



# THE OPIOID EPIDEMIC

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# OBJECTIVES

- UNDERSTAND THE HISTORY OF OPIOID EPIDEMICS IN THE US
- UNDERSTAND THE SEVERITY OF THE CURRENT OPIOID EPIDEMIC
- UNDERSTAND FACTS/STATISTICS SURROUNDING THE OPIOID EPIDEMIC
- UNDERSTAND TREATMENT EFFORTS TO COMBAT THE OPIOID EPIDEMIC

# OPIOIDS



Opium Poppy  
Flower

Codeine

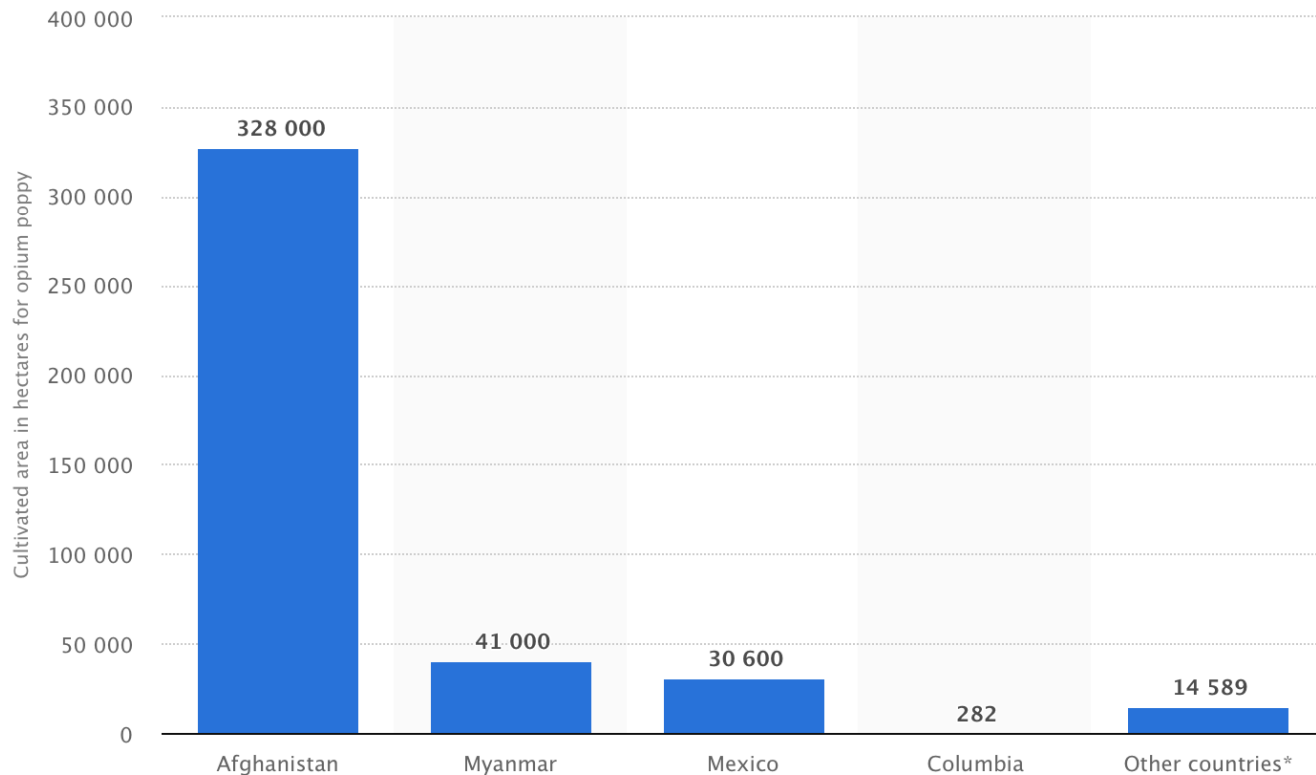
Morphine

Thebaine

Others



# OPIUM CULTIVATION BY COUNTRY 2017



# OPIUM USES

## Recreational



## Medicinal



*“Cure sometimes, treat often, comfort always.”*

- Hippocrates

# OPIOID EPIDEMICS IN THE U.S.

1<sup>st</sup>: 1890's

2<sup>nd</sup>: 1970's

3<sup>rd</sup>: Current

- A. Prescription Opiates
- B. Heroin
- C. Fentanyl and other synthetics

# First Opioid Epidemic

- Morphine discovered in 1823
- Hypodermic needle invented around 1865
- Heroin discovered in 1874

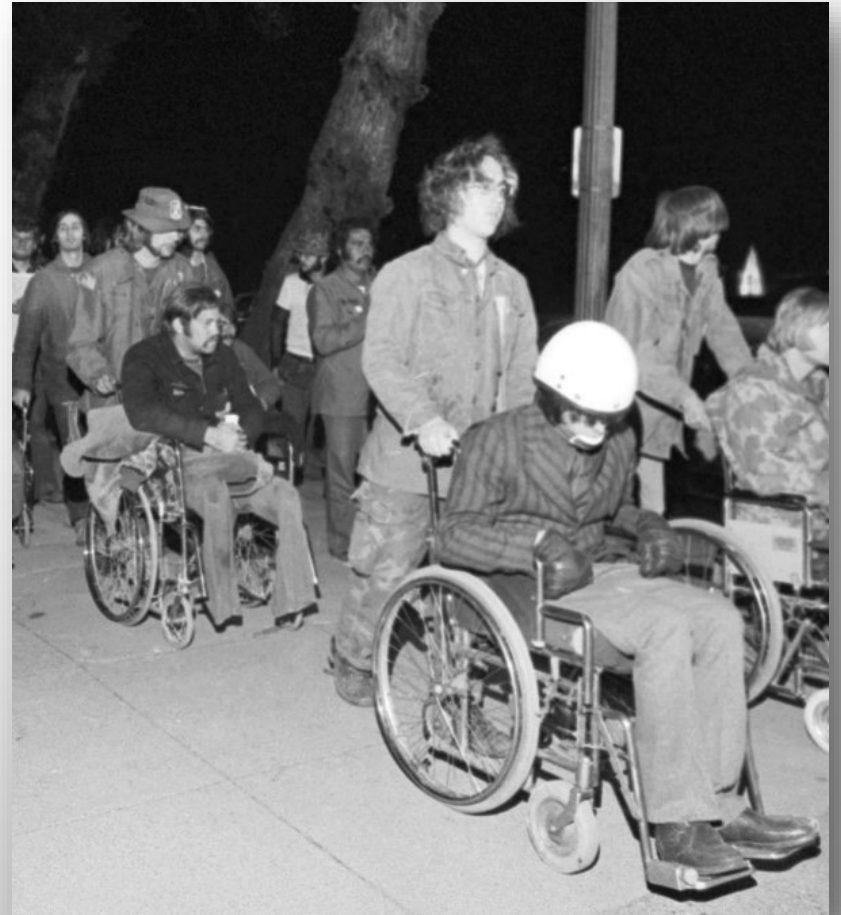




# FIRST OPIOID EPIDEMIC

- By 1900 there were an estimated 250,000 opioid addicted individuals in the U.S.
- Morphine maintenance clinics were established in 44 cities across the United States
- Importation of smoking opium prohibited in 1909
- Harrison Narcotics Tax Act of 1914 made it illegal to prescribe opioids for maintenance of addiction

- **Returning soldiers from Vietnam**
- **Largely heroin**
- **Dr. Vincent Dole published a paper on the efficacy of methadone maintenance in 1965, which lead to the legalization of methadone maintenance treatment by the FDA in 1972**



# THE CURRENT EPIDEMIC



# 1980S

- TWO SIMULTANEOUS EVENTS OCCURRED AT THE SAME TIME:
  1. DEVELOPMENT OF NOVEL NARCOTIC ANALGESICS BY DRUG MANUFACTURERS
  2. THE LEGITIMATE AND NECESSARY DEVELOPMENT OF HOSPICE AND PALLIATIVE CARE AND PAIN MANAGEMENT SPECIALTIES DRIVEN BY THE MEDICAL COMMUNITY
- PHARMACEUTICAL COMPANIES TOOK ADVANTAGE OF THE PHYSICIAN MOVEMENT AND HIJACKED IT FOR THEIR OWN PROFITS

# 1990S

- AGGRESSIVE INDUSTRY MARKETING OF OPIOID PRODUCTS IN THE LATE 1990S/EARLY 2000S
  - OPIOID PHOBIA AND THE NEEDLESS SUFFERING OF PATIENTS
  - OPIOID ADDICTION IS RARE IF PAIN IS MANAGED APPROPRIATELY
  - OPIOIDS CAN BE EASILY DISCONTINUED

### ADDICTION RARE IN PATIENTS TREATED WITH NARCOTICS

*To the Editor:* Recently, we examined our current files to determine the incidence of narcotic addiction in 39,946 hospitalized medical patients<sup>1</sup> who were monitored consecutively. Although there were 11,882 patients who received at least one narcotic preparation, there were only four cases of reasonably well documented addiction in patients who had no history of addiction. The addiction was considered major in only one instance. The drugs implicated were meperidine in two patients,<sup>2</sup> Percodan in one, and hydromorphone in one. We conclude that despite widespread use of narcotic drugs in hospitals, the development of addiction is rare in medical patients with no history of addiction.

