The Current State of the Opioid Crisis

Andrew Kolodny, MD
Medical Director, Opioid Policy Research Collaborative
Heller School for Social Policy and Management
Brandeis University

Vice President, Federal Affairs
Physicians for Responsible Opioid Prescribing
Unintentional Drug Overdose Deaths
United States, 1970–2007

Death rate per 100,000

Year

'70 '72 '74 '76 '78 '80 '82 '84 '86 '88 '90 '92 '94 '96 '98 '00 '02 '04 '06

Heroin
Cocaine

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

National Drug-Involved Overdose Deaths by Specific Category—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.
12 Month-ending Provisional Number of Drug Overdose Deaths by Drug or Drug Class: United States

Legend for Drug or Drug Class

- Cocaine (T40.5)
- Heroin (T40.1)
- Methadone (T40.3)
- Natural & semi-synthetic opioids (T40.2)
- Psychostimulants with abuse potential (T43.6)
- Synthetic opioids, excl. methadone (T40.4)
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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.

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
Distribution of drug deaths by age

1200 deaths per year

2002

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

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.

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)
Opioid Overdose Death Rate per 100,000 (1999-2017) From Fentanyl + No Heroin + Any Other Opioid

SOURCE: CDC WONDER
Figure 2. Rates of Opioid Overdose Deaths per 100,000 Persons 55 Years and Older by Sex and by Race and Ethnicity, 1999 to 2019
Non-Hispanic Whites

Figure 2. Heroin Treatment Admission Rates by Age Category Among Non-Hispanic White Individuals, US, 2000-2017

A Non-Hispanic White men

- 2000-2002
- 2003-2005
- 2006-2008
- 2009-2011
- 2012-2014
- 2015-2017

Heroin treatment admissions/100,000, mean No.

Age category, y

0 200 400 600 800 1000

For the first time, drug overdose deaths have surpassed 100,000 in a 12-month period.
Primary non-heroin opiates/synthetics admission rates, by State (per 100,000 population aged 12 and over)

1999
(range 1 - 50)

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)

2001
(range 1 – 71)

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)

2003
(range 2 – 139)

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)

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)

2007
(range 1 – 340)

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)

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

Over the past decade, drug companies and opioid-friendly groups spent more than $880 million on lobbying and political contributions. That’s more than:

- **8 times** the gun lobby’s spending
- **200 times** the spending of groups advocating stricter opioid prescription rules

**POLITICAL SPENDING**

Opioid manufacturers and their allies have contributed roughly $80 million to state and federal candidates and have spent about $746 million on state and federal lobbying since 2006. How the spending breaks down:

- to State: $109 mil.
- to Federal: $716 mil.
- for State/Federal candidates:
  - 45% Dems
  - 54% Reps
USA oxycodone consumption (mg/capita)
1980–2015

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

Number of Babies Born Dependent on Opioids in Florida Each Year

Number of NAS Babies

16,379
Number of Babies Born Dependent on Opioids in Florida 1999 to 2019

Controlling the epidemic:

- **Prevent** new cases of opioid addiction
- **Treat** people who are already addicted
- Harm Reduction
- **Interdiction** (Law Enforcement)
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 1987–1996 were modified to account for ICD-10 rules instead of ICD-9 rules.
Buprenorphine Access Is Still Inadequate

The Supply of Buprenorphine Prescribers Across the U.S.\textsuperscript{13}

- 1.3 Million physicians, nurse practitioners, and physician assistants work in the U.S.
- 74,000 (5.7%) are waived to prescribe buprenorphine.
- Only 43,700 (3.4%) of the total provider population publicly disclose that they can prescribe buprenorphine.

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**

- The median buprenorphine capacity by county is 4 prescribers per 100,000 people.
- Thirty-nine percent (1,228) of counties do not have a waived 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.
Impact of COVID-19 on the Opioid Crisis

• OD deaths increased at a faster rate

• Ability to provide direct services and psychosocial support impeded

• Litigation against opioid industry slowed
OUD Increases COVID Risks

• Increased susceptibility to infection
  – Opioid-induced immunosuppression
  – Psychosocial factors (homelessness, treatment settings)

• Increased risk for complications
  – Opioid-induced immunosuppression
  – Respiratory depression from opioids
  – Other medical problems
OUD Increases COVID Risks

- Addictive disorder increases risk for COVID, with opioid use disorder followed by tobacco use disorder, having highest risk.

- Addictive disorder increases risk for death from COVID, with greatest risk in Black patients with OUD.

Treatment System Changes

• Feds relax Methadone rules on take-home doses and allow home deliveries.

• Buprenorphine home inductions

• Expansion of tele-medicine treatment

• Naloxone home deliveries
High-dimensional characterization of post-acute sequelae of COVID-19

The acute clinical manifestations of COVID-19 are well characterized\(^1\); however, its post-acute sequelae have not been comprehensively described. Here, we use the national healthcare databases of the US Department of Veterans Affairs to systematically and comprehensively identify 6-month incident sequelae including diagnoses, medication use, and laboratory abnormalities in 30-day survivors of COVID-19. We show that beyond the first 30 days of illness, people with COVID-19 exhibit higher risk of death and health resource utilization. Our high dimensional approach identifies incident sequelae in the respiratory system and several others including nervous system and neurocognitive disorders, mental health disorders, metabolic disorders, cardiovascular disorders, gastrointestinal disorders, malaise, fatigue, musculoskeletal pain, and anemia. We show increased incident use of several therapeutics including pain medications (opioids and non-opioids), antidepressants, anxiolytics, antihypertensives, and oral hypoglycemics and evidence of laboratory abnormalities in multiple organ systems. Analysis of an array of pre-specified outcomes reveals a risk gradient that increased across severity of the acute COVID-19 infection (non-hospitalized, hospitalized, admitted to intensive care). The findings show that beyond the acute illness, substantial burden of health loss – spanning pulmonary and several extrapulmonary organ systems – is experienced by COVID-19 survivors. The results provide a roadmap to inform health system planning and development of multidisciplinary care strategies to reduce chronic health loss among COVID-19 survivors.

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