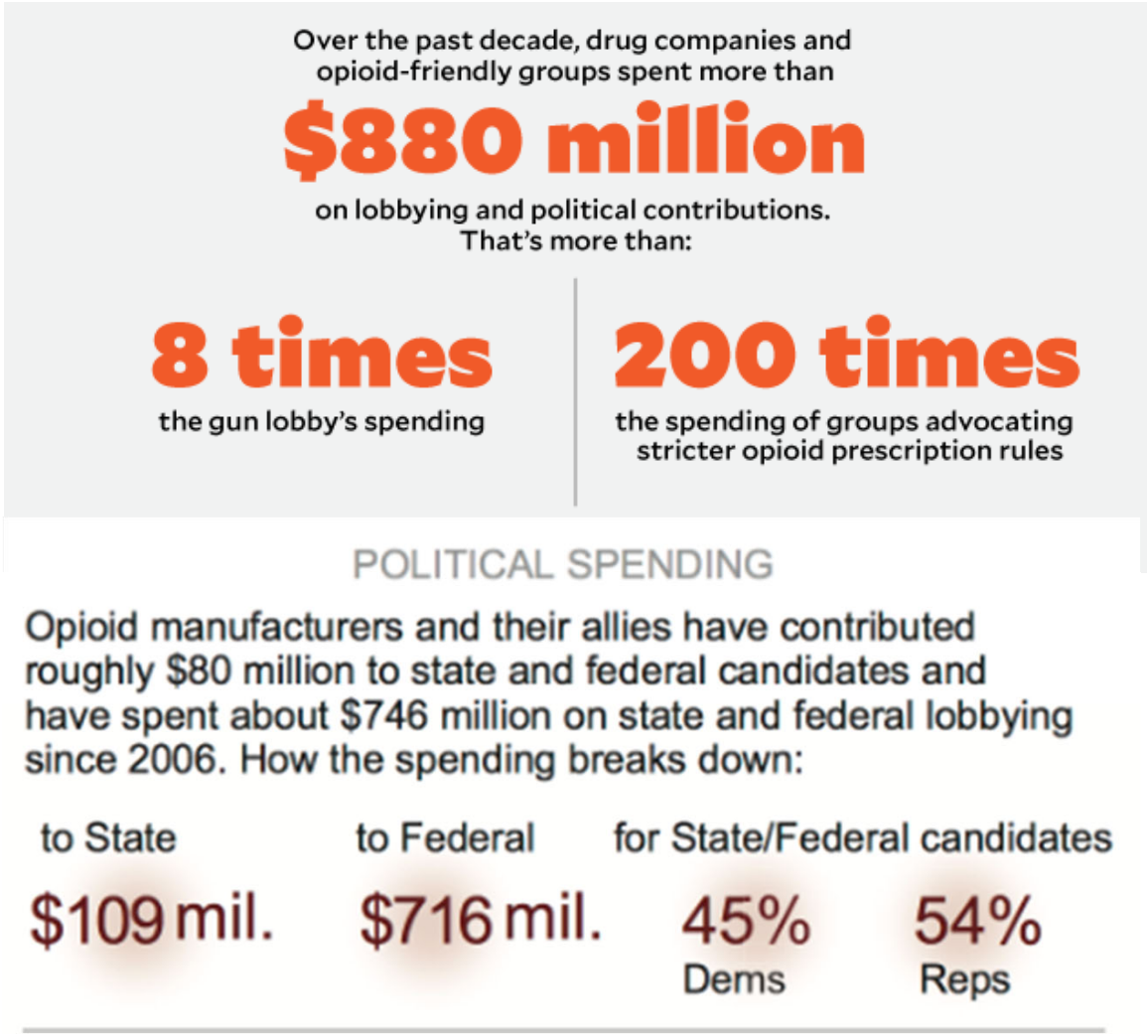
Rates of Opioid Sales, OD Deaths, and Treatment, 1999–2010