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1. Jick H, Mietinen OS, Shapiro S, Lewis GP, Siskind Y, Slone D. Comprehensive drug surveillance. *JAMA*. 1970; 213:1455-60.
2. Miller RR, Jick H. Clinical effects of meperidine in hospitalized medical patients. *J Clin Pharmacol*. 1978; 18:180-8.

### PROGNOSTIC VALUE OF IMMUNOLOGIC MARKERS IN ADULTS WITH ACUTE LYMPHOBLASTIC LEUKEMIA

*To the Editor:* The letter from Dr. Bitran<sup>1</sup> has raised an important but as yet unsettled question about prognostic factors in acute lymphoblastic leukemia in adults. On the basis of experience with 13 patients, Dr. Bitran suggested that adults with T-cell disease could have a limited survival and a lower rate of remission than those with B-cell disease. From January, 1974, to June, 1979, we studied 42 consecutive adults (more than 12 years old) with acute lymphoblastic leukemia for sheep-erythrocyte rosette formation and surface immunoglobulins. Patients were classified as having T-cell disease if they had more than 40 per cent of marrow blast cells forming E-rosettes, or B-cell disease if they were positive for surface immunoglobulins. Details on the techniques have been reported elsewhere.<sup>2</sup> There were 31 patients with null-cell leukemia, eight with T-cell leukemia, and four with B-cell leukemia. All patients were

17,000 U per square meter daily). Patients who had complete remissions (except for three over 60 years of age) received central-nervous-system therapy (2400 rads to the skull, with five intrathecal injections of methotrexate or arabinosyl cytosine, or both). During complete remission, they were given 6-mercaptopurine (70 mg per square meter daily), methotrexate (25 mg per square meter each week), and courses of vincristine and prednisone every three to four months.

Results are shown in Table 1. They do not support the suggestion by Dr. Bitran that in adults with acute lymphoblastic anemia, T-cell leukemia has a poorer prognosis than B-cell disease. However, because of the limited number of cases and the short follow-up, the present data are far from definitive. More information on this point is needed. The identification of prognostic factors in acute lymphoblastic anemia in adults is critical, not only for the choice of induction therapy but also because young adults with an established poor prognosis could profit from allogeneic-marrow transplantation during the first remission. Therefore, we suggest that for the time being it may be wiser to base prognosis on more established criteria, such as age and blast-cell count in the blood.<sup>2</sup>

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1. Bitran JD. Prognostic value of immunologic markers in adults with acute lymphoblastic leukemia. *N Engl J Med*. 1978; 299:1317.
2. Ruggero D, Baccarani M, Gobbi M, Tura S. Adult acute lymphoblastic leukaemia: study of 32 patients and analysis of prognostic factors. *Scand J Haematol*. 1979; 22:154.

### DECREASED KETOGENESIS DUE TO DEFICIENCY OF HEPATIC CARNITINE ACYL TRANSFERASE

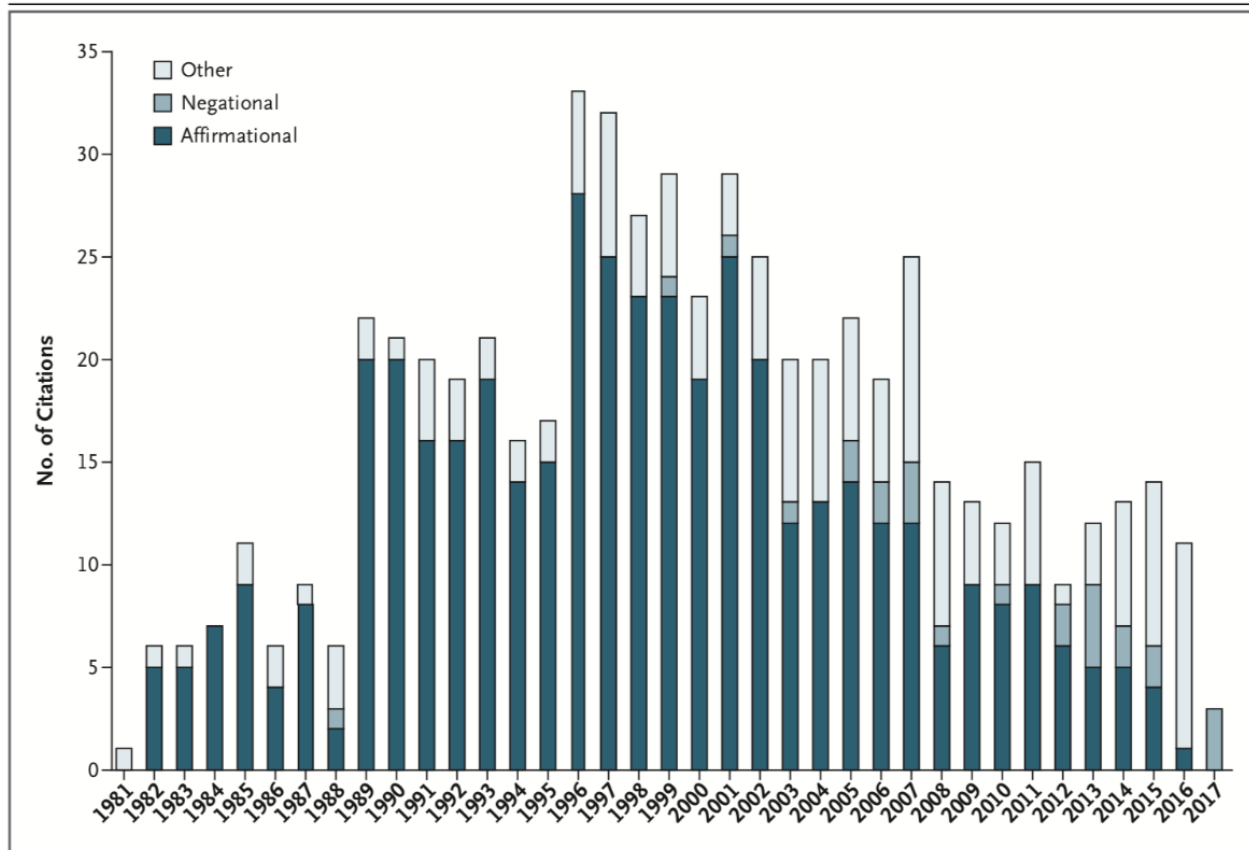
*To the Editor:* In 1970 Engel reported in the *Journal* a disorder of the skeletal muscle without fasting hyperketonemia and with a normal increase in ketone bodies after oral medium-chain triglycerides.<sup>1</sup> He suggested a possible defect in the use of long-chain fatty acids. Usually, fasting is associated with hyperketonemia except in hyperinsulinemic states. Hyperketonemia results from the release of long-chain fatty acids from adipose tissue and their intrahepatic channeling toward mitochondrial oxidation and ketogenesis. The transport of long-chain fatty acids to the mitochondria for oxidation

## ADDICTION RARE IN PATIENTS TREATED WITH NARCOTICS

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JANE PO

HERSHEL LICK



**Figure 1. Number and Type of Citations of the 1980 Letter, According to Year.**

Shown are number of citations of a 1980 letter to the *Journal* in which the correspondents claimed that opioid therapy rarely resulted in addiction. The citations are categorized according to whether the authors of the articles affirmed or negated the correspondents' conclusion about opioids. Details about "other" citation categories are provided in Section 2 in the Supplementary Appendix.



# 5<sup>TH</sup> VITAL SIGN



## Consensus Statement

### Quality Improvement Guidelines for the Treatment of Acute Pain and Cancer Pain

American Pain Society Quality of Care Committee

**Objective.**—To develop quality improvement (QI) guidelines and programs to improve treatment outcomes for patients with acute pain and cancer pain.

