

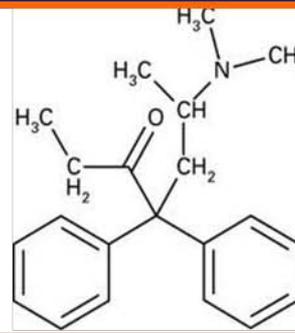


Prescription Drug Abuse and Overdose in the United States

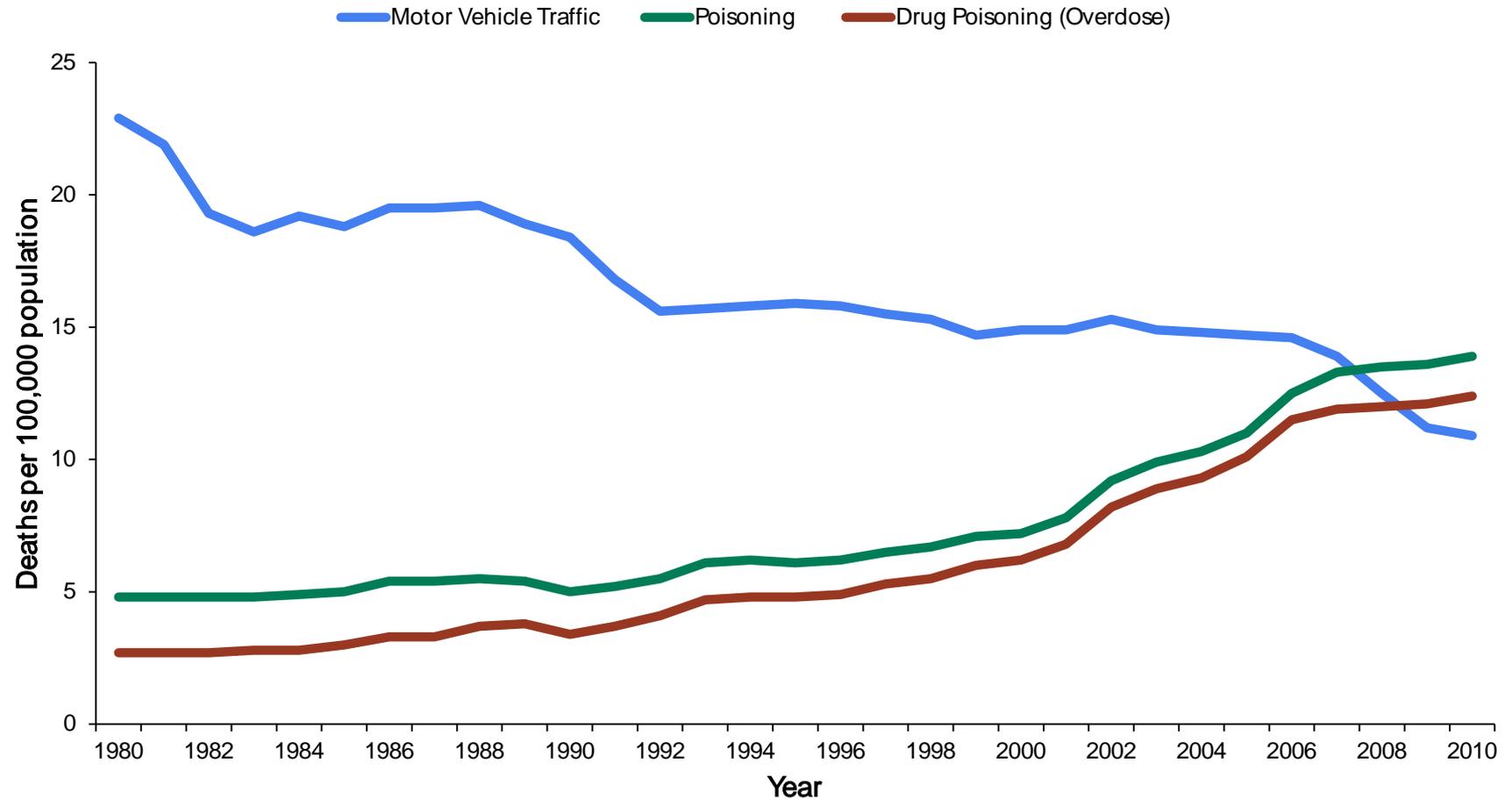
Christopher M. Jones, PharmD, MPH
LCDR, US Public Health Service
Division of Unintentional Injury Prevention
National Center for Injury Prevention and Control
Centers for Disease Control and Prevention

Overview

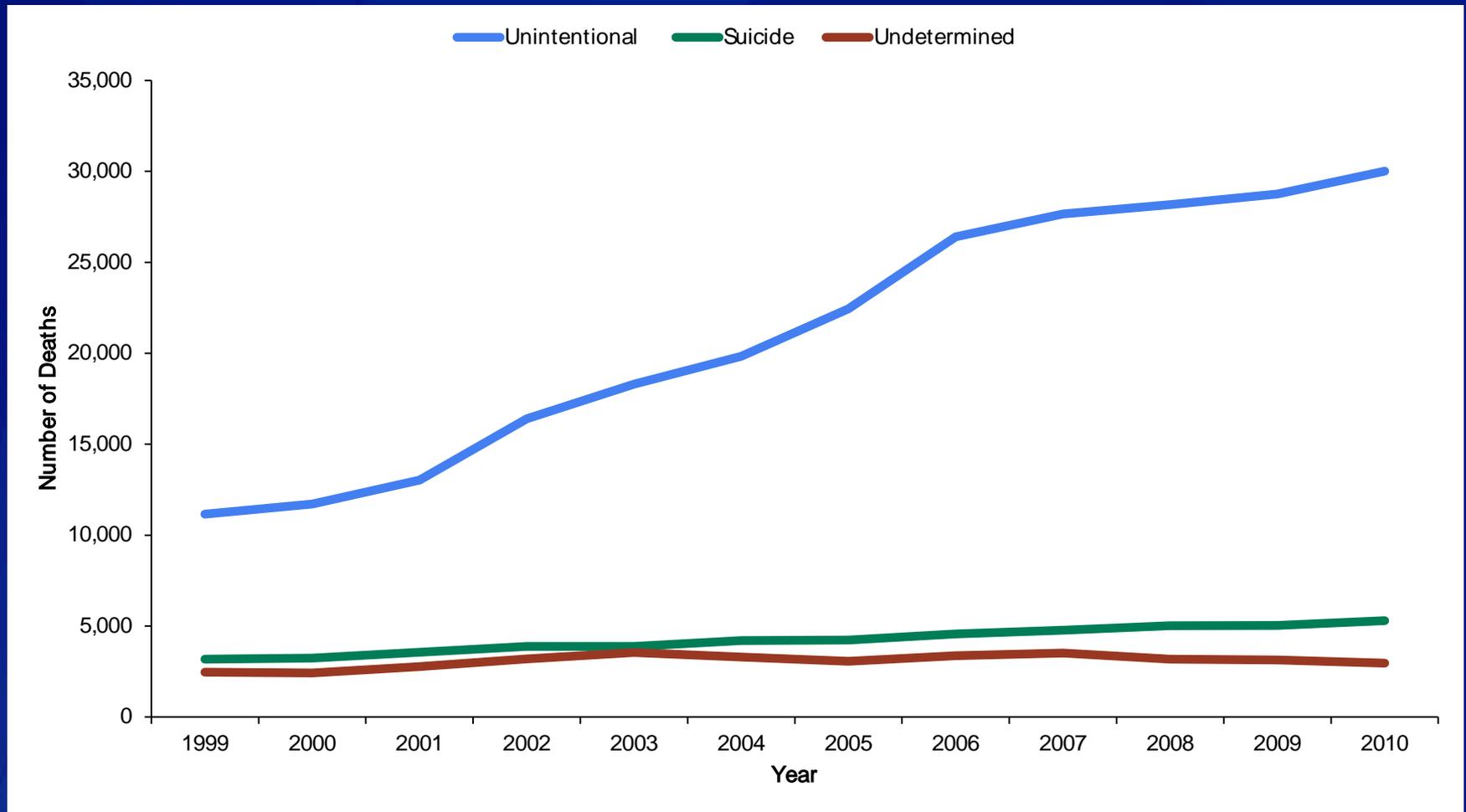
- ❑ Abuse and overdose trends
- ❑ Drivers of the epidemic
- ❑ Prescribing and use patterns contributing to risk
- ❑ CDC's public health response



Motor vehicle traffic, poisoning, and drug poisoning (overdose) death rates United States, 1980-2010