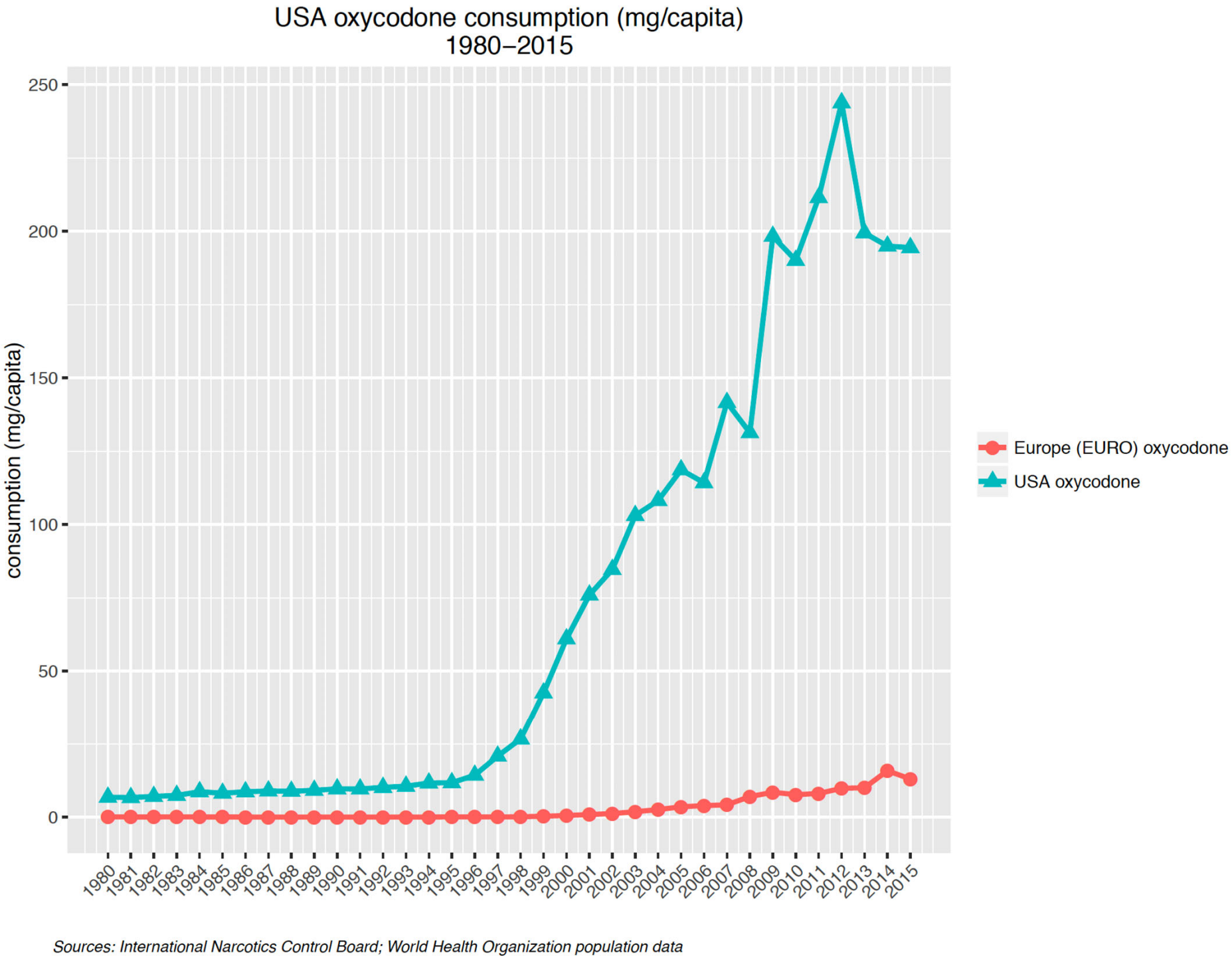


CDC. *MMWR* 2011

Pro-painkiller lobby shapes policy amid drug epidemic

Matthew Perrone and Ben Wieder, Associated Press and Center for Public Integrity





Sources: International Narcotics Control Board; World Health Organization population data

Industry-funded organizations campaigned for greater use of opioids

- Pain Patient Groups
- Professional Societies
- The Joint Commission
- The Federation of State Medical Boards

Johnson & Johnson And Drug Distributors Finalize $26 Billion Settlement To End Opioid Crisis Lawsuits

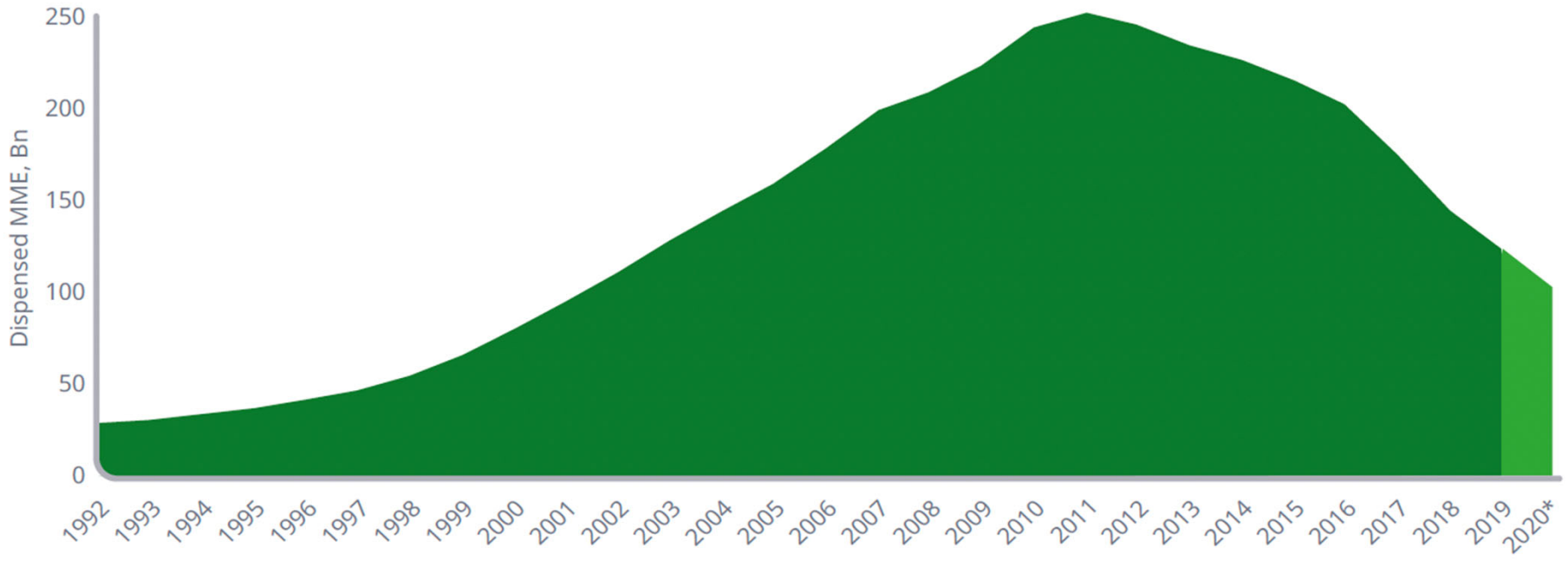
Alabama settles opioid claims with J&J, McKesson, Endo for $276 mln -attorney general