**Participants.**—Twenty-four members of the American Pain Society (APS) participated in preparing the statement, including 15 nurses (oncology, general medical-surgical nursing, pediatrics, and QI research), seven physicians (clinical pharmacology, neurology, anesthesiology, radiation oncology, and psychiatry), one psychologist, and one statistician. Participants were self-selected from the 3000 members of the APS, which supported the process and held annual open committee meetings and scientific symposia beginning in 1988.

**Evidence.**—MEDLINE was searched (1980 to 1995) to identify all articles on pain assessment, treatment of acute pain or cancer pain, and QI or education related to pain.

**Consensus Process.**—Following panel discussions, one member (M.B.M.) prepared successive drafts and circulated them to the panel and APS membership for comments. After publication of a prototype version in 1991, 14 panelists carried out formal studies of implementation of the guidelines at three medical centers. This article was prepared based on this research, a new literature review, and suggestions from 50 pain clinicians and researchers.

**Conclusions.**—Quality improvement programs to improve treatment of acute pain and cancer pain should include five key elements: (1) Assuring that a report of unrelieved pain raises a "red flag" that attracts clinicians' attention; (2) making information about analgesics convenient where orders are written; (3) promising patients responsive analgesic care and urging them to communicate pain; (4) implementing policies and safeguards for the use of modern analgesic technologies; and (5) coordinating and assessing implementation of these measures. Several short-term studies suggest that this QI approach may improve patient satisfaction and facilitate recognition of institutional obstacles to optimal pain treatment, but it is not a panacea for undertreated pain. By making the magnitude of the problem apparent and committing the institution to change, pain treatment QI programs can provide a foundation for a multifaceted approach that includes education of clinicians and patients, design of informational tools to minimize errors in prescribing, and improved coordination of the process of assessing and treating pain.

(JAMA. 1996;274:1874-1880)

UNDERTREATMENT of acute pain and chronic cancer pain persists despite decades of efforts to provide clinicians

with information about analgesics. A high prevalence of unrelieved pain has been documented in a variety of clinical settings, including general medical<sup>1,2</sup> and surgical units,<sup>3,4</sup> oncology wards and clinics,<sup>5,6</sup> burn units,<sup>7</sup> emergency departments,<sup>8</sup> and pediatric wards.<sup>9</sup> In response to this problem, clinicians have identified factors that contribute to poor

treatment outcomes and have designed corrective programs.<sup>10</sup> The barriers to pain relief include gaps in physicians' and nurses' undergraduate and graduate education about pain treatment,<sup>11,12</sup> concerns of clinicians<sup>13</sup> and patients<sup>14,15</sup> about the risk of addiction to opioids, state and federal regulation of the prescribing of opioid analgesics,<sup>16,17</sup> and reimbursement policies for analgesic treatments.<sup>18</sup>

See also pp 1870 and 1881.

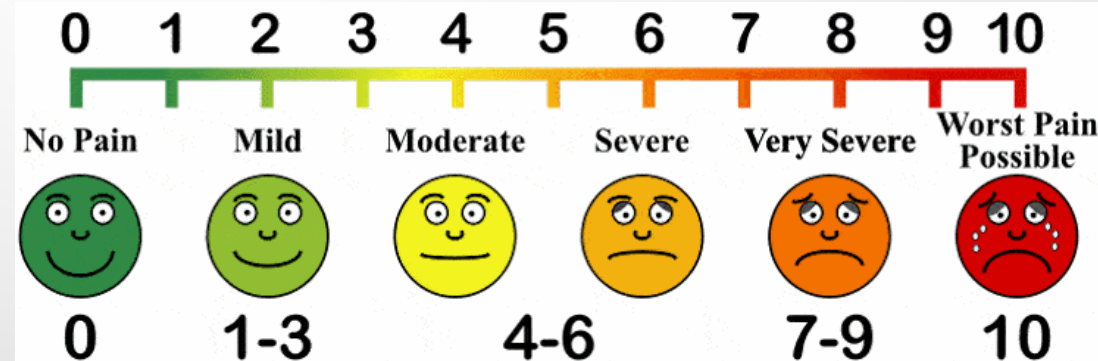
During the decade following the article by Marks and Sachar<sup>19</sup> that called attention to undertreatment of pain, most recommendations stressed the need to educate individual clinicians and patients, imparting knowledge about methods of relieving pain and the low risks of addiction.<sup>20-22</sup> Although experts agree that such educational approaches are essential, several studies have focused on the problem that pain may frequently go unrecognized by clinicians.<sup>23,24</sup> Donovan et al<sup>25</sup> showed that among 454 randomly selected patients on the medical and surgical units of a midwestern academic hospital, 78% reported having experienced pain during hospitalization and 45% reported having had excruciating pain. Of the patients with pain, only 46% recalled a nurse discussing their pain with them, and in only 49% of charts was there a progress note mentioning pain. Grossman et al<sup>26</sup> asked the responsible nurse, house officer, and oncology fellow to estimate each of 104 cancer patients' pain using a 10-cm visual analog scale. For the 15 patients who rated their pain in the most severe range (>7 of a possible 10), only one of the nurses, three of the house officers, and four of the oncology fellows estimated the patient's pain in that range.

A list of the members of the American Pain Society Quality of Care Committee appears at the end of this article.  
Reprint requests to the American Pain Society, 4700 W Lake Ave, Glenview, IL 60025-1485.

# 5<sup>TH</sup> VITAL SIGN

## I. Recognize and Treat Pain Promptly

**IA. Chart and Display Patients' Self-report of Pain.**—A measure of pain intensity should be recorded in a way that makes it highly visible and facilitates regular review by members of the health care team. This information should be incorporated in the patient's permanent record. The data can be recorded on a vital sign sheet at the patient's bedside (Figure), a page at the front of the patient's record, or a chart in the nursing station or outpatient clinic, depending on the routine work flow of the health care team. Unrelieved pain should be a "red flag" that promptly turns attention to this problem.



The Clinical Journal of Pain. 13(1):6-8, MAR 1997

PMID: [9084947](#)

MEDLINE Status: MEDLINE

Issn Print: 0749-8047

## **The use of opioids for the treatment of chronic pain. A consensus statement from the American Academy of Pain Medicine and the American Pain Society.**



#### **IV. Current information and experience suggest that many commonly held assumptions need modification**

##### *Addiction*

Misunderstanding of addiction and mislabeling of patients as addicts result in unnecessary withholding of opioid medications. Addiction is a compulsive disorder in which an individual becomes preoccupied with obtaining and using a substance, the continued use of which results in a decreased quality of life. Studies indicate that the de novo development of addiction when opioids are used for the relief of pain is low. Furthermore, experience has shown that known addicts can benefit from the carefully supervised, judicious use of opioids for the treatment of pain due to cancer, surgery, or recurrent painful illnesses such as sickle cell disease.



	<b>Purdue<sup>22</sup></b>	<b>Janssen<sup>23</sup></b>	<b>Depomed</b>	<b>Insys</b>	<b>Mylan</b>	<b>Total</b>
<b>Academy of Integrative Pain Management</b>	\$1,091,024.86	\$128,000.00	\$43,491.95	\$3,050.00 <sup>24</sup>	\$0.00	<b>\$1,265,566.81</b>
<b>American Academy of Pain Medicine</b>	\$725,584.95	\$83,975.00	\$332,100.00	\$57,750.00	\$0.00	<b>\$1,199,409.95</b>
<b>AAPM Foundation</b>	\$0.00	\$0.00	\$304,605.00	\$0.00	\$0.00	<b>\$304,605.00</b>
<b>ACS Cancer Action Network</b>	\$168,500.00 <sup>25</sup>	\$0.00	\$0.00	\$0.00	\$0.00	<b>\$168,500.00</b>
<b>American Chronic Pain Association</b>	\$312,470.00	\$50,000.00	\$54,670.00	\$0.00	\$0.00	<b>\$417,140.00</b>
<b>American Geriatrics Society</b>	\$11,785.00 <sup>26</sup>	\$0.00	\$0.00	\$0.00	\$0.00	<b>\$11,785.00</b>
<b>American Pain Foundation</b>	\$25,000.00	\$0.00	\$0.00	\$0.00	\$0.00	<b>\$25,000.00</b>
<b>American Pain Society</b>	\$542,259.52	\$88,500.00	\$288,750.00	\$22,965.00	\$20,250.00	<b>\$962,724.52</b>
<b>American Society of Pain Educators</b>	\$30,000.00	\$0.00	\$0.00	\$0.00	\$0.00	<b>\$30,000.00</b>
<b>American Society of Pain Management Nursing</b>	\$242,535.00	\$55,177.85 <sup>27</sup>	\$25,500.00 <sup>28</sup>	\$0.00	\$0.00	<b>\$323,212.85</b>
<b>The Center for Practical Bioethics</b>	\$145,095.00	\$18,000.00	\$0.00	\$0.00	\$0.00	<b>\$163,095.00</b>
<b>The National Pain Foundation<sup>29</sup></b>	\$0.00	\$0.00	\$0.00	\$562,500.00	\$0.00	<b>\$562,500.00</b>
<b>U.S. Pain Foundation</b>	\$359,300.00	\$41,500.00	\$22,000.00	\$2,500,000.00 <sup>30</sup>	\$0.00	<b>\$2,922,800.00</b>
<b>Washington Legal Foundation</b>	\$500,000.00	\$0.00	\$0.00	\$0.00	\$0.00	<b>\$500,000.00</b>
	<b>\$4,153,554.33</b>	<b>\$465,152.85</b>	<b>\$1,071,116.95</b>	<b>\$3,146,265.00</b>	<b>\$20,250.00</b>	<b>\$8,856,339.13</b>