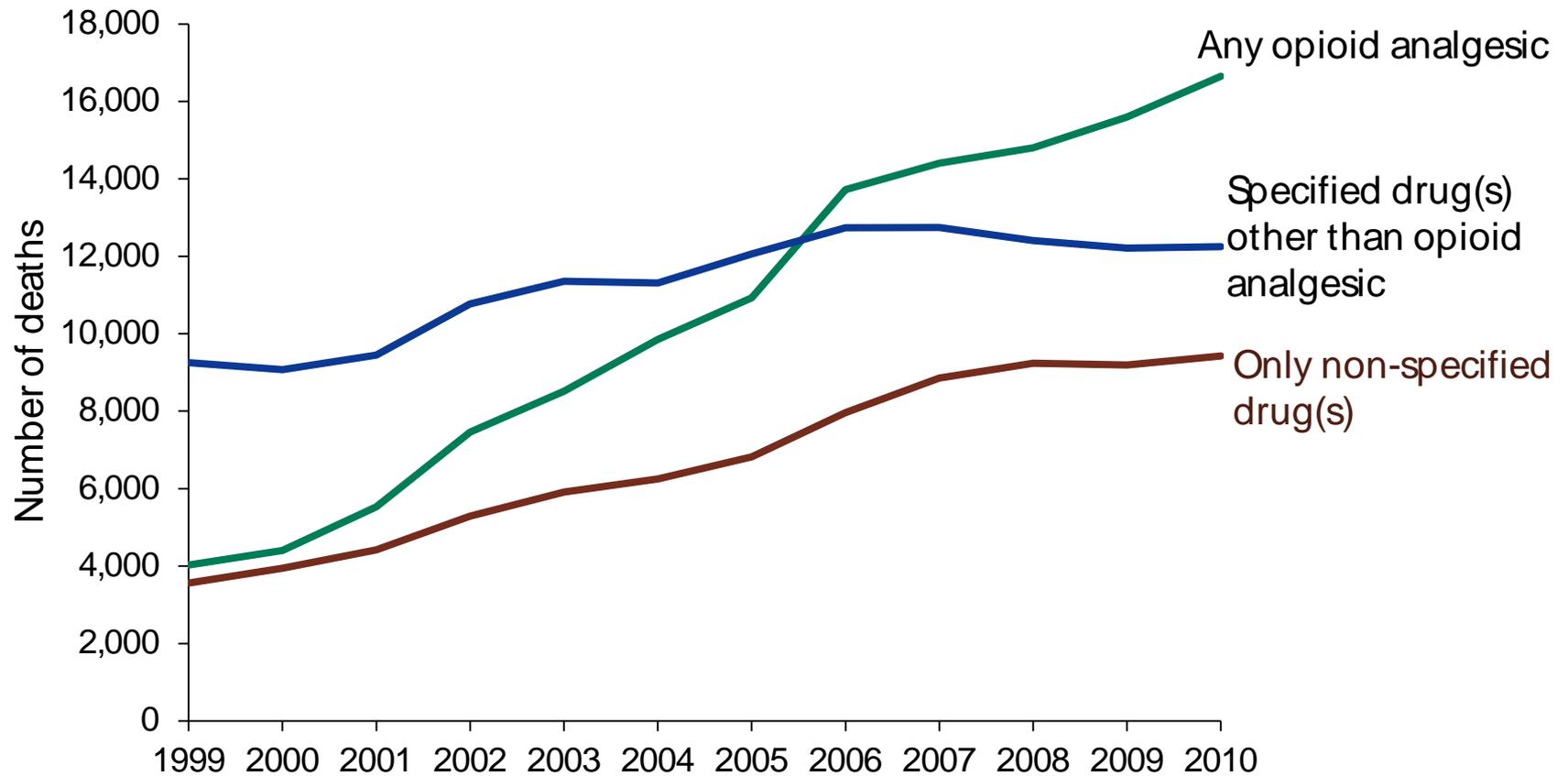


Drug overdose deaths by intent, US, 1999-2010

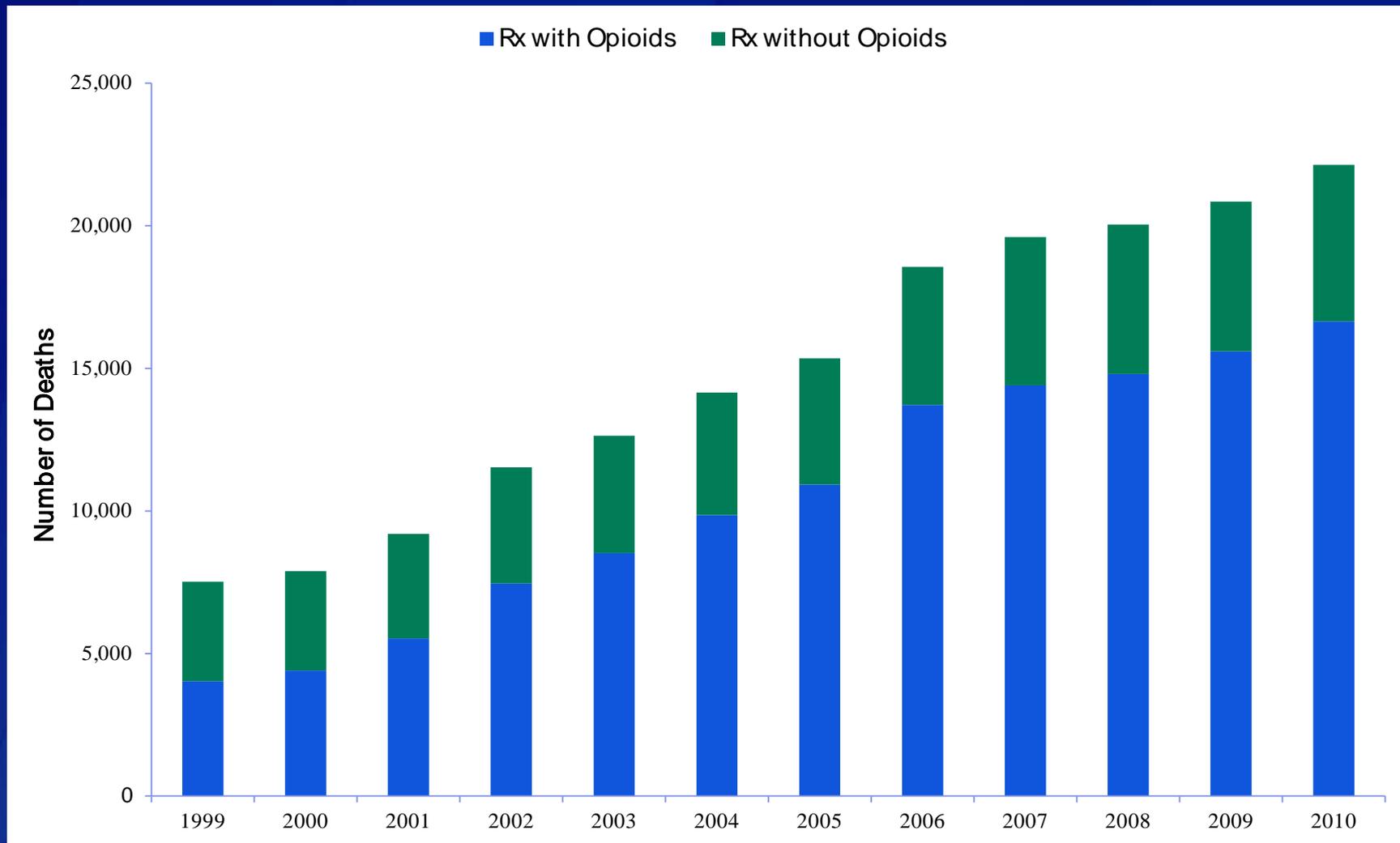


National Vital Statistics System. 1999-2010.

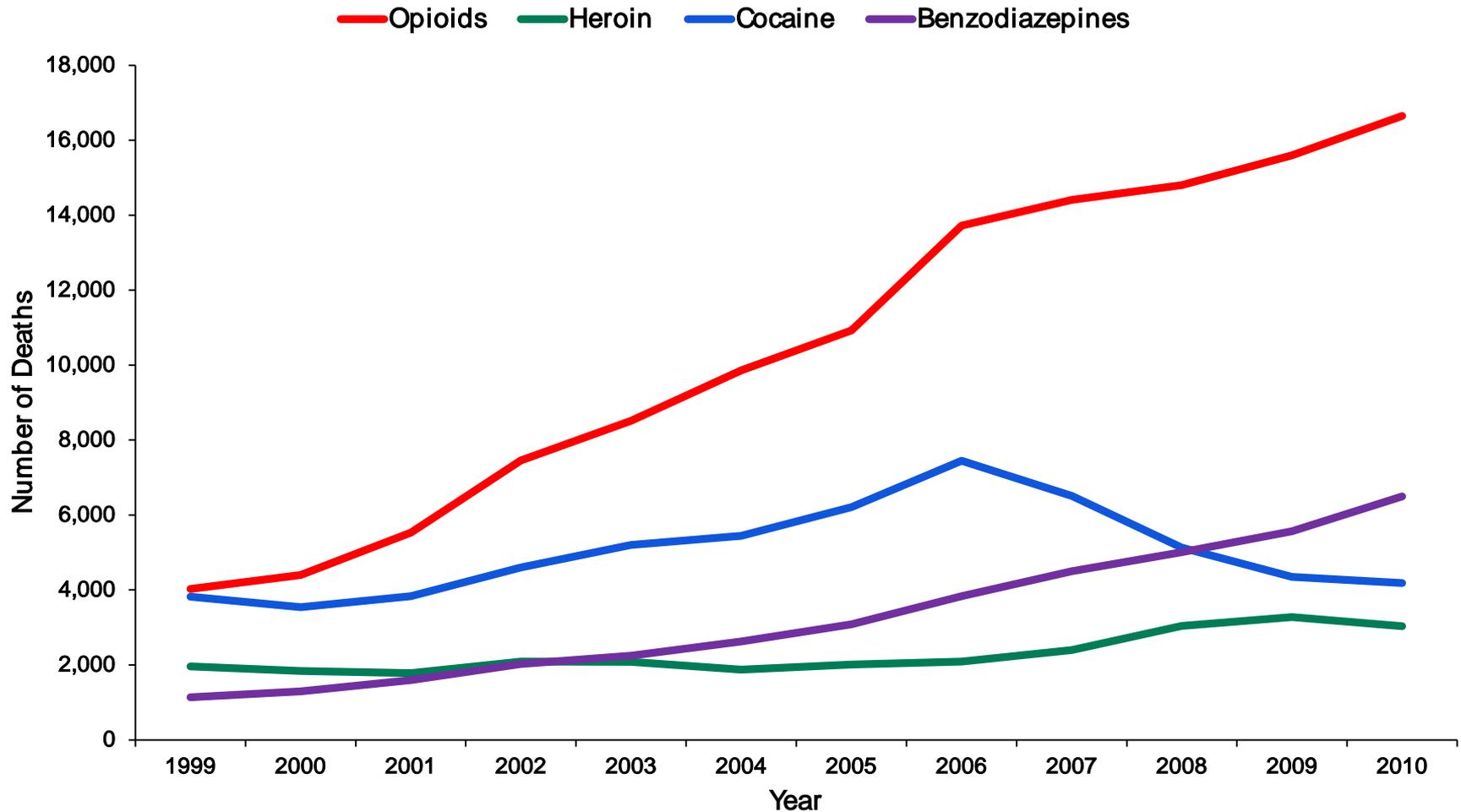
Number of drug overdose deaths involving opioid pain relievers and other drugs US, 1999-2010



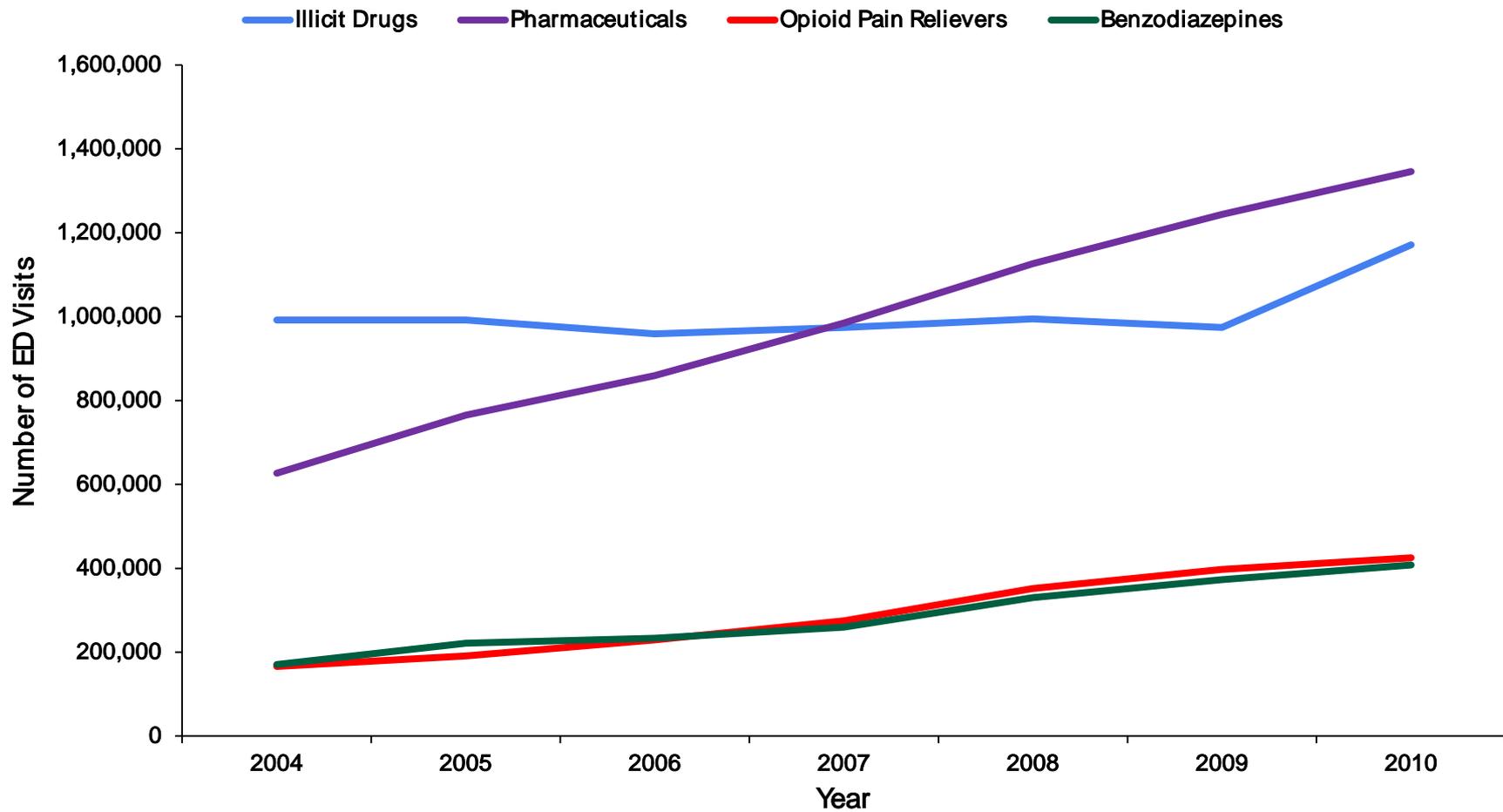
Prescription drug overdose deaths with and without opioids, US, 1999-2010



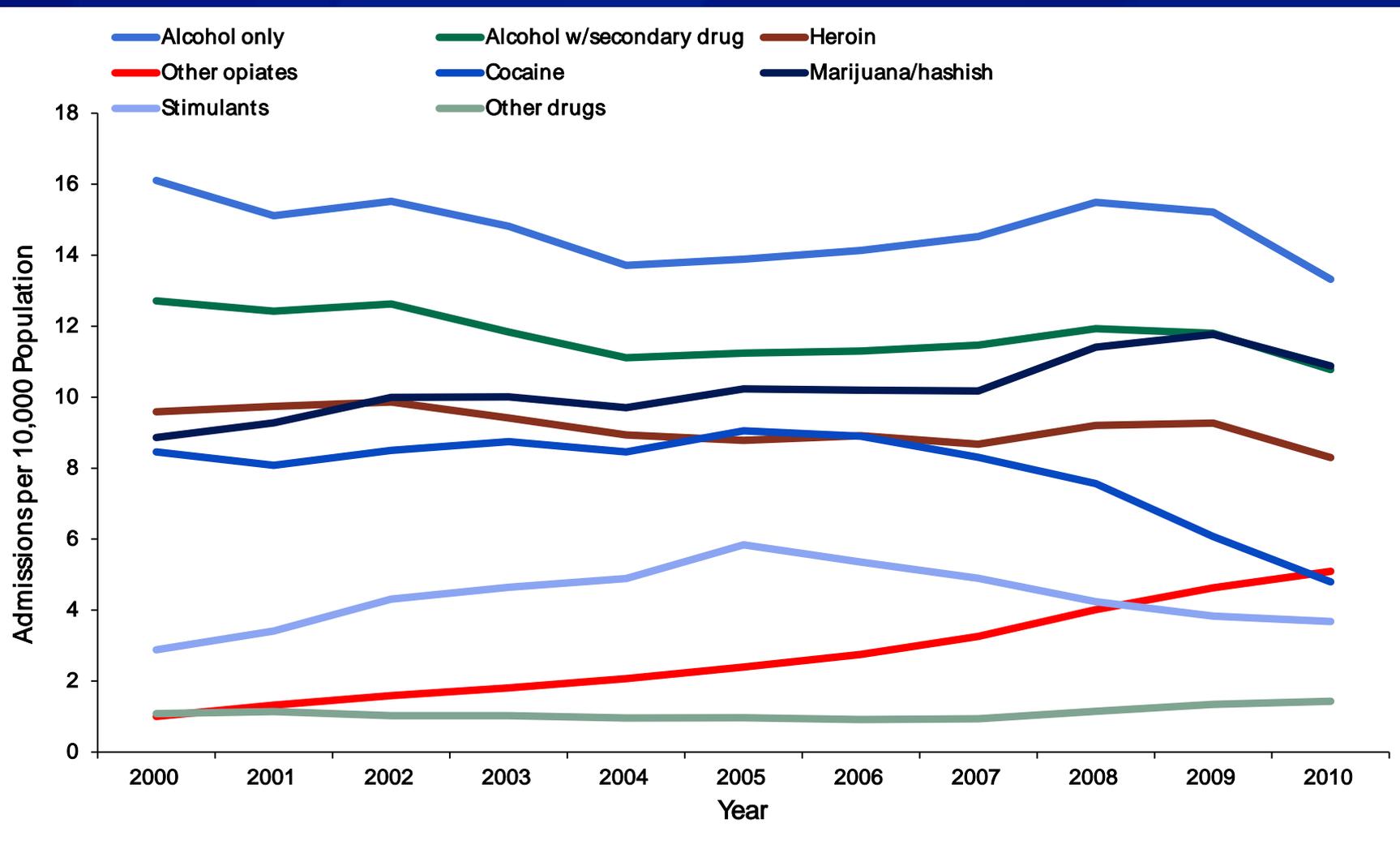
Drug overdose deaths by major drug type, US, 1999-2010