Walgreens to pay $683m to settle claims it exacerbated opioid crisis in Florida

Teva Pharm expects U.S. opioid case settlements to cost $2.6 bln

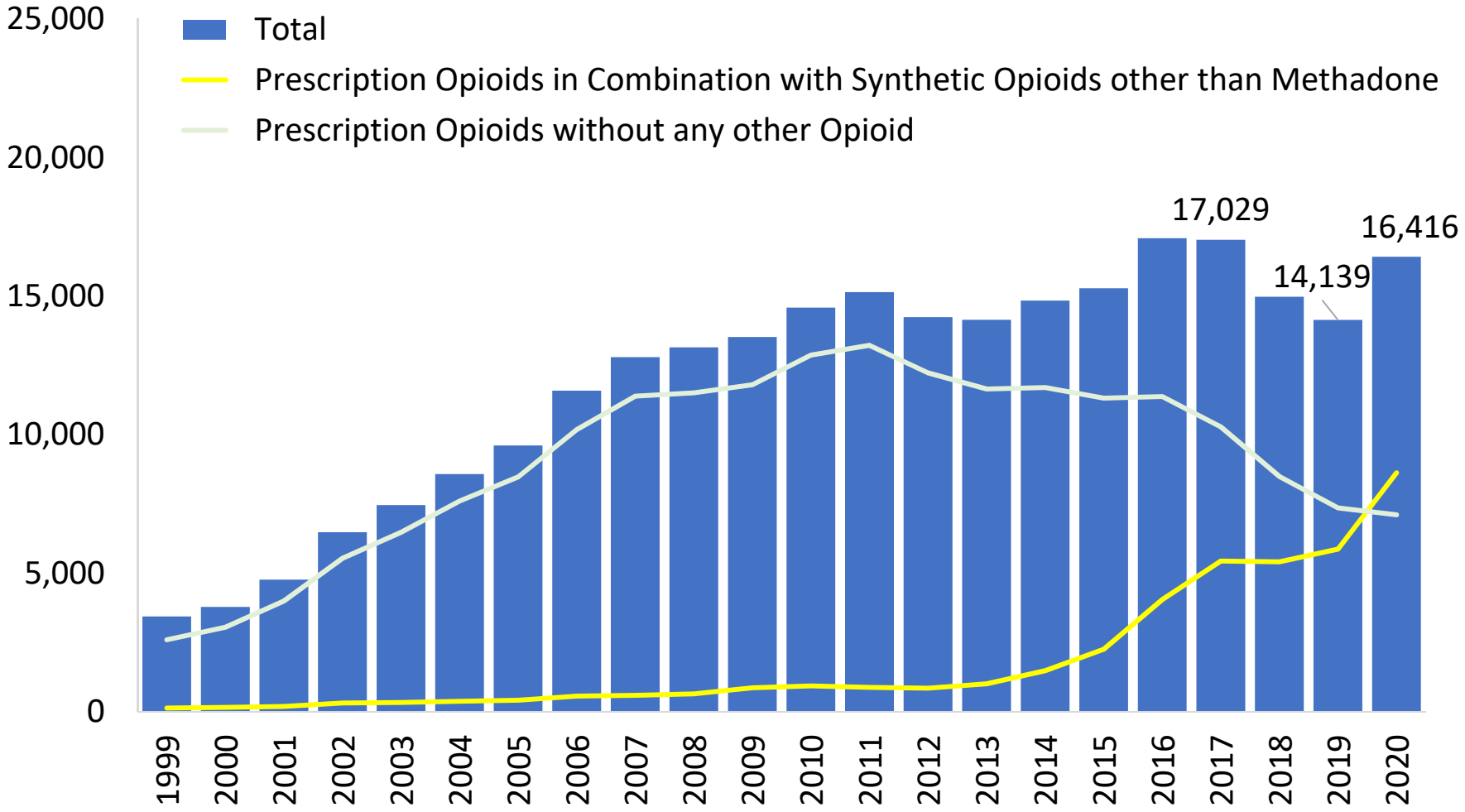
Prescription opioid use has declined to 60% of the peak volume in 2011 after another year of double-digit decline expected in 2020