# OXYCONTIN SALES

## OxyContin sales

\$3 billion

2

1

0

'96

'98

'00

'02

'04

'06

'08

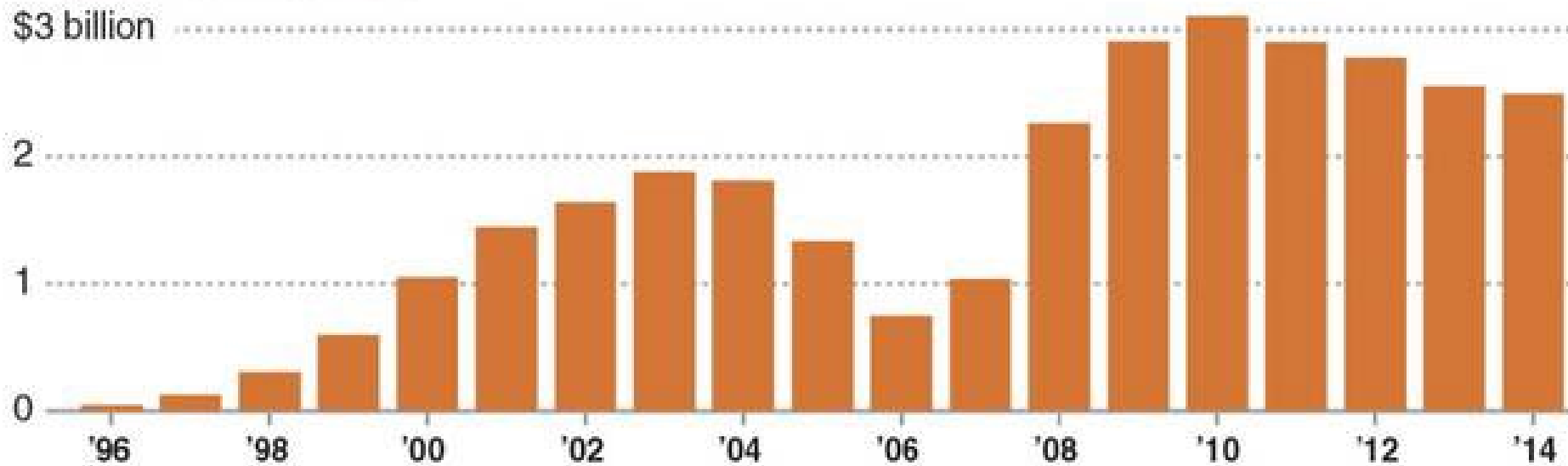
'10

'12

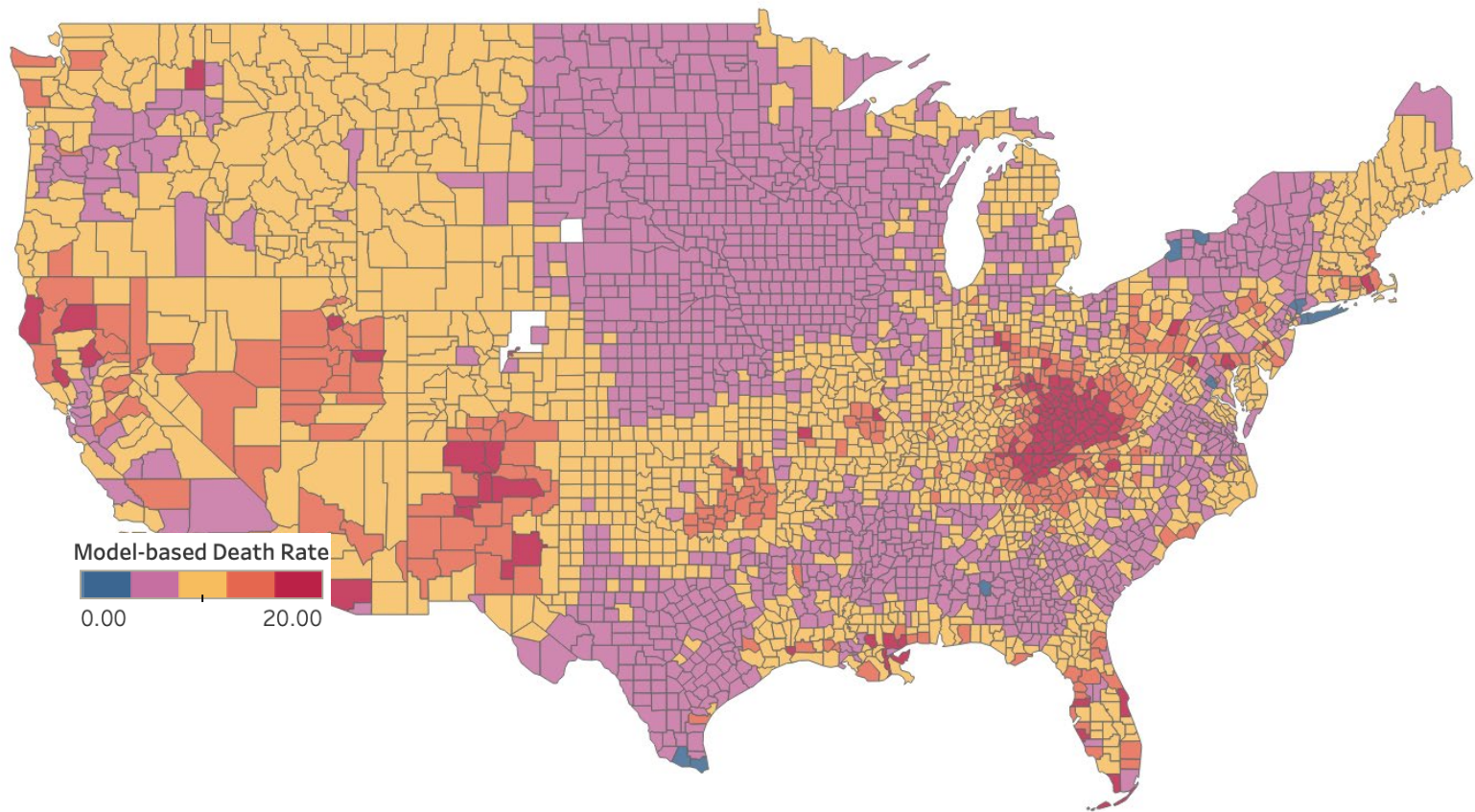
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Source: IMS National Sales Perspectives