Emergency department visits related to drug misuse or abuse, US, 2004-2010

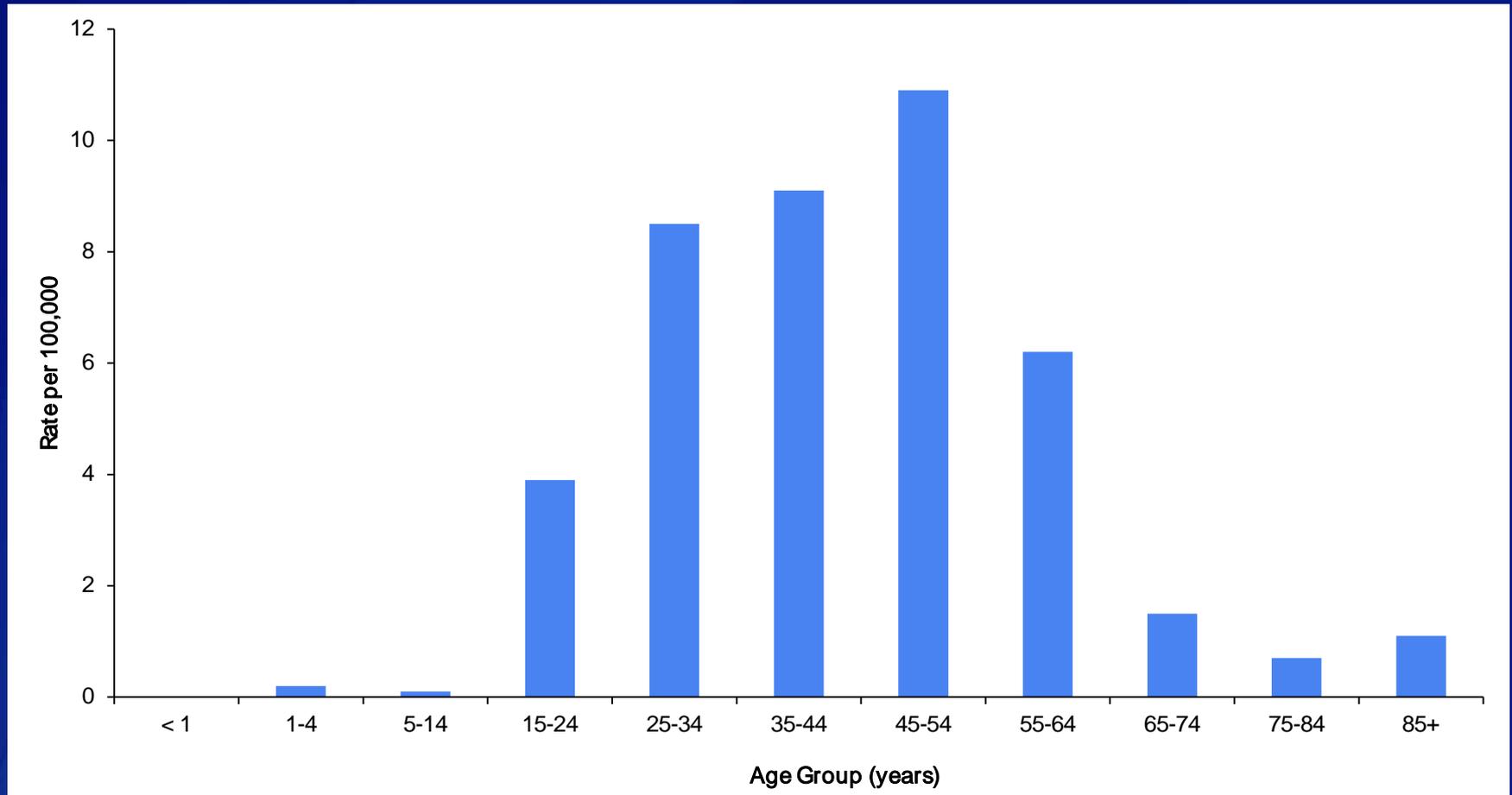


Primary substance of abuse at treatment admission, US, 2000-2010

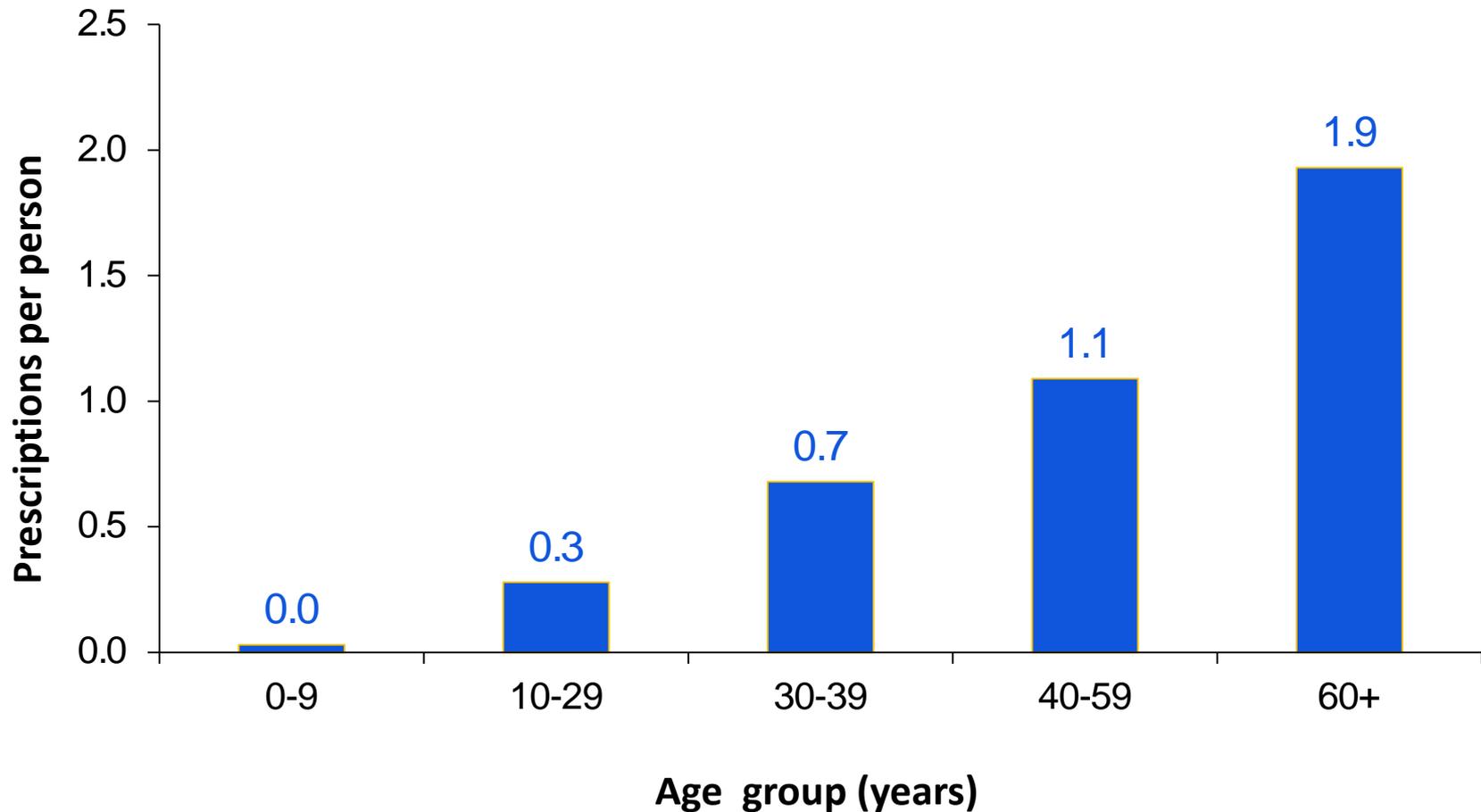


SAMHSA Treatment Episode Data Set, 2000-2010.

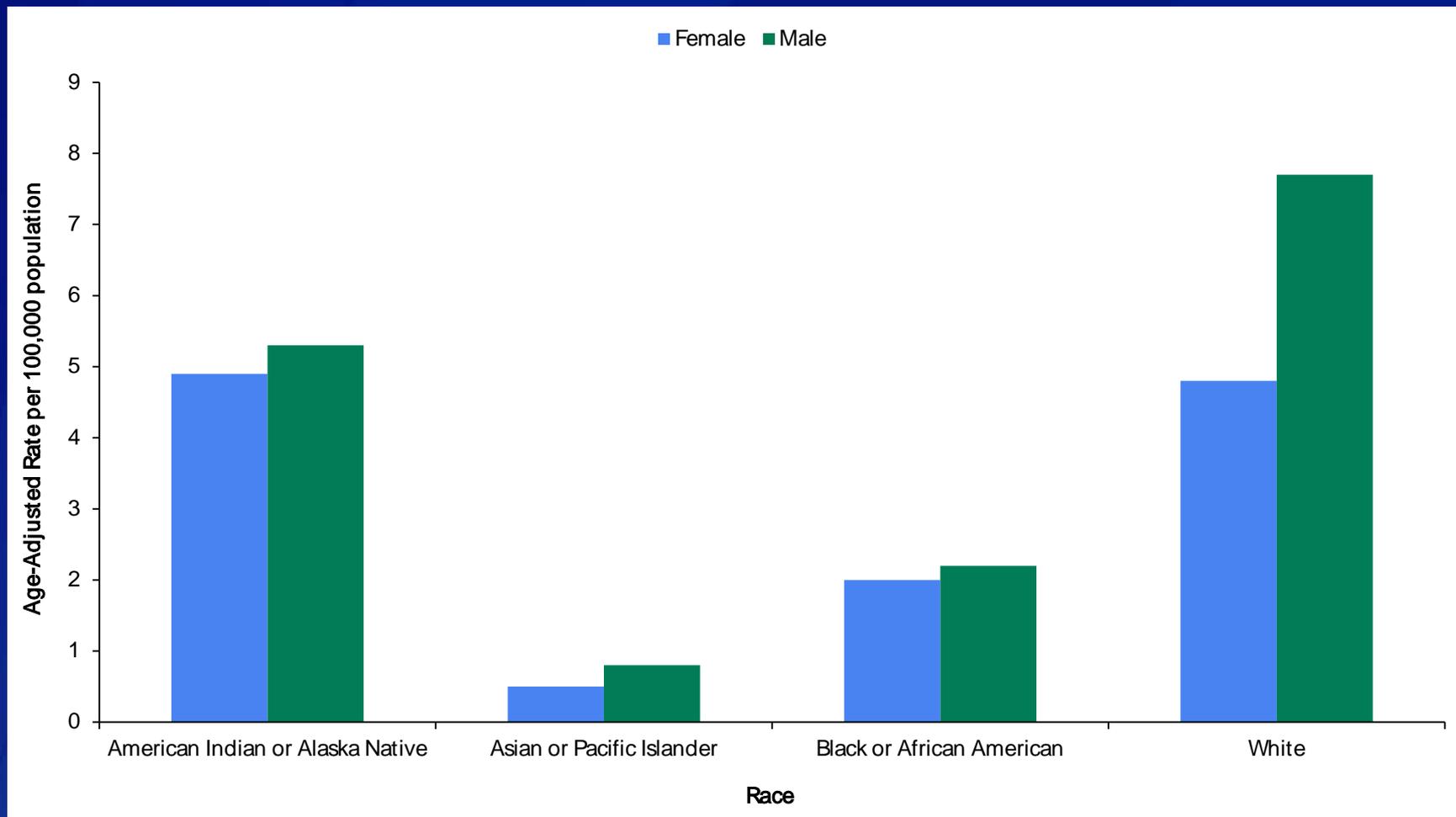
Opioid pain reliever overdose death rates by age group, US, 2010