Exhibit 1: Prescription Opioid Use in Morphine Milligram Equivalents (MME) Bn, 1992–2020*



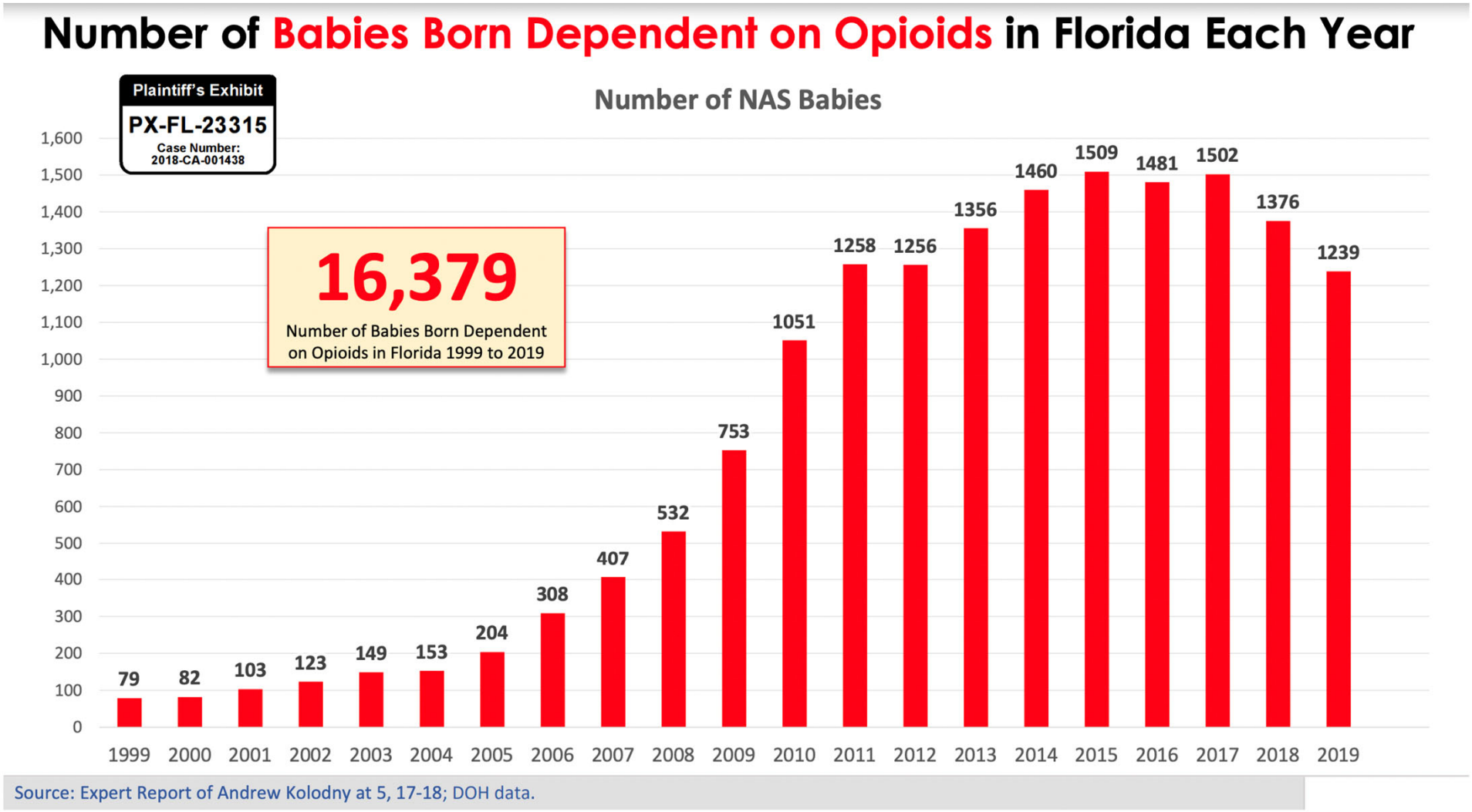
Source: IQVIA Xponent, Mar 2020; IQVIA National Prescription Audit; IQVIA Institute, Nov 2020

Figure 4. National Overdose Deaths Involving Prescription Opioids*, Number Among All Ages, 1999-2020



*Among deaths with drug overdose as the underlying cause, the prescription opioid subcategory was determined by the following ICD-10 multiple cause-of-death codes: natural and semi-synthetic opioids (T40.2) or methadone (T40.3). Source: Centers for Disease Control and Prevention, National Center for Health Statistics. Multiple Cause of Death 1999-2020 on CDC WONDER Online Database, released 12/2021.