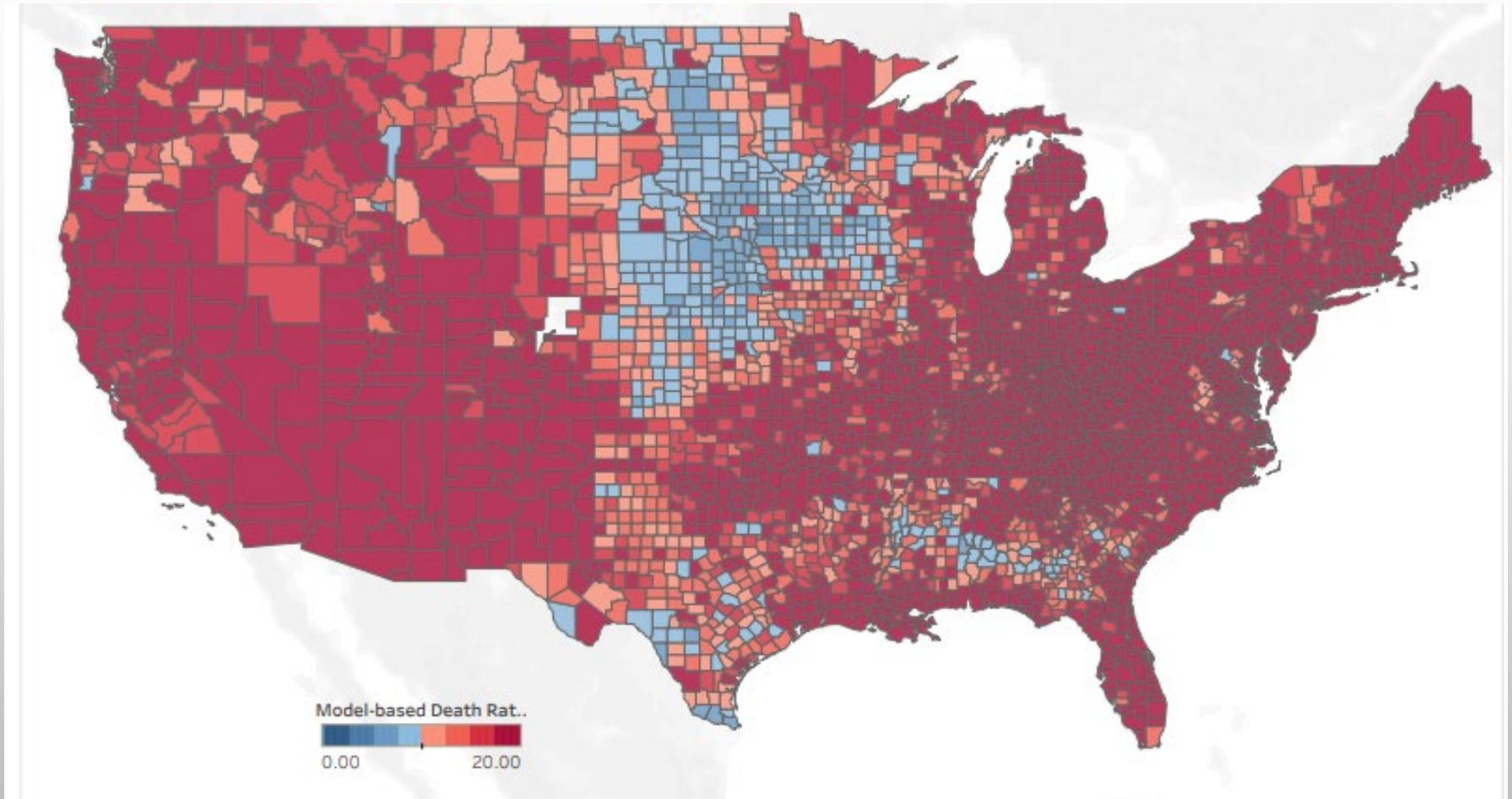
Graphic: Los Angeles Times/TNS



# OVERDOSES IN THE UNITED STATES 2003

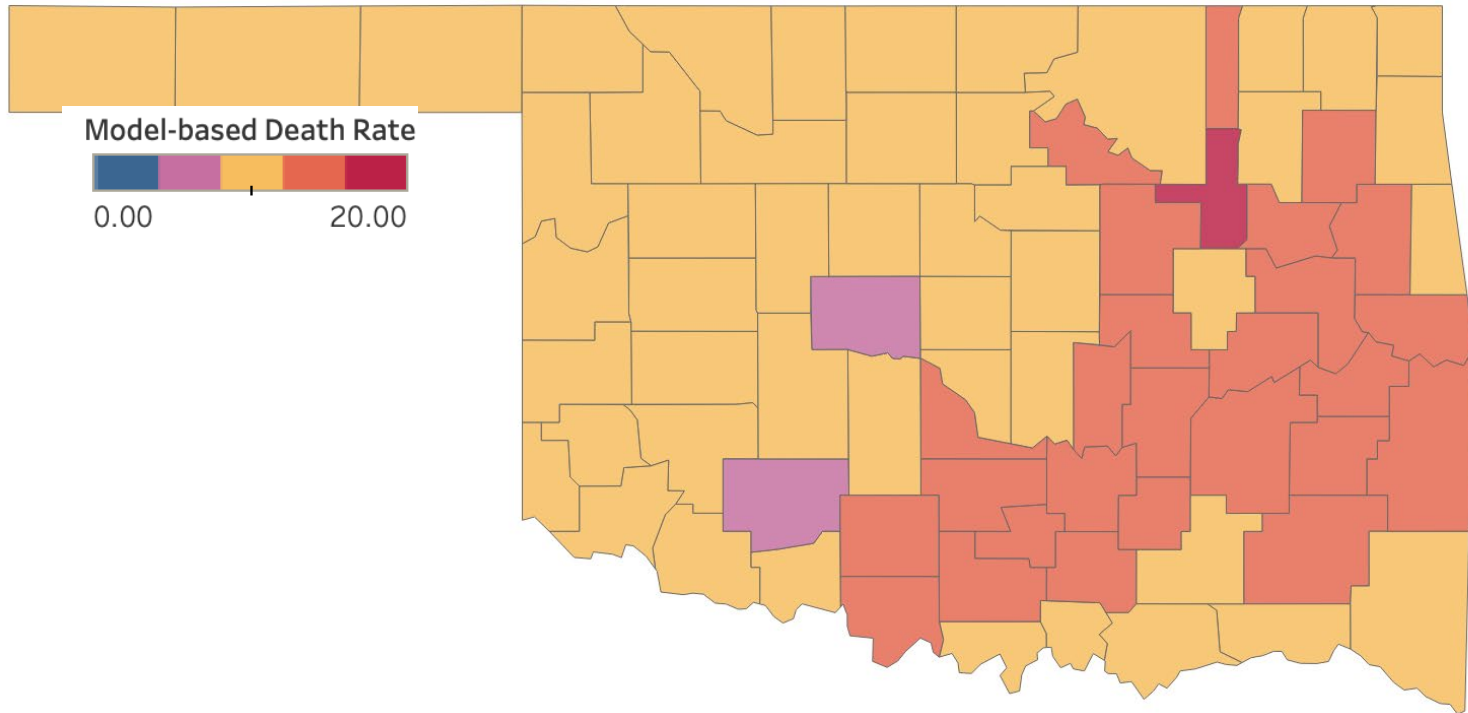


# OVERDOSES IN THE UNITED STATES 2022

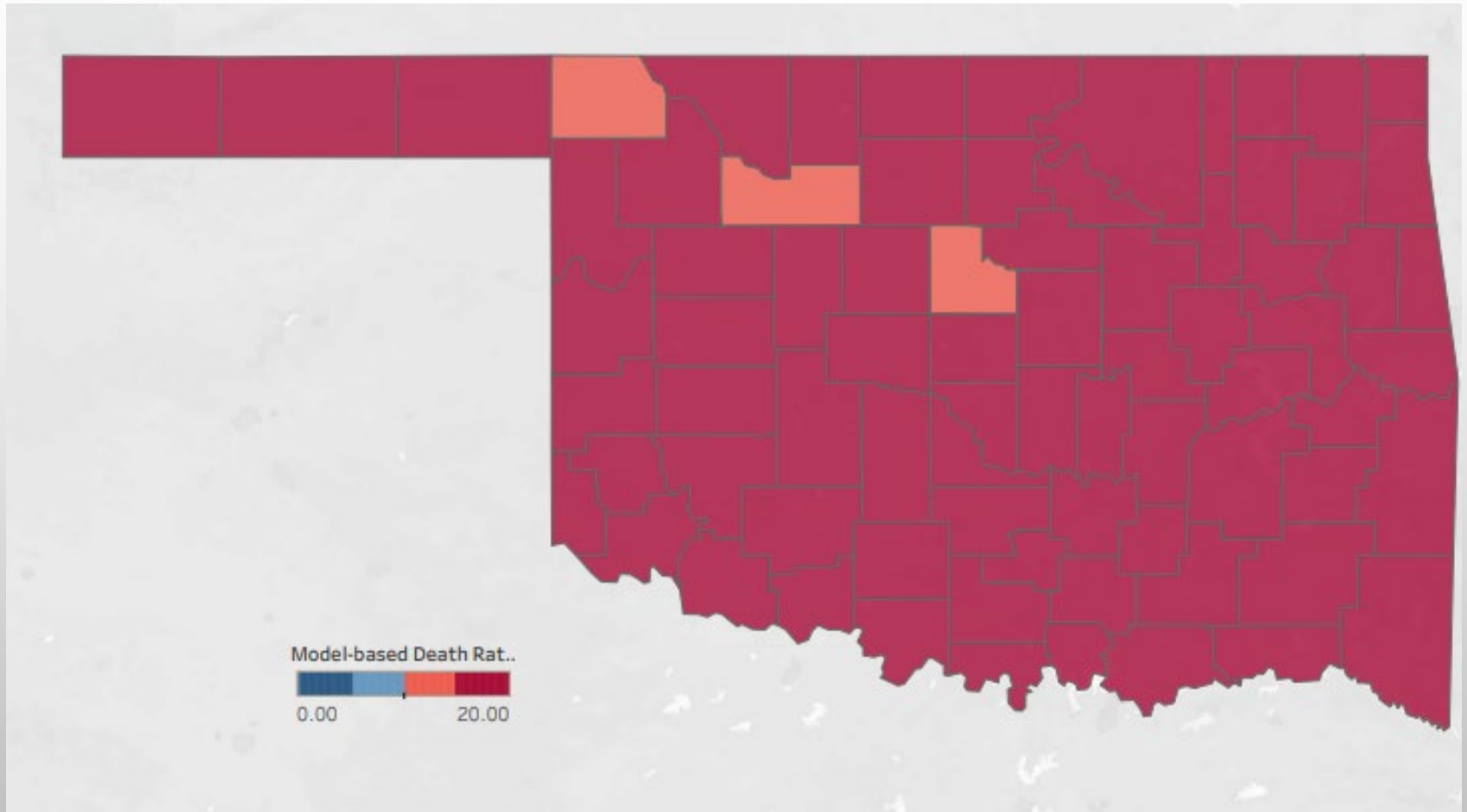




# OVERDOSES IN OKLAHOMA 2003



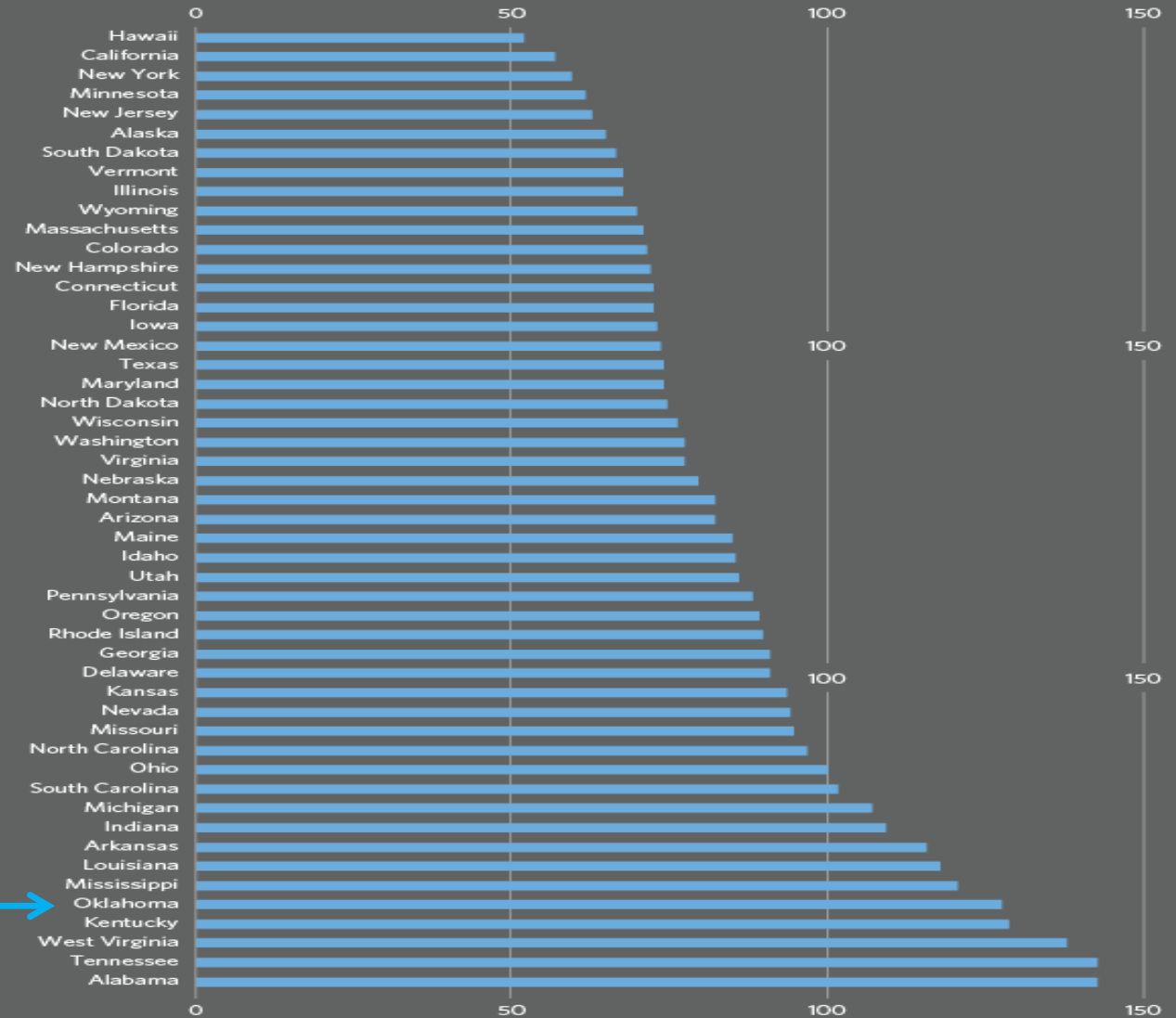
# OVERDOSES IN OKLAHOMA 2022



## Painkiller Prescriptions

The number of painkiller prescriptions varies widely by state, from 52 per 100 people in Hawaii