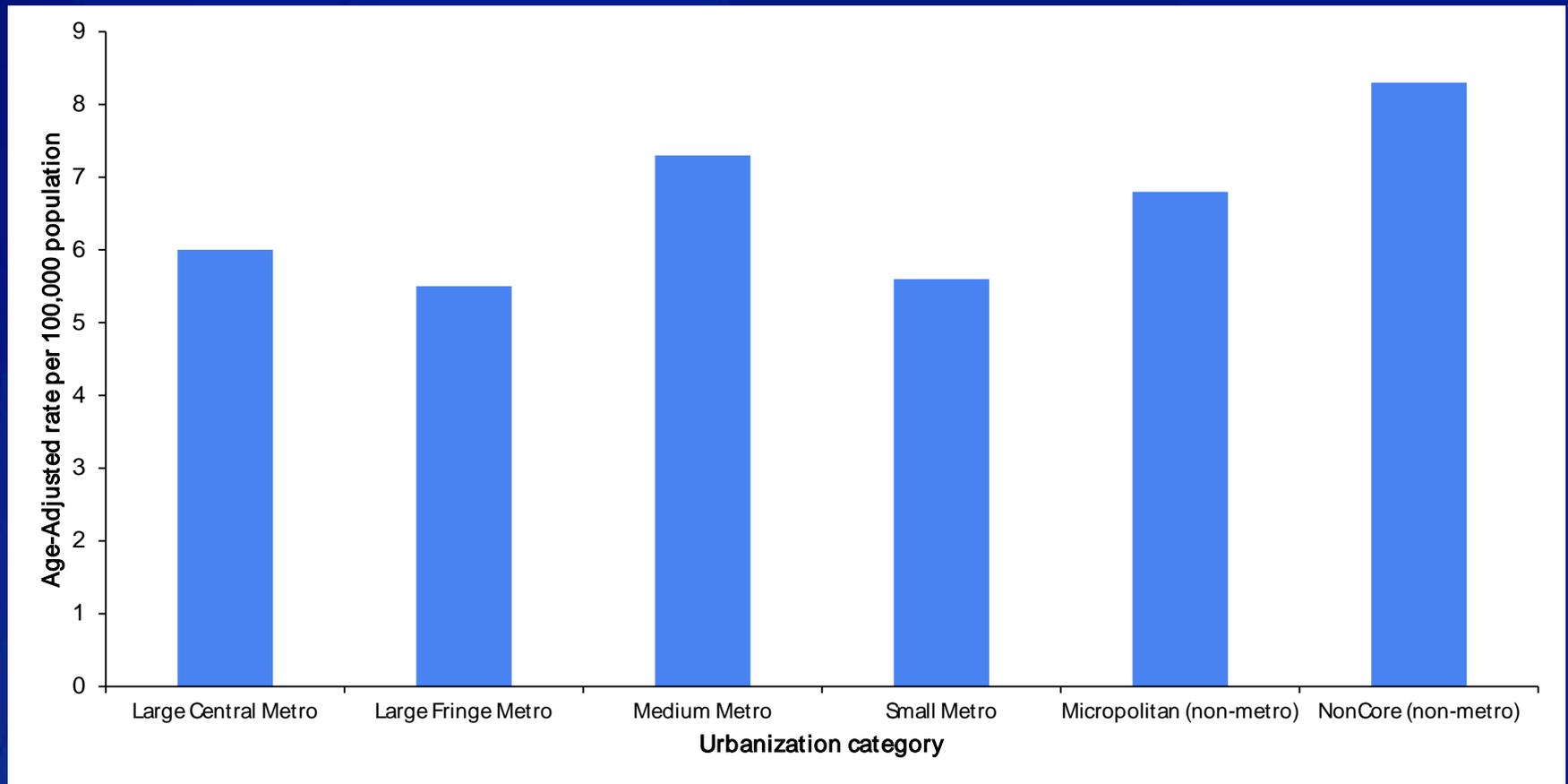
Opioid prescriptions per person by age group, U.S., 2009



Opioid pain reliever overdose death rates by sex and race, US, 2010



Opioid pain reliever overdose death rates by urbanization, US, whites, 2010

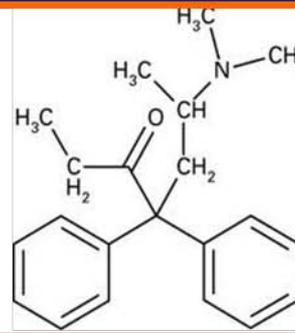


High risk populations

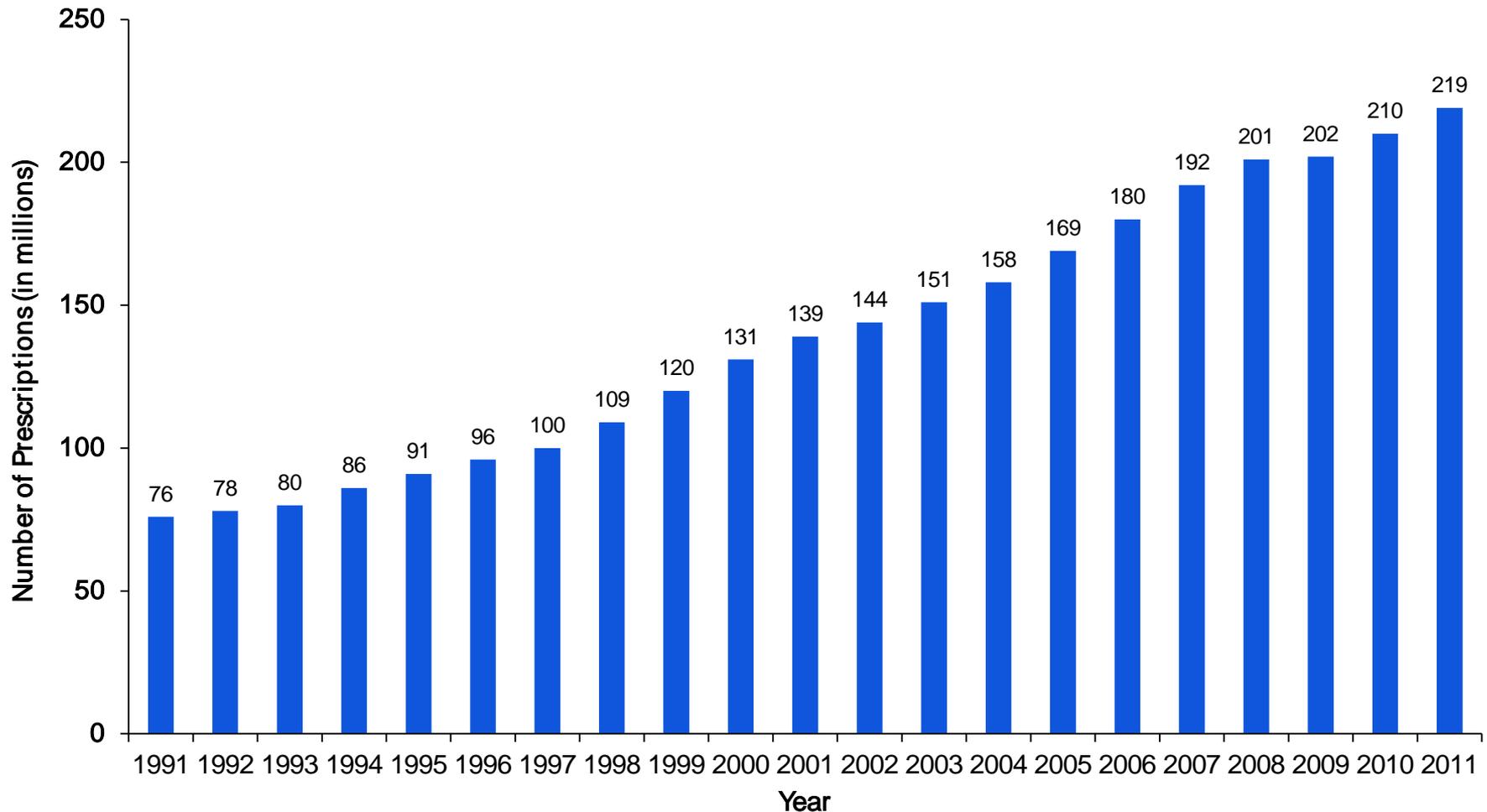
- ❑ Men
- ❑ Whites, American Indians/Alaska Natives
- ❑ Middle-aged persons
- ❑ People taking high daily doses of opioids
- ❑ People who “doctor shop”
- ❑ People using multiple abuseable substances
- ❑ Low-income people and those living in rural areas
- ❑ People with substance abuse or other mental health issues

Overview

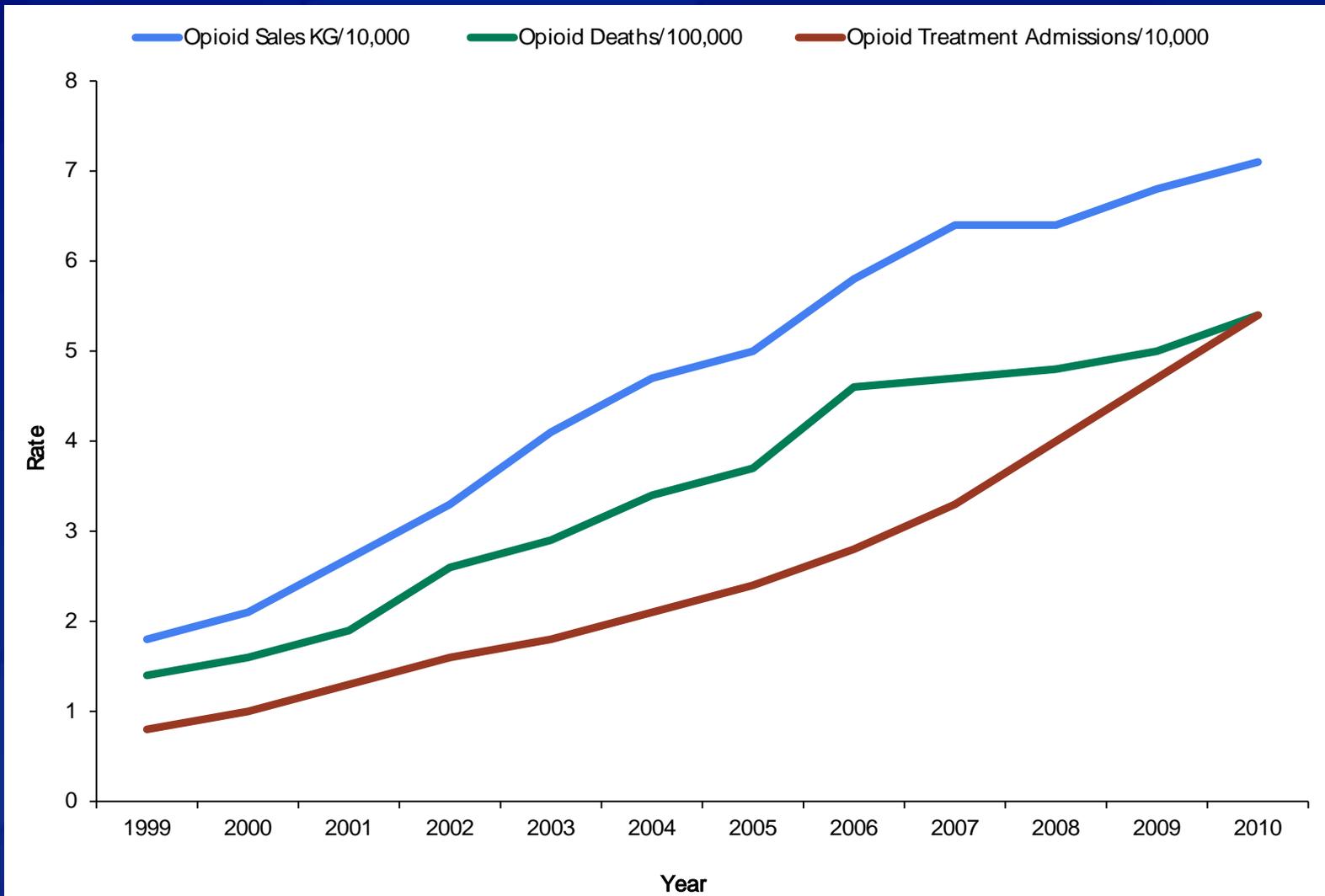
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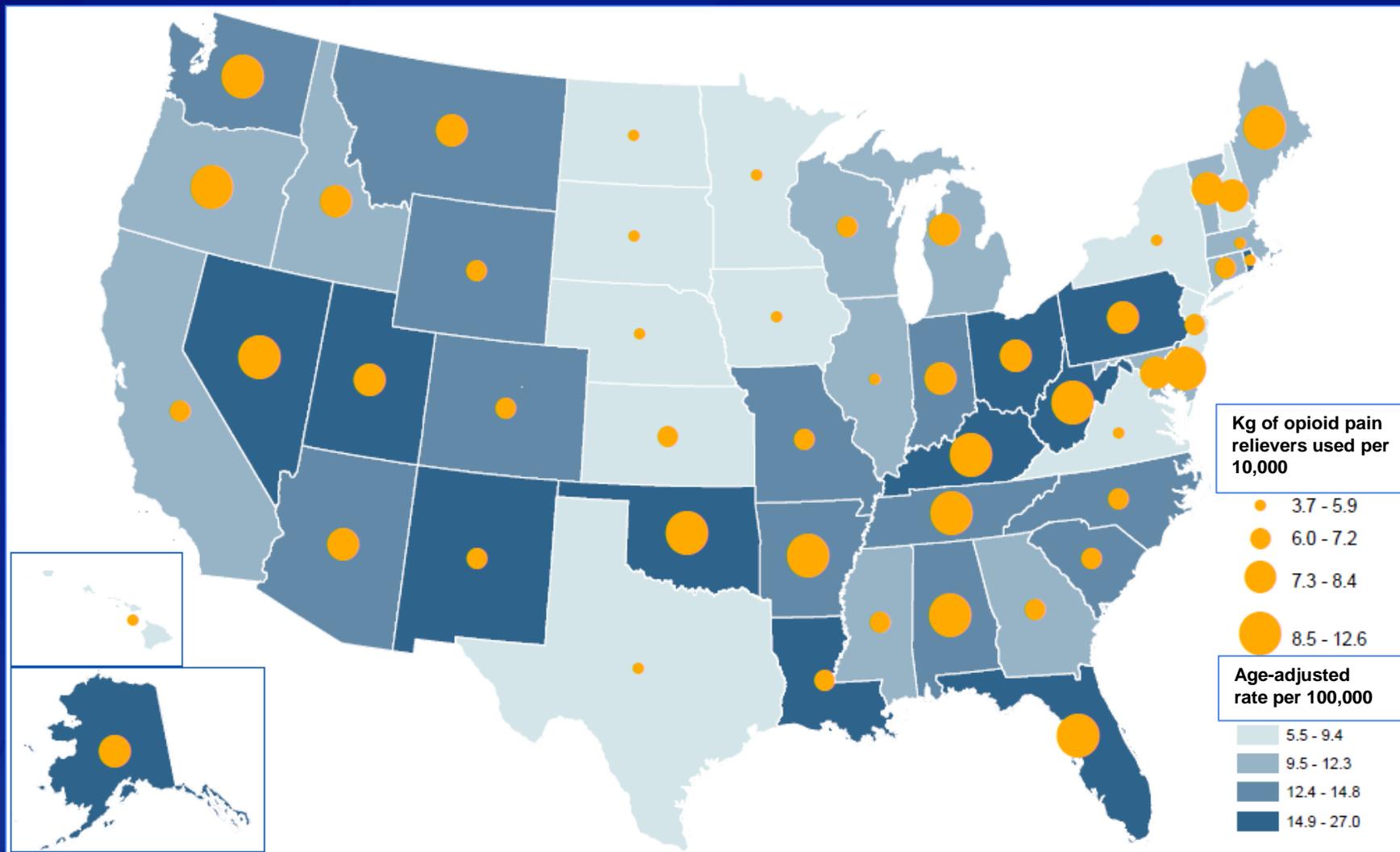
Opioid prescriptions dispensed by retail pharmacies, U.S., 1991-2011