In states across the U.S., neonatal opioid withdrawal is declining



Source: Expert Report of Andrew Kolodny at 5, 17-18; DOH data.

Controlling the epidemic:

- **Prevent** new cases of opioid addiction
- **Treat** people who are already addicted
- **Harm Reduction**
- **Interdiction (Law Enforcement)**

JAMA Internal Medicine | Original Investigation

Association of Opioid Prescriptions From Dental Clinicians for US Adolescents and Young Adults With Subsequent Opioid Use and Abuse

Alan R. Schroeder, MD; Melody Dehghan, BA; Thomas B. Newman, MD, MPH; Jason P. Bentley, PhD; K. T. Park, MD, MS

IMPORTANCE Through prescription writing, dental clinicians are a potential source of initial opioid exposure and subsequent abuse for adolescents and young adults.

OBJECTIVE To examine the association between index dental opioid prescriptions from dental clinicians for opioid-naive adolescents and young adults in 2015 and new persistent use and subsequent diagnoses of abuse in this population.

DESIGN, SETTING, AND PARTICIPANTS This retrospective cohort study examined outpatient opioid prescriptions for patients aged 16 to 25 years in the Optum Research Database in 2015. Prescriptions were linked by National Provider Identifier number to a clinician category.

EXPOSURES Individuals were included in the index dental opioid (opioid-exposed) cohort if they filled an opioid prescription from a dental clinician in 2015, had continuous health plan coverage and no record of opioid prescriptions for 12 months before receiving the prescription, and had 12 months of health plan coverage after receiving the prescription. Two age- and sex-matched opioid-nonexposed control individuals were selected for each opioid-exposed individual and were assigned a corresponding phantom prescription date.

MAIN OUTCOMES AND MEASURES Receipt of an opioid prescription within 90 to 365 days, a health care encounter diagnosis associated with opioid abuse within 365 days, and all-cause mortality within 365 days of the index opioid or phantom prescription date.

RESULTS Among 754 002 individuals with continuous enrollment in 2015, 97 462 patients (12.9%) received 1 or more opioid prescriptions, of whom 29 791 (30.6%) received prescriptions supplied by a dental clinician. The opioid-exposed cohort included 14 888 participants (7882 women [52.9%], 11 273 white [75.7%], with mean [SD] age, 21.8 [2.4] years), and the randomly selected opioid-nonexposed cohort included 29 776 participants (15 764 women [52.9%], 20 078 [67.4%] white, with mean [SD] age, 21.8 [2.4] years). Among the 14 888 individuals in the index dental opioid cohort, 1021 (6.9%) received another opioid prescription 90 to 365 days later compared with 30 of 29 776 (0.1%) opioid-nonexposed controls (adjusted absolute risk difference, 6.8%; 95% CI, 6.3%-7.2%), and 866 opioid-exposed individuals (5.8%) experienced 1 or more subsequent health care encounters with an opioid abuse–related diagnosis compared with 115 opioid-nonexposed controls (0.4%) (adjusted absolute risk difference, 5.3%; 95% CI, 5.0%-5.7%). There was only 1 death in each cohort.

CONCLUSIONS AND RELEVANCE The findings suggest that a substantial proportion of adolescents and young adults are exposed to opioids through dental clinicians. Use of these prescriptions may be associated with an increased risk of subsequent opioid use and abuse.

Supplemental content

JAMA Intern Med. doi:10.1001/jamainternmed.2018.5419
Published online December 3, 2018.

PEDIATRICS®
OFFICIAL JOURNAL OF THE AMERICAN ACADEMY OF PEDIATRICS

Prescription Opioids in Adolescence and Future Opioid Misuse

Richard Miech, Lloyd Johnston, Patrick M. O'Malley, Katherine M. Keyes and Kennon Heard

Pediatrics; originally published online October 26, 2015;