to 142.9 per 100 people in Alabama. New federal guidelines aim to reduce excessive painkiller prescribing, which has contributed to an epidemic of opioid addiction and overdose deaths.

■ Painkiller prescriptions per 100 people



# OK COUNTY PRESCRIBING RATES PER 100

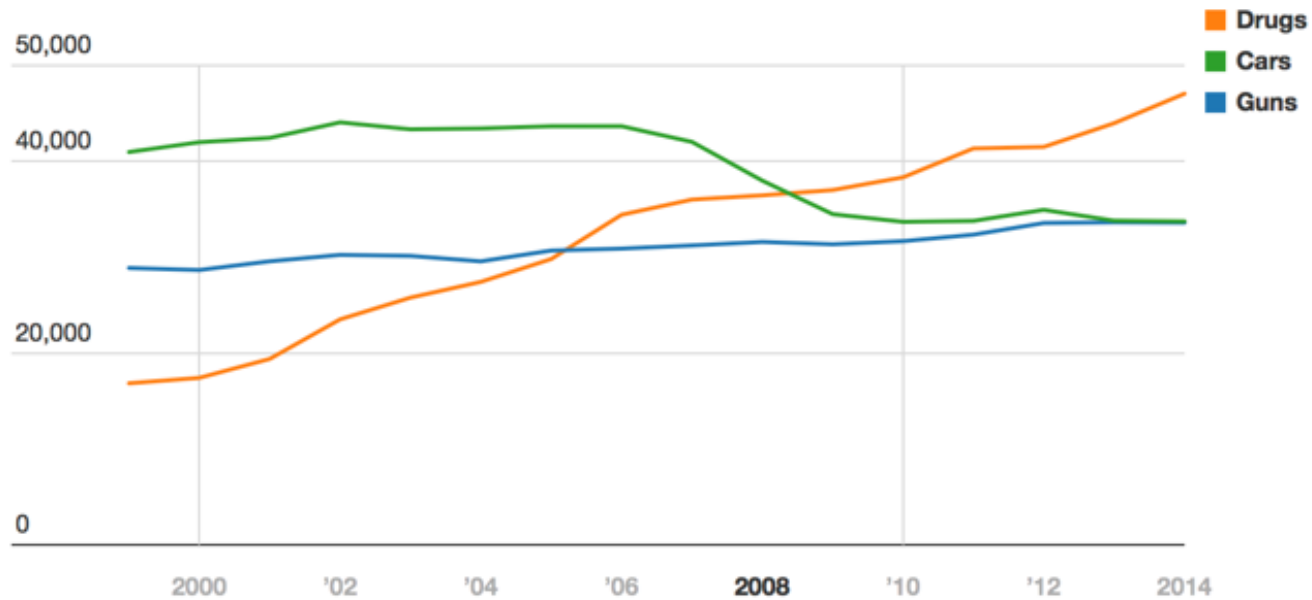
County	2007
Pittsburg	205.9
Carter	199
Pottawatomie	161
Muskogee	155.8
Tulsa	154.1
Beckham	148.9
Custer	144.4
Stephens	142.4
Oklahoma	140.5
Woodward	134.2