Rates of opioid overdose deaths, sales and treatment admissions, US, 1999-2010



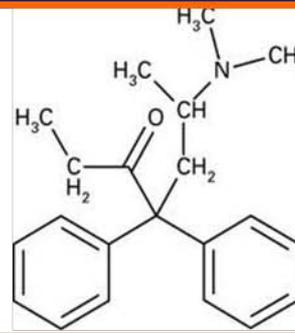
Drug overdose death rate 2008 and opioid pain reliever sales rate 2010



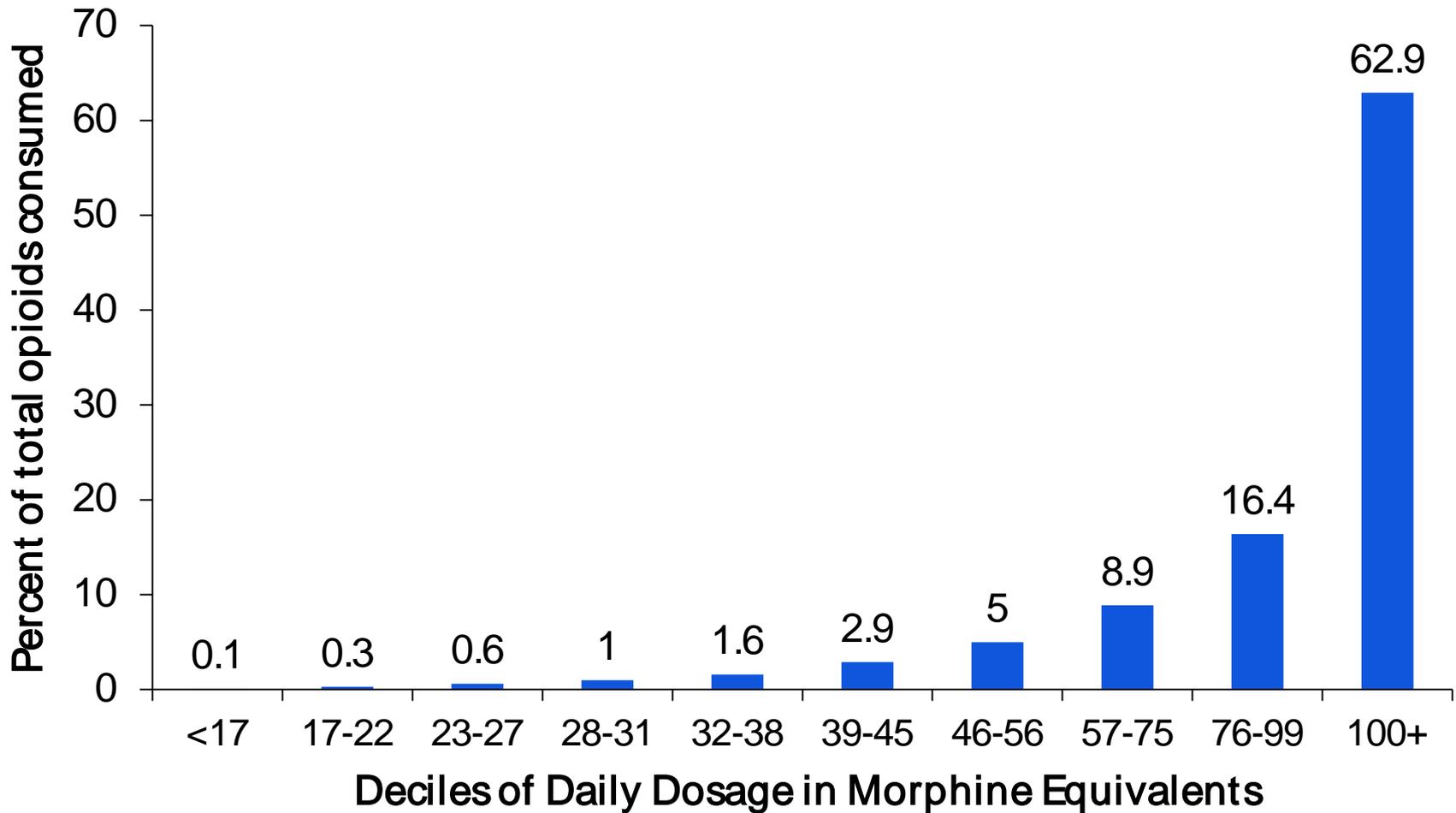
National Vital Statistics System, 2008; Automated Reports Consolidated Orders System (2010)

Overview

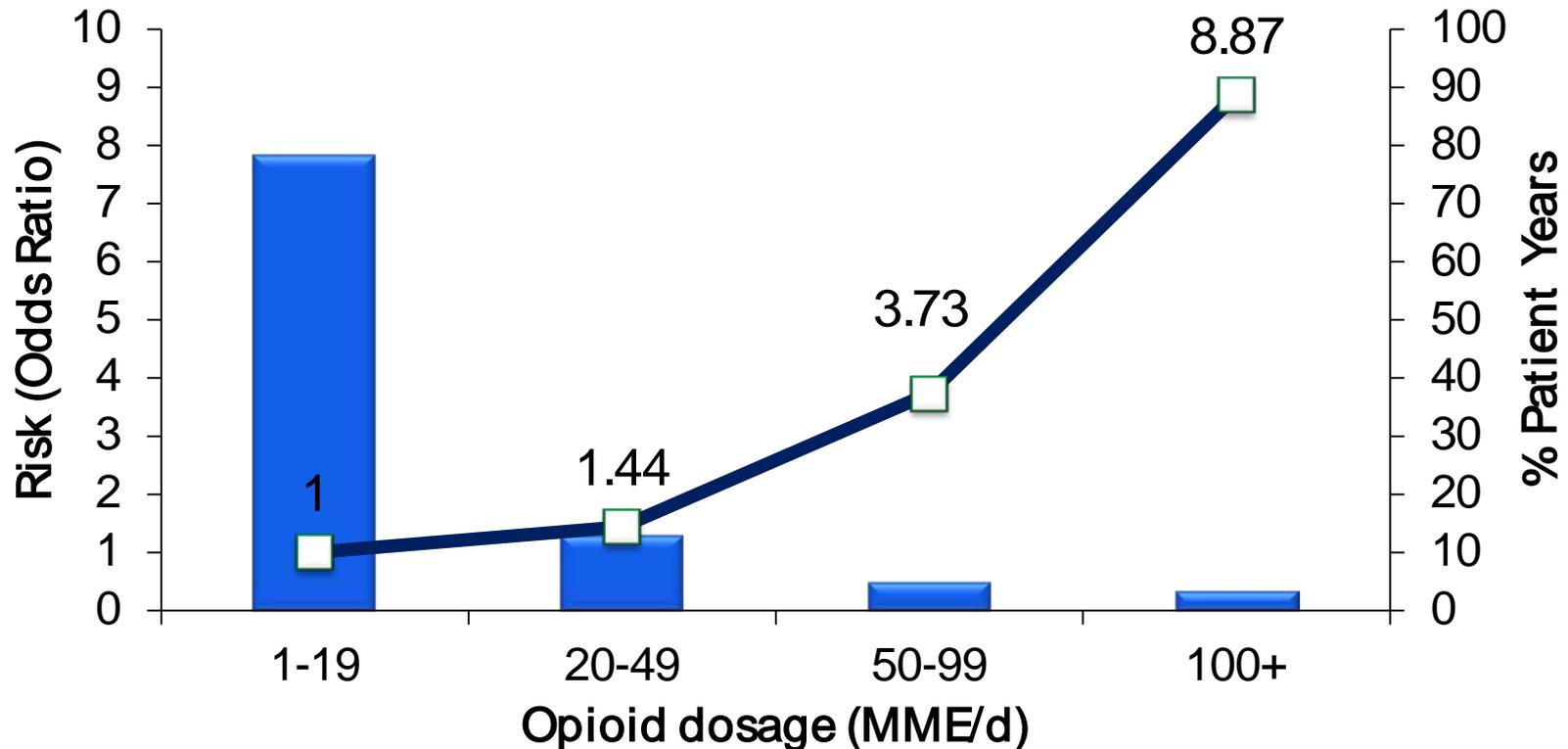
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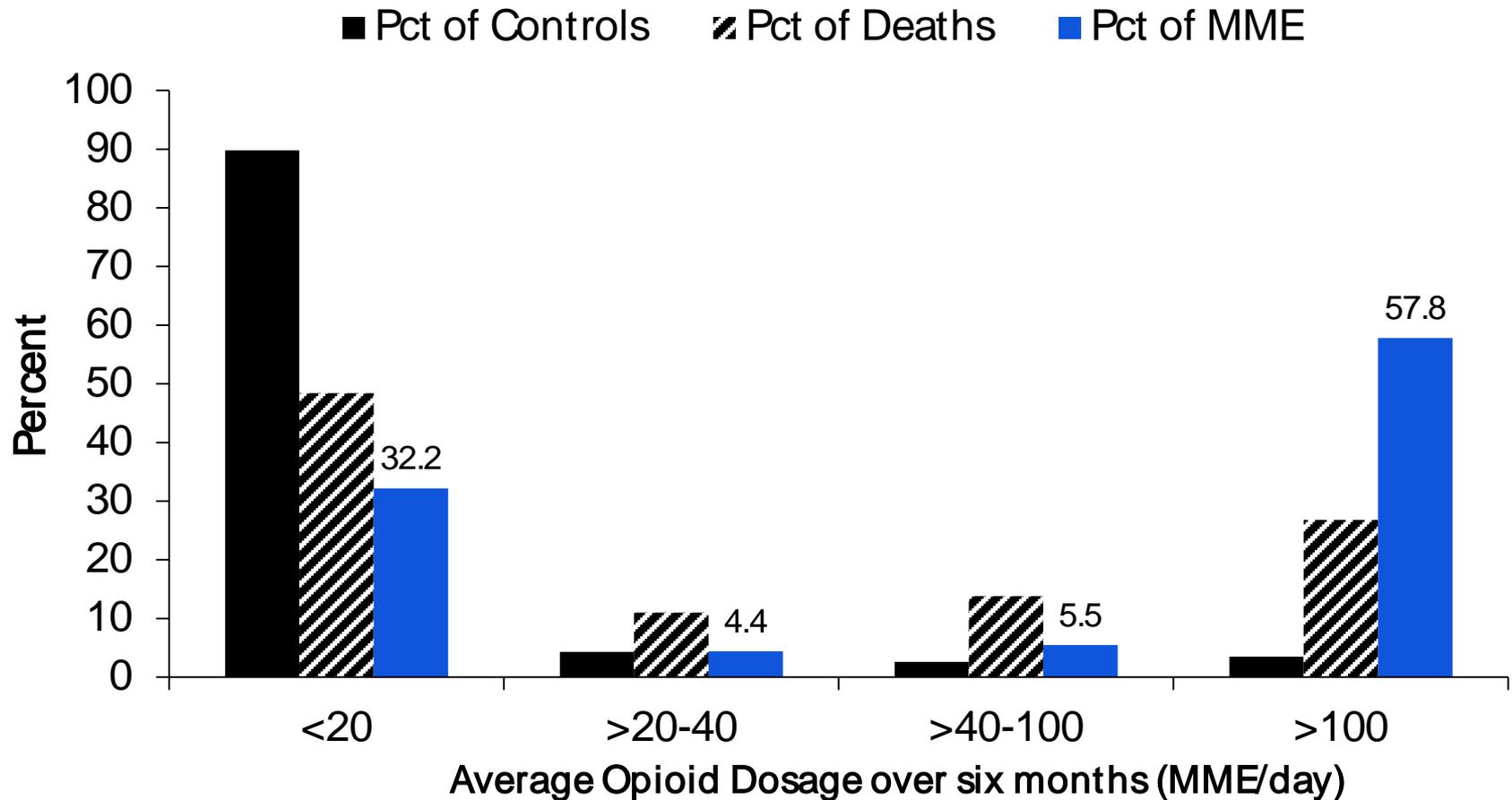
Percent of total opioids consumed by patient consumption level, Arkansas Medicaid, 2005