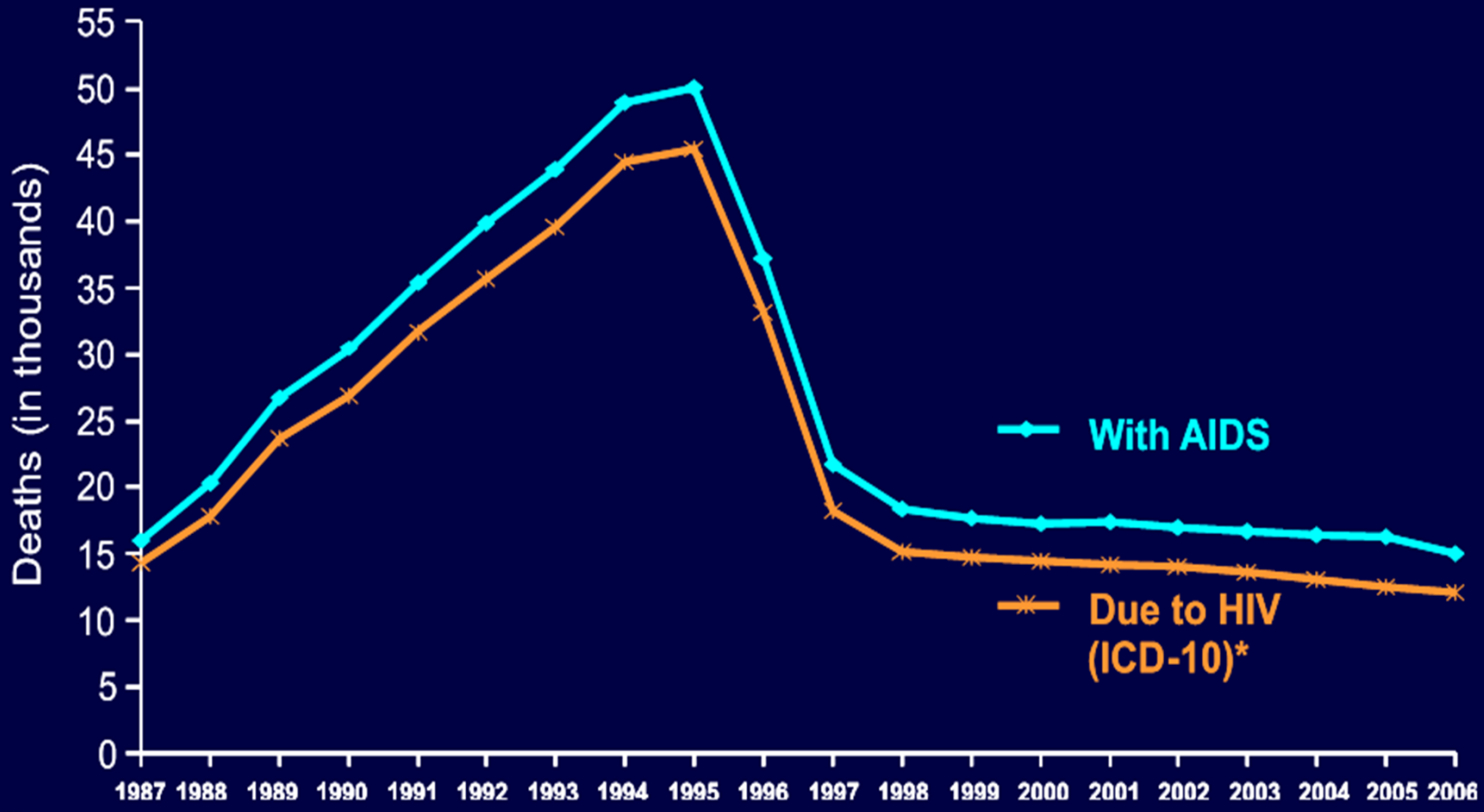
BACKGROUND AND OBJECTIVE: Legitimate opioid use is associated with an increased risk of long-term opioid use and possibly misuse in adults. The objective of this study was to estimate the risk of future opioid misuse among adolescents who have not yet graduated from high school.

METHODS: Prospective, panel data come from the Monitoring the Future study. The analysis uses a nationally representative sample of 6220 individuals surveyed in school in 12th grade and then followed up through age 23. Analyses are stratified by predicted future opioid misuse as measured in 12th grade on the basis of known risk factors. The main outcome is nonmedical use of a prescription opioid at ages 19 to 23. Predictors include use of a legitimate prescription by 12th grade, as well as baseline history of drug use and baseline attitudes toward illegal drug use.