County	2018
Harmon	174.2
Carter	141.1
Stephens	127.8
Pittsburg	126.8
Murray	121.7
Pottawatomie	117.8
Muskogee	112
McClain	109.9
Bryan	109.6
Kingfisher	108.4

# US CAUSES OF DEATHS

## Deaths From Drug Overdoses, Car Accidents, and Gun Violence

From 1999 to 2014



Source: Centers for Disease Control and Prevention [Get the data](#)



# Response to the Epidemic

# OK HOUSE BILLS 2018

- HB 2795:
  - REQUIRES MEDICAL FACILITY OWNERS TO REGISTER WITH THE OKLAHOMA BUREAU OF NARCOTICS AND DANGEROUS DRUGS
- HB 2796:
  - REQUIRES MANUFACTURERS AND DISTRIBUTORS OF OPIOIDS TO MAKE DATA AVAILABLE FOR REVIEW BY THE OKLAHOMA STATE BUREAU OF NARCOTICS AND DANGEROUS DRUGS
- HB 2798:
  - CREATES THE OPIOID OVERDOSE FATALITY REVIEW BOARD

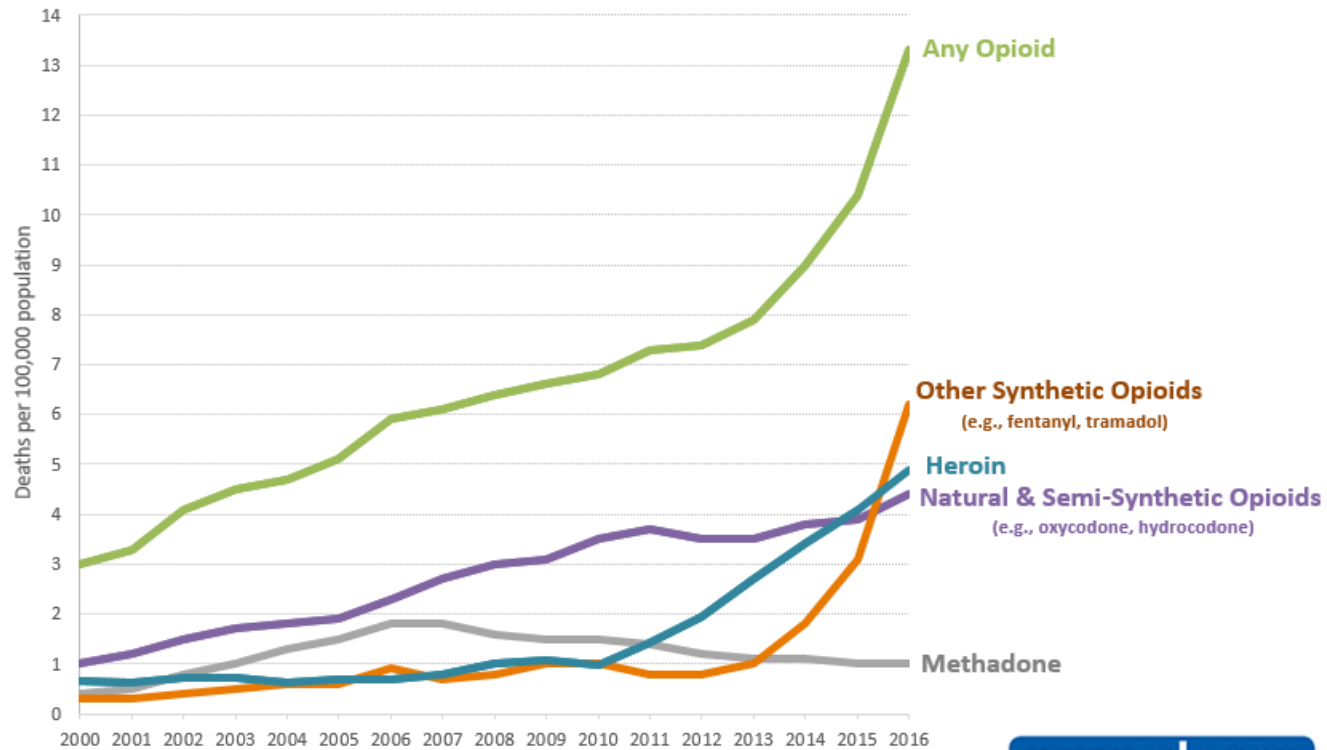
# OK SENATE BILL 1446

- REQUIRE CONTINUING MEDICAL EDUCATION (CME) FOR PRESCRIBERS ON OPIOID ABUSE AND MISUSE EACH YEAR
- RESTRICTS INITIAL PRESCRIPTIONS FOR OPIOIDS TO A SEVEN-DAY SUPPLY
- FAILURE TO CHECK PMP IS GROUNDS FOR DISCIPLINARY ACTION BY LICENSING BOARD
- REVIEW CHRONIC PAIN PRESCRIPTIONS EVERY 3 MONTHS AND MAKE EFFORTS TO DECREASE OR TRY OTHER TREATMENT



# WAVES OF THE CURRENT EPIDEMIC

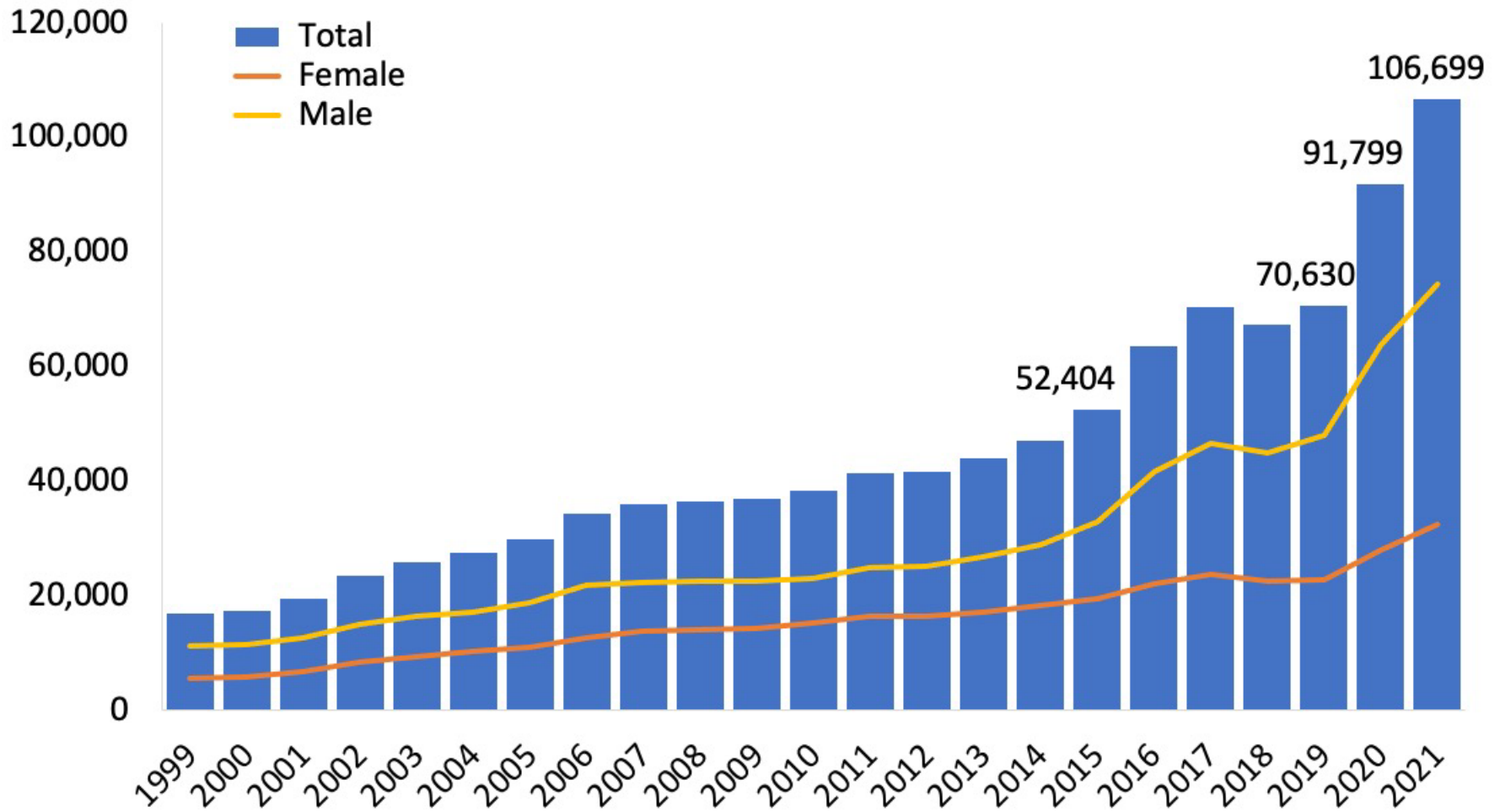
Overdose Deaths Involving Opioids, by Type of Opioid, United States, 2000-2016