Overdose risk highest among small percentage of patients at high dosage, Group Health, 1997-2005

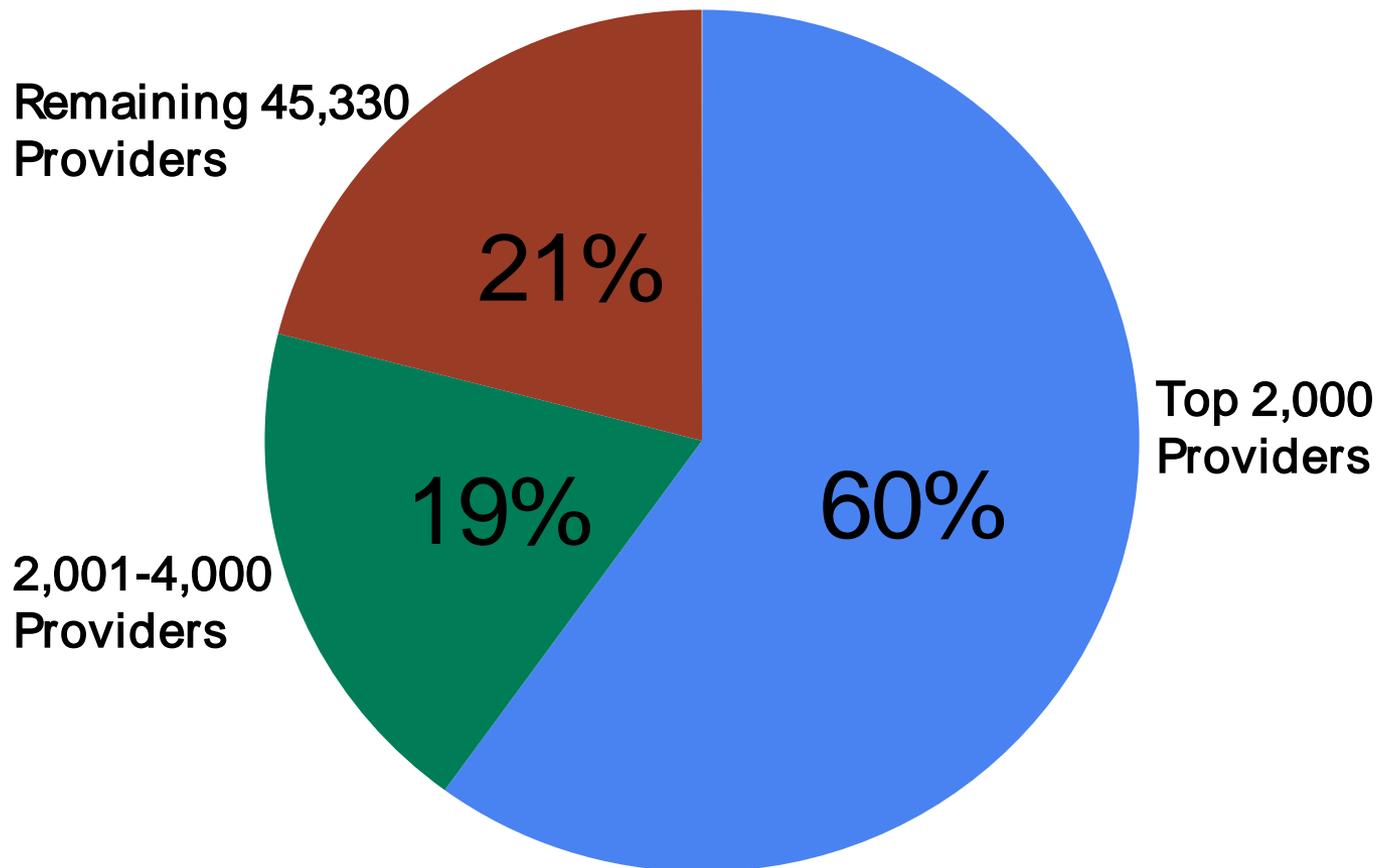


Most opioids consumed by small percentage of patients at high dosage levels, New Mexico, 2007-2008

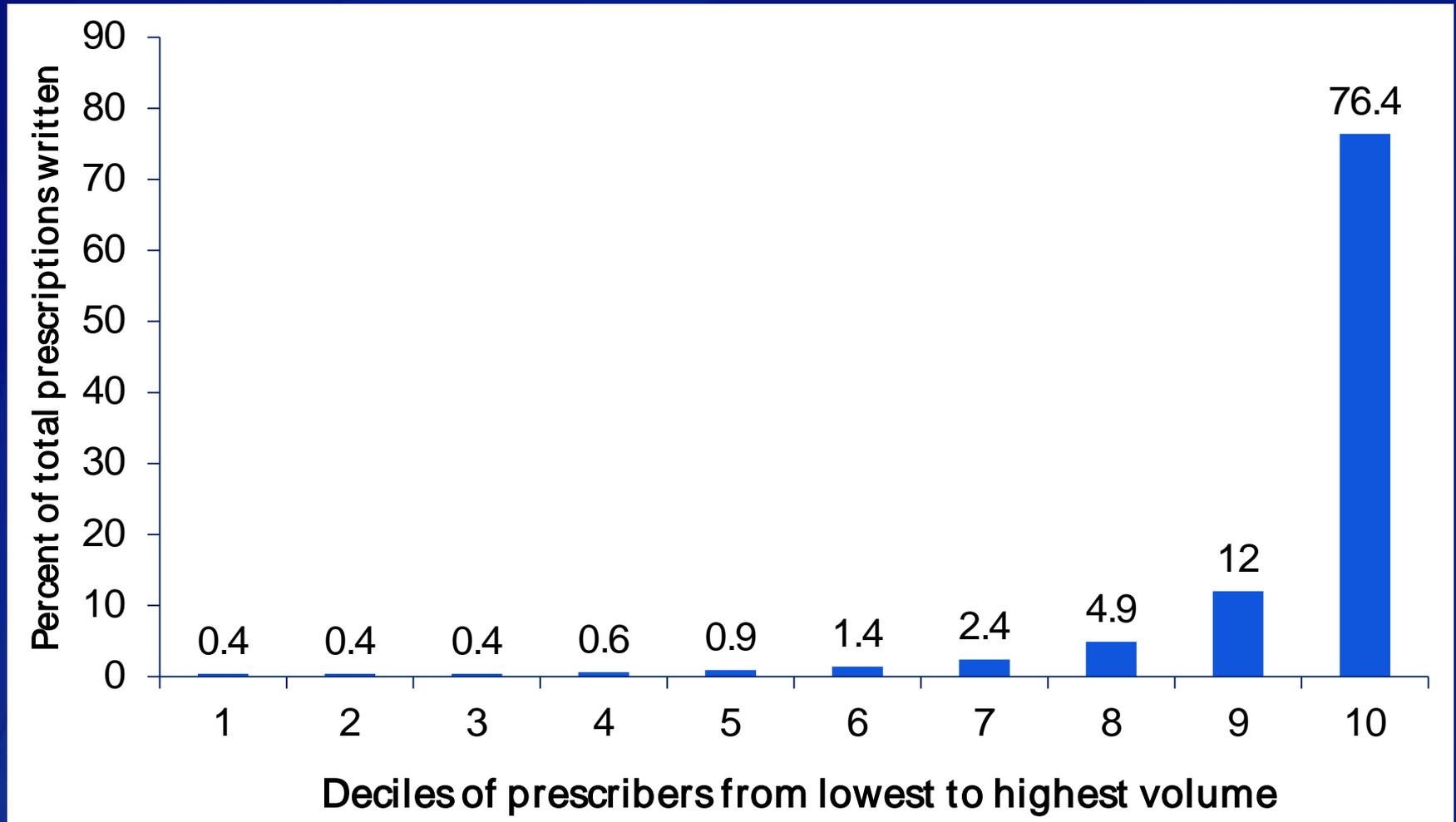


Unpublished data from New Mexico case-control study.

Oregon PDMP report top 8.1% of providers prescribe 79% of CII-CIV drugs

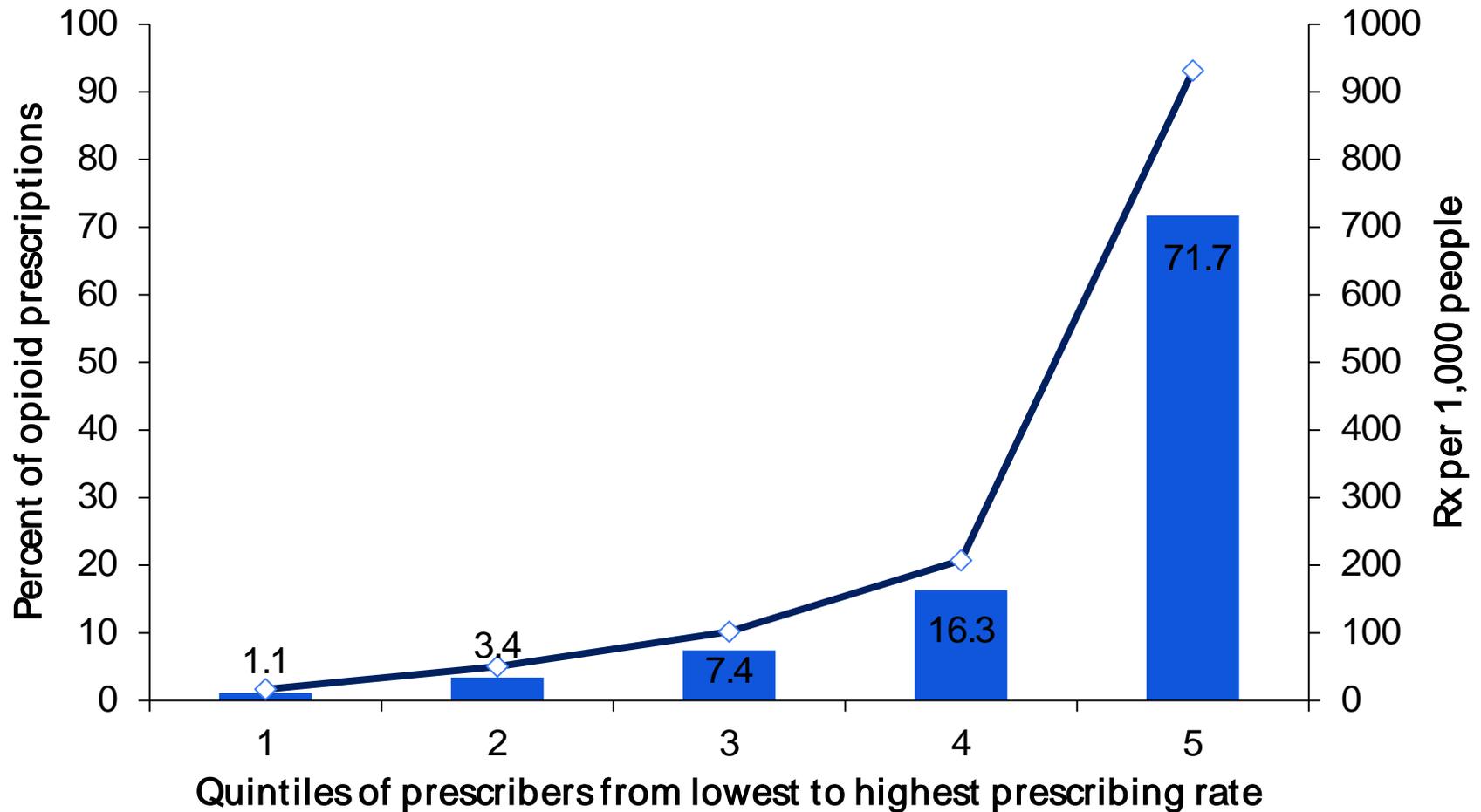


Top 10% of prescribers account for 76% of total Rx's CA Workers Compensation, 2005-2009



Swedlow et al. Prescribing patterns of schedule II opioids in California Workers' Compensation, CWCI Institute, 2011