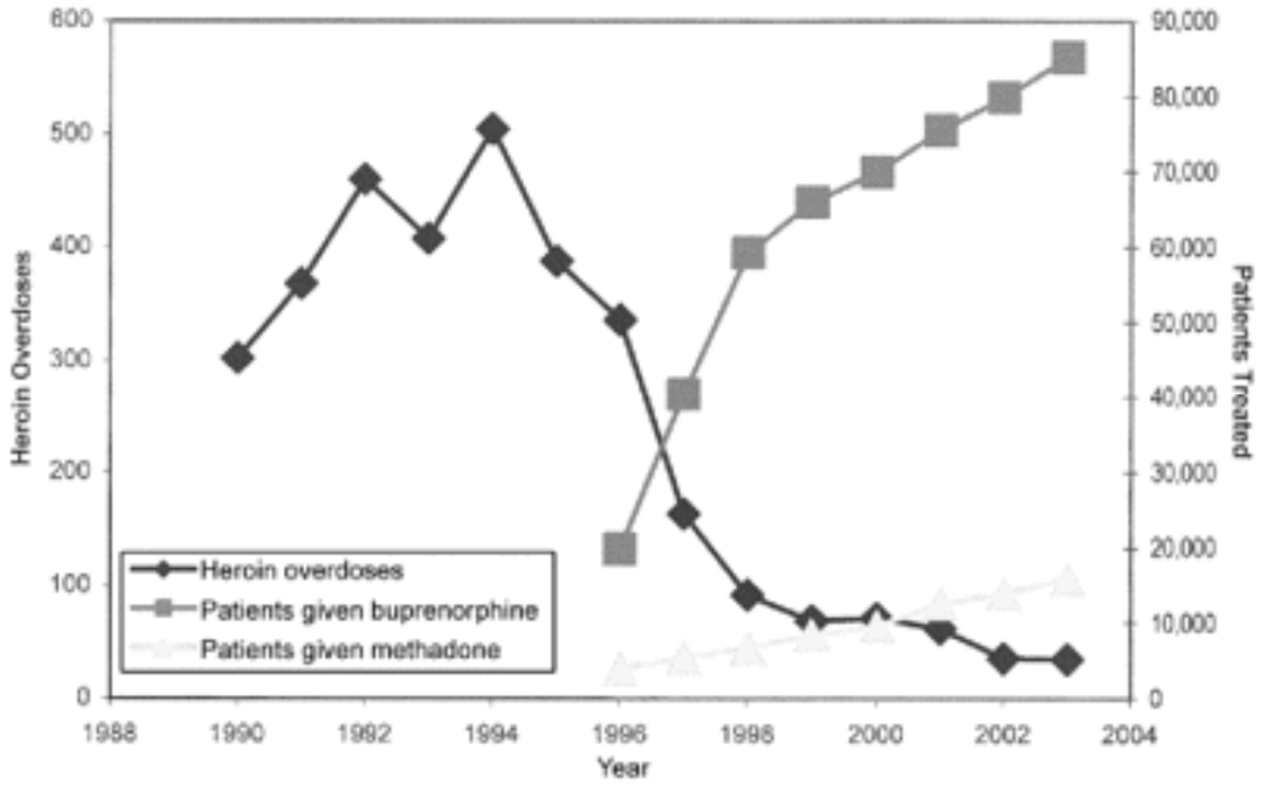
RESULTS: Legitimate opioid use before high school graduation is independently associated with a 33% increase in the risk of future opioid misuse after high school. This association is concentrated among individuals who have little to no history of drug use and, as well, strong disapproval of illegal drug use at baseline.

CONCLUSIONS: Use of prescribed opioids before the 12th grade is independently associated with future opioid misuse among patients with little drug experience and who disapprove of illegal drug use. Clinic-based education and prevention efforts have substantial potential to reduce future opioid misuse among these individuals, who begin opioid use with strong attitudes against illegal drug use.

Comparison of Mortality Data from AIDS Case Reports and Death Certificates in Which HIV Disease Was Selected as the Underlying Cause of Death, United States, 1987–2006

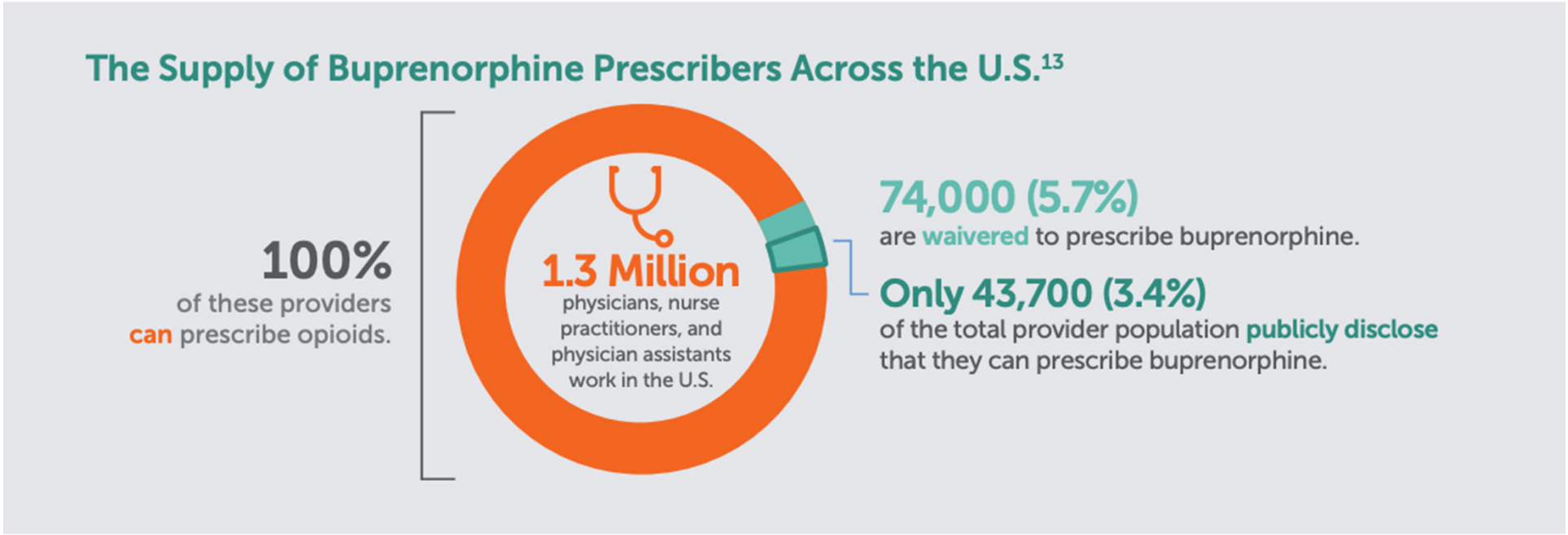


*For comparison with data for 1999 and later years, data in the bottom (red) line for 1987–1998 were modified to account for *ICD-10* rules instead of *ICD-9* rules.