SOURCE: CDC/NCHS, National Vital Statistics System, Mortality. CDC WONDER, Atlanta, GA: US Department of Health and Human Services, CDC; 2017. <https://wonder.cdc.gov/>.

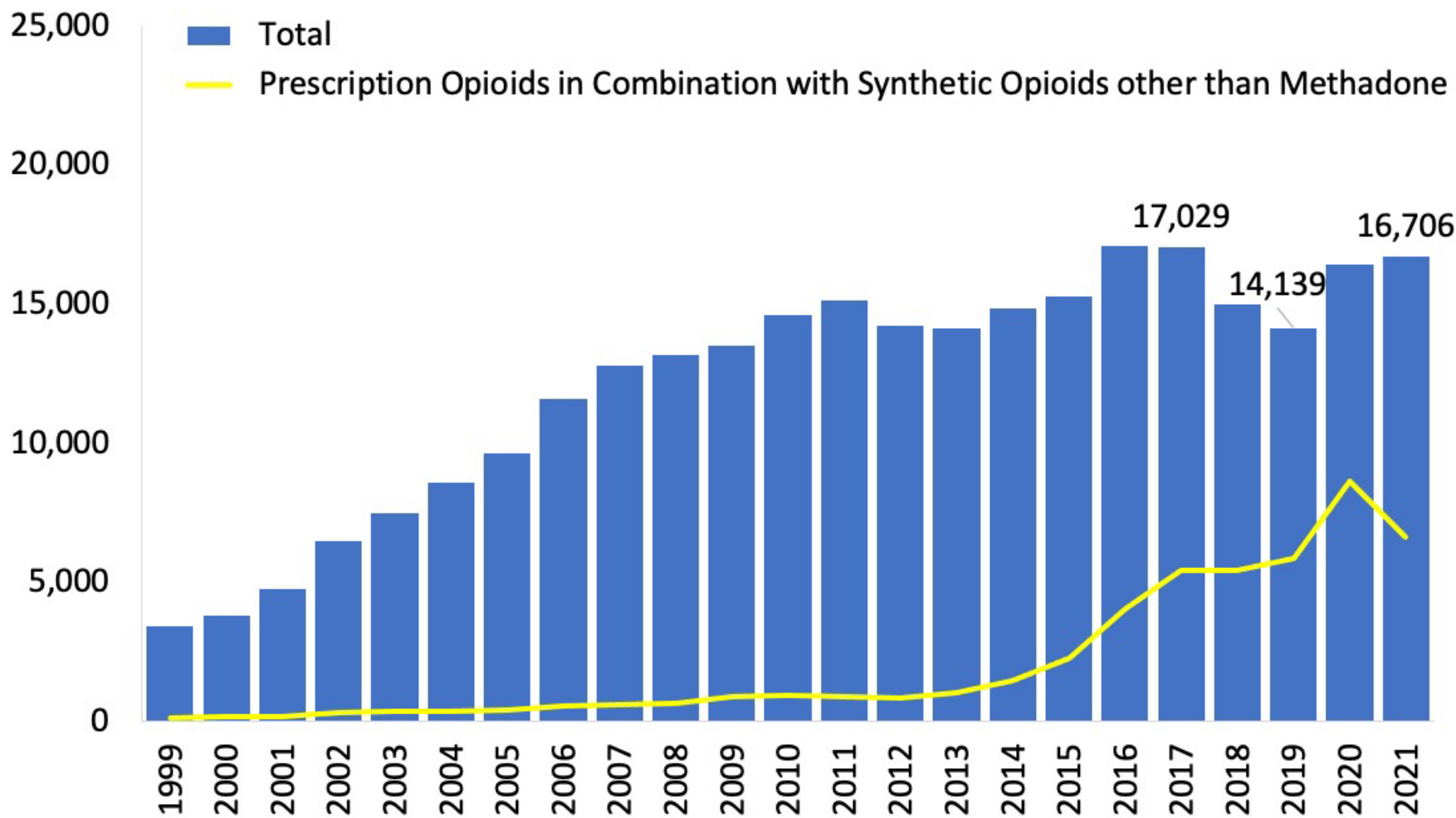
[www.cdc.gov](http://www.cdc.gov)  
Your Source for Credible Health Information

# Figure 1. National Drug-Involved Overdose Deaths\*, Number Among All Ages, by Gender, 1999-2021



\*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 1999-2021 on CDC WONDER Online Database, released 1/2023.

# Figure 4. National Overdose Deaths Involving Prescription Opioids\*, Number Among All Ages, 1999-2021



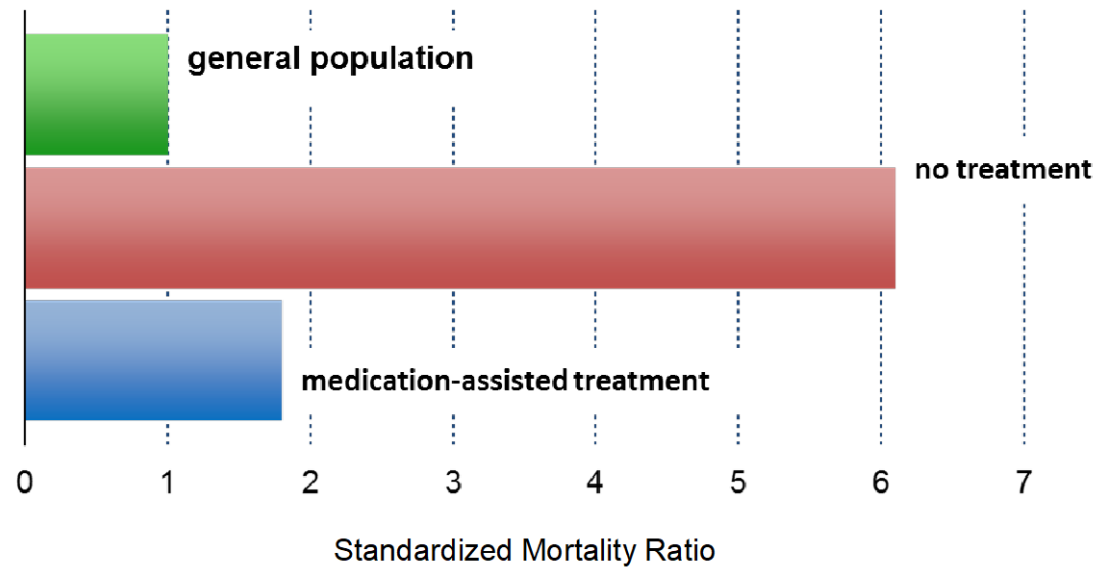
\*Among deaths with drug overdose as the underlying cause, the prescription opioid subcategory was determined by the following ICD-10 multiple cause-of-death codes: natural and semi-synthetic opioids (T40.2) or methadone (T40.3). Source: Centers for Disease Control and Prevention, National Center for Health Statistics. Multiple Cause of Death 1999-2021 on CDC WONDER Online Database, released 1/2023.

# NEW KIDS IN TOWN

- Fentanyl
- Carfentanil
- Isotonitazene
- Protonitazene
- Xylazine

# Benefits of MAT: Decreased Mortality

## Death rates:



Dupouy et al., 2017  
Evans et al., 2015  
Sordo et al., 2017

**QUESTIONS?**

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