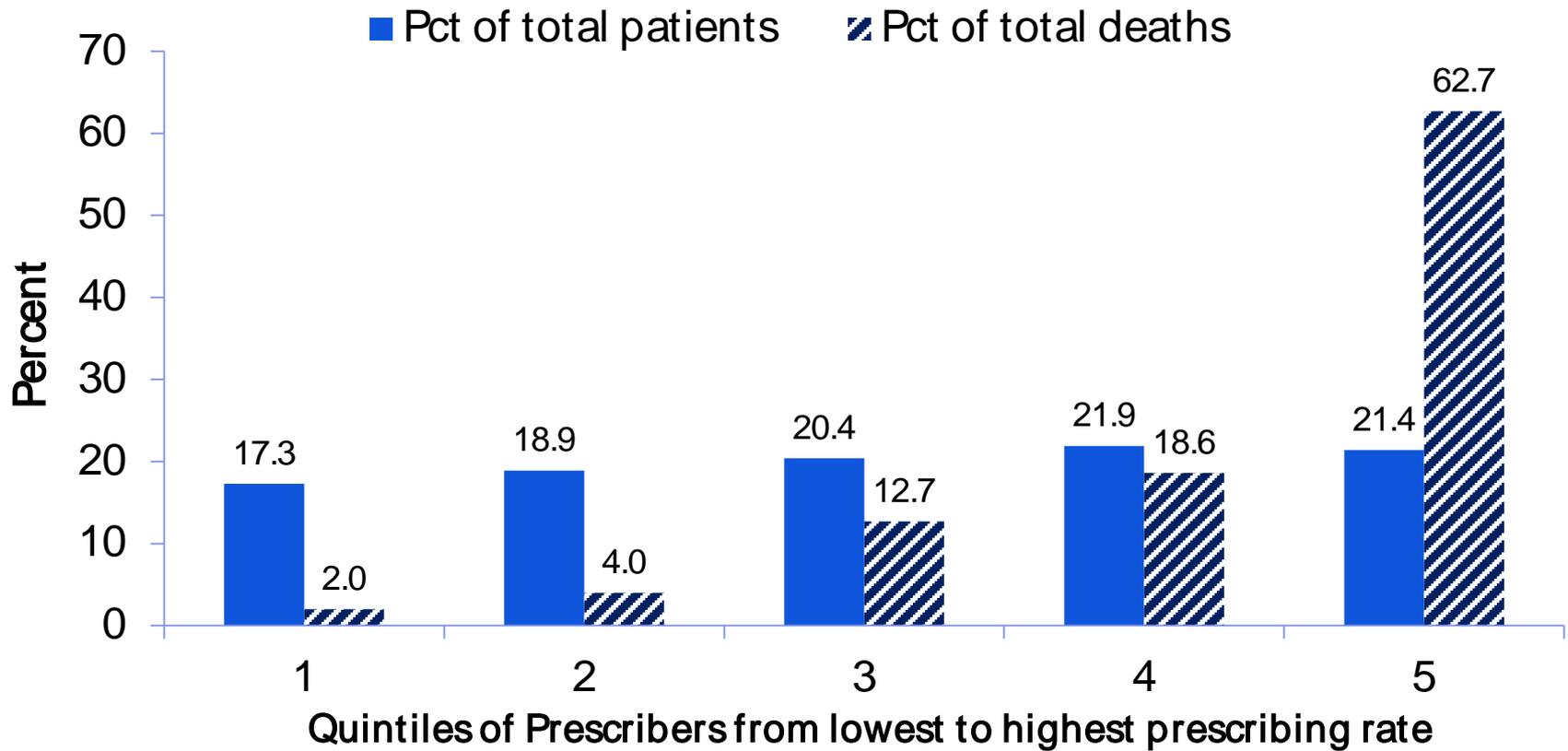
Top 20% of prescribers account for 72% of Rxs, Public Drug Program, Ontario, Canada, 2006



Dhalla, IA et al. Clustering of opioid prescribing and opioid-related mortality among family physicians in Ontario. *Can Fam Physician* 2011;57:e92-6

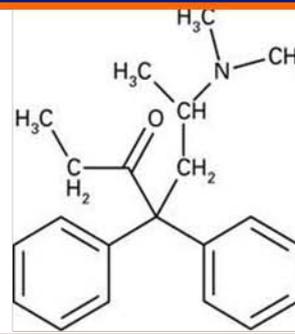
Top 20% of prescribers account for 63% of overdose deaths

Ontario Public Drug Program, 2006



Overview

- ❑ Abuse and overdose trends
- ❑ Drivers of the epidemic
- ❑ Prescribing and use patterns contributing to risk
- ❑ **CDC's public health response**

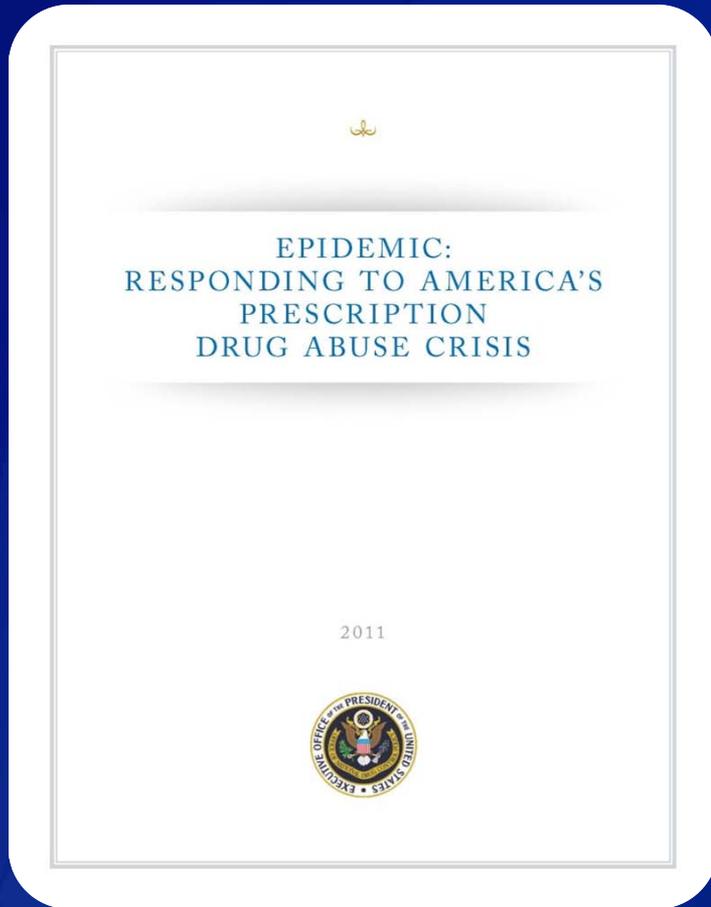


CDC Goal

- ❑ Reduce abuse and overdose of opioids and other controlled prescription drugs while ensuring patients with pain are safely and effectively treated.



CDC in Context of National Response



- ❑ Blueprint for Federal government
- ❑ Focus Areas
 - I. Education
 - II. Monitoring
 - III. Disposal
 - IV. Enforcement
- ❑ CDC Role - Fits within our mission and complement other Federal agencies

CDC Strategic Focus Areas

- ❑ Enhance Surveillance
- ❑ Inform Policy
- ❑ Improve Clinical Practice



PRESCRIPTION DRUGS

Strategies and points of intervention for preventing misuse, abuse, and overdose, while safeguarding access to treatment.

Strategies Legend

- ★ PDMPs
- PRRs
- ◆ Laws/Regulations/Policies
- Insurers/PBMs
- Clinical Guidelines



MANUFACTURERS / WHOLESALERS / DISTRIBUTORS

Intervention



PILL MILLS

Interventions



PROBLEM PRESCRIBING

Interventions



HOSPITALS / EMERGENCY DEPARTMENTS

Interventions



GENERAL PRESCRIBING

Interventions



PHARMACIES

Interventions



INSURERS / PBMs

Interventions



PEOPLE AT HIGH RISK FOR OVERDOSE

Interventions



GENERAL PATIENTS / PUBLIC

Interventions



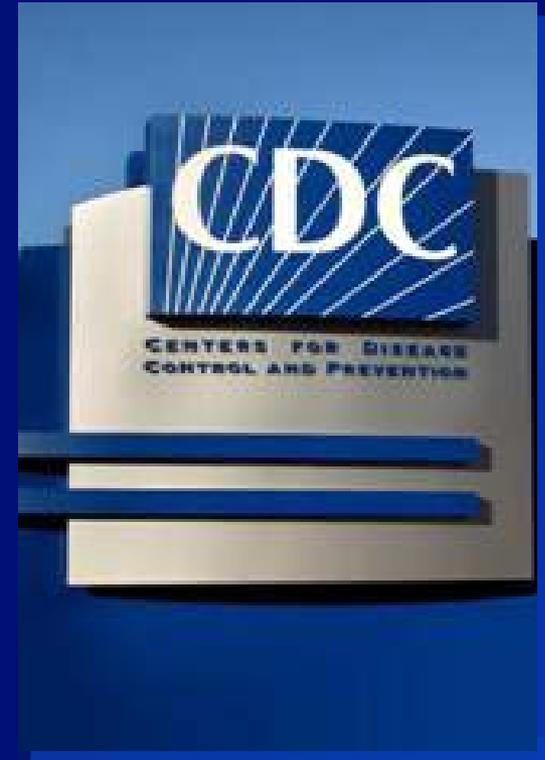
NOTE: What is presented here are the priority strategies that are likely to have the greatest impact. This is not an exhaustive list.

Intervention Points

- ❑ Pill Mills
- ❑ Problem Prescribing
- ❑ General Prescribing
- ❑ EDs & Hospitals
- ❑ Pharmacies
- ❑ Insurer & Pharmacy Benefit Managers (PBMs)
- ❑ General Patients & The Public
- ❑ People at High Risk of Overdose

Public Health Policy Options

- ❑ Prescription Drug Monitoring Programs (PDMPs)
- ❑ Patient Review & Restriction Programs
- ❑ Laws/Regulations/Policies
- ❑ Insurers & Pharmacy Benefit Managers (PBM) Mechanisms
- ❑ Clinical Guidelines
- ❑ Substance Abuse Treatment



Maximize Prescription Drug Monitoring Programs (PDMPs)

❑ Focus PDMPs

- On patients at highest risk of abuse and overdose
- On prescribers who clearly deviate from accepted medical practice

❑ Implement PDMP Best Practices

- Allow access to prescribers and dispensers
- Allow access to regulatory boards, state Medicaid and public health agencies, Medical Examiners, and law enforcement (under appropriate circumstances)
- Provide real-time data and access
- Share data with other states (interoperability)
- Integrate with other health information technology to improve use among health care providers
- Have ability to send unsolicited reports

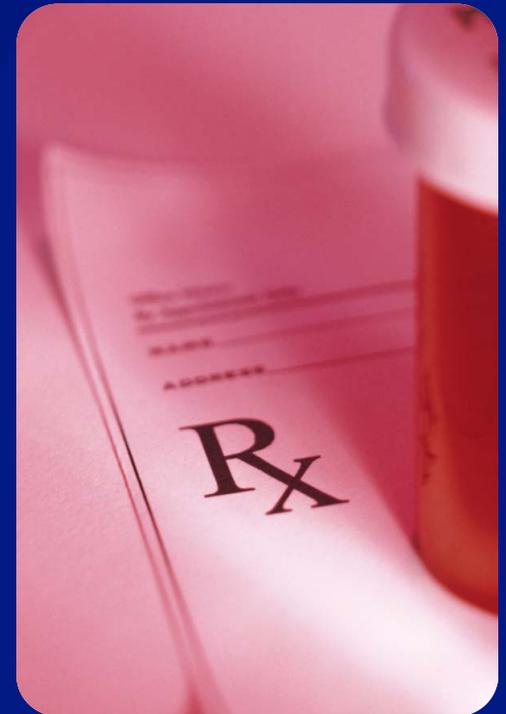
Patient Review and Restriction Programs (aka “Lock-In” Programs)

- ❑ Applies to patients with inappropriate use of controlled substances
- ❑ 1 prescriber and 1 pharmacy for controlled substances
- ❑ Improve coordination of care and ensure appropriate access for patients at high risk for overdose
- ❑ Evaluations show cost savings as well as reductions in ED visits and numbers of providers and pharmacies



Laws/Regulation/Policies

- ❑ Some states have enacted laws and policies aimed at reducing diversion, abuse, and overdose
- ❑ Policies can strengthen health care provider accountability
- ❑ Safeguard access to treatment when implementing policies
- ❑ Rigorous evaluations to determine effectiveness and identify model aspects



Insurer/Pharmacy Benefit Manager (PBM) Mechanisms

- ❑ Reimbursement strategies
- ❑ Formulary development
- ❑ Quantity limits
- ❑ Step therapies/Prior Authorization
- ❑ Real-time claims analysis
- ❑ Retrospective claims review programs



Clinical Guidelines

- ❑ Improve prescribing and treatment
- ❑ Basis for standard of accepted medical practice for purposes of licensure board actions
- ❑ Several consensus guidelines available

The Journal of Pain, Vol. 10, No. 2 (February), 2009; pp 113-130
Available online at www.elsevier.com



Opioid Treatment Guidelines

Clinical Guidelines for the Use of Chronic Opioid Therapy in Chronic Noncancer Pain