From: Buprenorphine Use: The International Experience
Clin Infect Dis. 2006;43(Supplement_4):S197-S215. doi:10.1086/508184
Clin Infect Dis | © 2006 by the Infectious Diseases Society of America

Buprenorphine Access Is Still Inadequate



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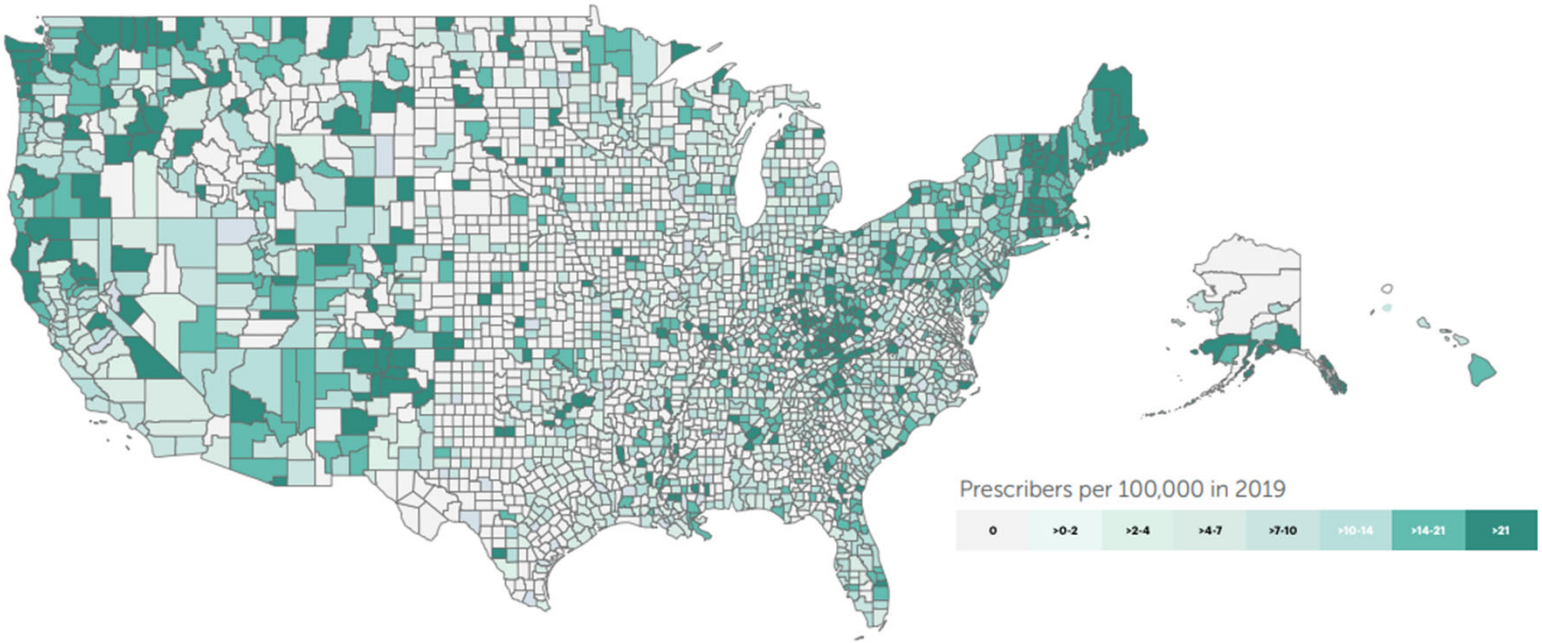
The required training varies between eight and 24 hours depending on prescriber type, and prescribers are restricted in the number of patients they are allowed to treat.

Buprenorphine Access Is Still Inadequate

County-Level Waivered Prescriber Supply[15]

- **The median buprenorphine capacity by county is 4 prescribers per 100,000 people.**
- **Thirty-nine percent (1,228) of counties do not have a waivered buprenorphine prescriber, creating an access challenge for any of these counties' 18 million residents.**
  - Two-thirds (11.9 million) of these individuals live in rural areas.
  - One-third (6.1 million) of these individuals live in urban and suburban areas.



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Can We Learn From COVID-19?

Summary

- The U.S. is in the midst of a severe epidemic of opioid addiction and overdose deaths, which worsened during Covid.

- To bring the epidemic to an end:
  - We must prevent new cases of opioid addiction
  - We must improve access to treatment for people already addicted