Roger Chou,¹ Gilbert J. Fanciullo,² Perry G. Fine,³ Jeremy A. Adler,⁴ Jane C. Ballantyne,⁵ Pamela Davies,⁶ Marilee I. Donovan,⁷ David A. Fishbain,⁸ Kathy M. Foley,⁹ Jeffrey Fudin,¹⁰ Astron M. Gitton,¹¹ Alexander Kelter,¹² Alexander Mouskop,¹³ Patrick G. O'Connor,¹⁴ Steven D. Passik,¹⁵ Gavril W. Pasternak,¹⁶ Russell K. Portenoy,¹⁷ Ben A. Rich,¹⁸ Richard G. Roberts,¹⁹ Knox H. Todd,²⁰ and Christine Maskowski,²¹ FOR THE AMERICAN PAIN SOCIETY—AMERICAN ACADEMY OF PAIN MEDICINE OPIOIDS GUIDELINES PANEL

¹Oregon Evidence-based Practice Center, Department of Medicine, Department of Medical Informatics and Clinical Epidemiology, Oregon Health and Science University, Portland, Oregon.
²Pain Management Center, Department of Anesthesiology, Dartmouth-Hitchcock Medical Center, Lebanon, New Hampshire.
³Pain Research Center, Department of Anesthesiology, University of Utah, Salt Lake City, Utah.
⁴Pacific Pain Medicine Consultants, Encinitas, California.
⁵Division of Pain Medicine, Department of Anesthesia and Critical Care, Massachusetts General Hospital, Boston, Seattle Cancer Care Alliance, Seattle, Washington.
⁶Pain Management Clinic, Kaiser Permanente Northwest, Portland, Oregon.
⁷School of Medicine, Neurological Surgery and Anesthesiology, University of Miami, Miami, Florida.
⁸Pain and Palliative Care Service, Department of Neurology, Memorial Sloan-Kettering Cancer Center, New York, New York.
⁹Samuel S. Stratton Department of Veterans Affairs Medical Center, and Albany College of Pharmacy & Health Sciences, Albany, New York.
¹⁰Pain and Policy Studies Group, Paul P. Carbone Comprehensive Cancer Center, University of Wisconsin, Madison.
¹¹Epidemiology and Prevention for Injury Control (EPIC) Branch, California Department of Health Services, Sacramento, California (retired 2008).
¹²New York Headache Center, New York, New York.
¹³Section of General Internal Medicine, Yale University School of Medicine and Yale-New Haven Hospital, New Haven, Connecticut.
¹⁴Department of Psychiatry and Behavioral Sciences, Memorial Sloan-Kettering Cancer Center, New York, New York.
¹⁵Laboratory of Molecular Neuropharmacology, Department of Molecular Pharmacology and Chemistry, Memorial Sloan-Kettering Cancer Center, New York, New York.
¹⁶Department of Pain Medicine and Palliative Care, Beth Israel Medical Center, New York, New York.
¹⁷School of Medicine, Division of Biometrics, University of California Davis.
¹⁸School of Medicine and Public Health, University of Wisconsin, Madison.
¹⁹Pain and Emergency Medicine Institute, Beth Israel Medical Center, New York, New York.
²⁰Department of Physiological Nursing, University of California, San Francisco.

Abstract: Use of chronic opioid therapy for chronic noncancer pain has increased substantially. The American Pain Society and the American Academy of Pain Medicine commissioned a systematic review of the evidence on chronic opioid therapy for chronic noncancer pain and convened a multidisciplinary expert panel to review the evidence and formulate recommendations. Although evidence is limited, the expert panel concluded that chronic opioid therapy can be an effective therapy for

This article is based on research conducted at the Oregon Evidence-based Practice Center with funding from the American Pain Society (APS). The authors are solely responsible for the content of this article and the decision to submit for publication.
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0898-0101/09/\$32.00
© 2009 by the American Pain Society
doi:10.1016/j.pain.2008.10.008




Interagency Guideline on Opioid Dosing for Chronic Non-cancer Pain:

An educational aid to improve care and safety with opioid therapy

2010 Update

What is New in this Revised Guideline

- New data, including scientific evidence to support the 120mg MED dosing threshold
- Tools for calculating dosages of opioids during treatment and when tapering
- Validated screening tools for assessing substance abuse, mental health, and addiction
- Validated two-item scale for tracking function and pain
- Urine drug testing guidance and algorithm
- Information on access to mentoring and consultations (including reimbursement options)
- New patient education materials and resources
- Guidance on coordinating with emergency departments to reduce opioid abuse
- New clinical tools and resources to help streamline clinical care

You can find this guideline and related tools at the Washington State Agency Medical Directors' site at www.agencymeddirectors.wa.gov



December 2011 The New York City Department of Health and Mental Hygiene Vol. 20(4):23-30

PREVENTING MISUSE OF PRESCRIPTION OPIOID DRUGS

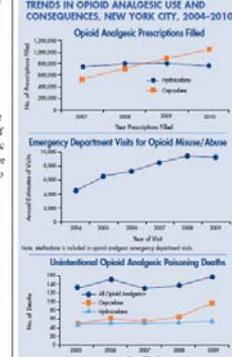
- Physicians and dentists can play a major role in reducing risks associated with opioid analgesics, particularly fatal drug overdose.
- For acute pain:
 - If opioids are warranted, prescribe only short-acting agents.
 - A 3-day supply is usually sufficient.
- For chronic noncancer pain:
 - Avoid prescribing opioids unless other approaches to analgesia have been demonstrated to be ineffective.
 - Avoid whenever possible prescribing opioids in patients taking benzodiazepines because of the risk of fatal respiratory depression.

The use of prescription opioid to manage pain has increased 10-fold over the past 20 years in the United States.¹ Although opioids are indicated and effective in the management of certain types of acute pain and cancer pain, their role in treating chronic noncancer pain is not well established.²

Concomitant with the growth in opioid prescribing, opioid-related health problems have increased. Between 2004 and 2009, the number of emergency department visits for opioid analgesic misuse and abuse in New York City (NYC) more than doubled, rising from approximately 4500 to more than 9000 visits.³ In 2009, 1 in every 4 unintentional drug poisoning (overdose) deaths in NYC involved prescription opioid analgesics, excluding methadone.⁴ In NYC, one-third of unintentional drug poisoning overdose deaths involve a benzodiazepine,⁵ the most common it alprazolam (Xanax).⁶ Risk of unintentional poisoning may be increased when opioids are taken with benzodiazepines because both cause respiratory depression.⁷

The use of prescription opioids in manners other than prescribed and the use of these medications without prescriptions are serious public health problems.⁸

TRENDS IN OPIOID ANALGESIC USE AND CONSEQUENCES, NEW YORK CITY, 2004–2010



¹Woolf, P. D. (2003). The global burden of pain. *Seminars in Oncology*, 30(2), 133-147.
²Chou, R., Fanciullo, G. J., Fine, P. G., Adler, J. A., Ballantyne, J. C., Davies, P., et al. (2009). Clinical guidelines for the use of chronic opioid therapy in chronic noncancer pain. *The Journal of Pain*, 10(2), 113-130.
³New York City Department of Health and Mental Hygiene. (2011). *Emergency Department Visits for Opioid Misuse/Abuse*.
⁴New York City Department of Health and Mental Hygiene. (2011). *Unintentional Opioid Analgesic Poisoning Deaths*.
⁵New York City Department of Health and Mental Hygiene. (2011). *Unintentional Opioid Analgesic Poisoning Deaths*.
⁶New York City Department of Health and Mental Hygiene. (2011). *Unintentional Opioid Analgesic Poisoning Deaths*.
⁷New York City Department of Health and Mental Hygiene. (2011). *Unintentional Opioid Analgesic Poisoning Deaths*.
⁸New York City Department of Health and Mental Hygiene. (2011). *Unintentional Opioid Analgesic Poisoning Deaths*.

Clinical Guidelines

- ❑ **Common themes among current consensus guidelines**
 - Screen and monitor patients for substance abuse and mental health problems
 - Prescribe opioids only when other treatments have not been effective for pain
 - Prescribe only quantity needed based on expected length of pain
 - Use patient-provider agreements combined with urine drug tests for long-term users
 - Teach patients how to safely use, store and dispose of medications
 - Avoid co-prescribing opioids and benzodiazepines (if possible)
 - Use PDMPs to identify patients improperly using opioids and other controlled prescription drugs

Improve Access to Substance Abuse Treatment

- ❑ Access to substance abuse treatment is critical
- ❑ Effective, accessible treatment programs can reduce abuse and overdose among people struggling with dependence and addiction
- ❑ States should expect increased demand, including access to medication assisted therapies

SAME Strategy = Multiple Intervention Points

Intervention Points	Key Strategy
Pill Mills	PDMPs, Laws/Regulations/Policies
Problem Prescribing	PDMPs, Laws/Regulations/Policies, Insurers/PBMs, Clinical Guidelines
General Prescribing	PDMPs, Laws/Regulations/Policies, Insurers/PBMs, Clinical Guidelines
EDs & Hospitals	PDMPs, Laws/Regulations/Policies, Insurers/PBMs, Clinical Guidelines
Pharmacies	PDMPs, Patient Review & Restriction Programs, Laws/Regulations/Policies, Insurers/PBMs, Clinical Guidelines
Insurers & Pharmacy Benefit Managers	PDMPs, Patient Review & Restriction Programs, Laws/Regulations/Policies, Insurers/PBMs
People at High Risk of Overdose	PDMPs, Patient Review & Restriction Programs, Laws/Regulations/Policies, Insurers/PBMs, Clinical Guidelines, increase access to substance abuse treatment
General Patients & The Public	PDMPs, Insurers/PBMs, Clinical Guidelines

Additional Information



<http://www.cdc.gov/HomeandRecreationalSafety/pdf/PolicyImpact-PrescriptionPainkillerOD.pdf>

Morbidity and Mortality Weekly Report

Vital Signs: Risk for Overdose from Methadone Used for Pain Relief — United States, 1999–2010

On July 3, 2012, this report was posted as an MMWR Early Release on the MMWR website (<http://www.cdc.gov/mmwr>).

Abstract

Background: Vital statistics data suggest that the opioid pain reliever (OPR) methadone is involved in one third of OPR-related overdose deaths, but it accounts for only a few percent of OPR prescriptions.

Methods: CDC analyzed rates of fatal methadone overdoses and sales nationally during 1999–2010 and rates of overdose death for methadone compared with rates for other major opioids in 13 states for 2009.

Results: Methadone overdose deaths and sales rates in the United States peaked in 2007. In 2010, methadone accounted for between 4.5% and 18.5% of the opioids distributed by state. Methadone was involved in 31.4% of OPR deaths in the 13 states. It accounted for 39.8% of single-drug OPR deaths. The overdose death rate for methadone was significantly greater than that for other OPR for multidrug and single-drug deaths.

Conclusions: Methadone remains a drug that contributes disproportionately to the excessive number of opioid pain reliever overdoses and associated medical and societal costs.

Implications for Public Health Practice: Health-care providers who choose to prescribe methadone should have

Centers for Disease Control and Prevention
MMWR

Morbidity and Mortality Weekly Report

Early Release / Vol. 60

November 1, 2011

Vital Signs: Overdoses of Prescription Opioid Pain Relievers — United States, 1999–2008

Abstract

Background: Overdose deaths involving opioid pain relievers (OPR), also known as opioid analgesics, have increased and now exceed deaths involving heroin and cocaine combined. This report describes the use and abuse of OPR by state.

Methods: CDC analyzed rates of fatal OPR overdoses, nonmedical use, sales, and treatment admissions.

Results: In 2008, drug overdoses in the United States caused 36,450 deaths. OPR were involved in 14,800 deaths (73.8%) of the 20,044 prescription drug overdose deaths. Death rates varied fivefold by state. States with lower death rates had lower rates of nonmedical use of OPR and OPR sales. During 1999–2008, overdose death rates, sales, and substance abuse treatment admissions related to OPR all increased substantially.

Conclusions: The epidemic of overdoses of OPR has continued to worsen. Wide variation among states in the nonmedical use of OPR and overdose rates cannot be explained by underlying demographic differences in state populations but is related to wide variations in OPR prescribing.

Implications for Public Health Practice: Health-care providers should only use OPRs in carefully screened and monitored patients when non-OPR treatments are insufficient to manage pain. Insurers and prescription drug monitoring programs can identify and take action to reduce both inappropriate and illegal prescribing. Third-party payers can limit reimbursement in ways that reduce inappropriate prescribing, discourage efforts to obtain OPR from multiple health-care providers, and improve clinical care. Changes in state laws that focus on the prescribing practices of health-care providers might reduce prescription drug abuse and overdoses while still allowing safe and effective pain treatment.

<http://www.cdc.gov/mmwr/preview/mmwrhtml/mm6043a4.htm>

http://www.cdc.gov/mmwr/preview/mmwrhtml/mm6126a5.htm?s_cid=mm6126a5_w

Conclusions

- ❑ Drug overdose deaths are exacting a significant toll on individuals and communities across the US
- ❑ Data can improve understanding of the problem and help drive decision making
- ❑ Promising interventions exist and need to be fully implemented and robustly evaluated
- ❑ Collaboration between multiple sectors is essential

Thank You

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The findings and conclusions in this report are those of the author and do not necessarily represent the views of the Centers for Disease Control and Prevention.

