Surveillance Report

Highlights from the Annual Surveillance Report of Drug-Related Risks and Outcomes United States, 2017

August 31, 2017

Centers for Disease Control and Prevention
National Center for Injury Prevention and Control

Background: The Drug Epidemic in the United States

- Drug overdose deaths in the United States more than tripled from 1999 to 2015.
- Since 2010, the U.S. has seen sharp increases in deaths from heroin, synthetic opioids (e.g., fentanyl), cocaine, and methamphetamine.
- Drug overdoses are responsible for parallel increasing trends in nonfatal emergency department and hospital admissions.

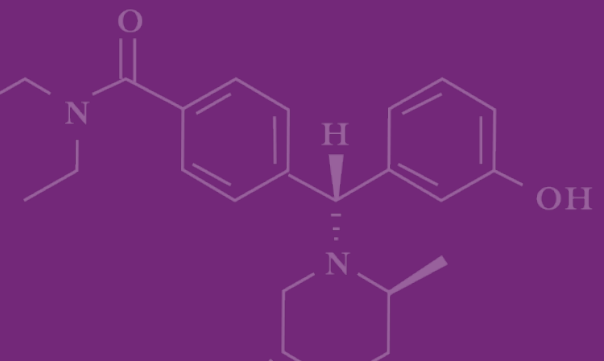
Data Sources

Outcome	Data Source	Year(s)
Opioid prescribing practices	QuintilesIMS Health®	2006-2016
Drug use, misuse, and substance use disorder	National Survey on Drug Use and Health (NSDUH)[a]	2014-2015
Nonfatal overdose hospitalizations and emergency department (ED) visits	Healthcare Cost and Utilization Project (HCUP)[b]	2014
Drug overdose mortality	National Vital Statistics System (NVSS) Mortality Component[c]	1999-2015

[a]A product of the Substance Abuse and Mental Health Services Administration
[b]A product of the Agency for Healthcare Research and Quality (AHRQ),
[c]Maintained by the National Center for Health Statistics, CDC.

Note: For a detailed description of data sources, definitions, and statistical analyses as well as an in-depth presentation of results, please refer to the report: Centers for Disease Control and Prevention. Annual Surveillance Report of Drug-Related Risks and Outcomes — United States, 2017. Surveillance Special Report 1. Centers for Disease Control and Prevention, U.S. Department of Health and Human Services. https://www.cdc.gov/drugoverdose/data Published [August 31, 2017].

Opioid Prescribing Practices



Opioid Prescribing Practices

National total number and rate of opioid prescriptions (Rx) dispensed per 100 persons annually — United States, 2016

Prescribing Opioids	2016	
	Rx Number	Rate[a]
U. S. Census population	323,127,513	
Total patients who had opioid Rx filled	61,862,364	19.1
Rx		
All opioids	214,881,622	66.5
LA/ER opioids[b]	20,394,389	6.3
Days of supply per Rx		
< 30 days	126,546,618	39.2
≥ 30 days	88,335,004	27.3
Average opioid Rx per patient	3.5	
Average days of supply per Rx	18.1	

Source: QuintilesIMS® Transactional Data Warehouse.
Abbreviation: Rx, prescription. [a]Rate per 100 persons adjusted to the U.S. census population. [b]LA/ER represents opioids that are long acting (LA) or extended release (ER).

Opioid Prescribing Practices

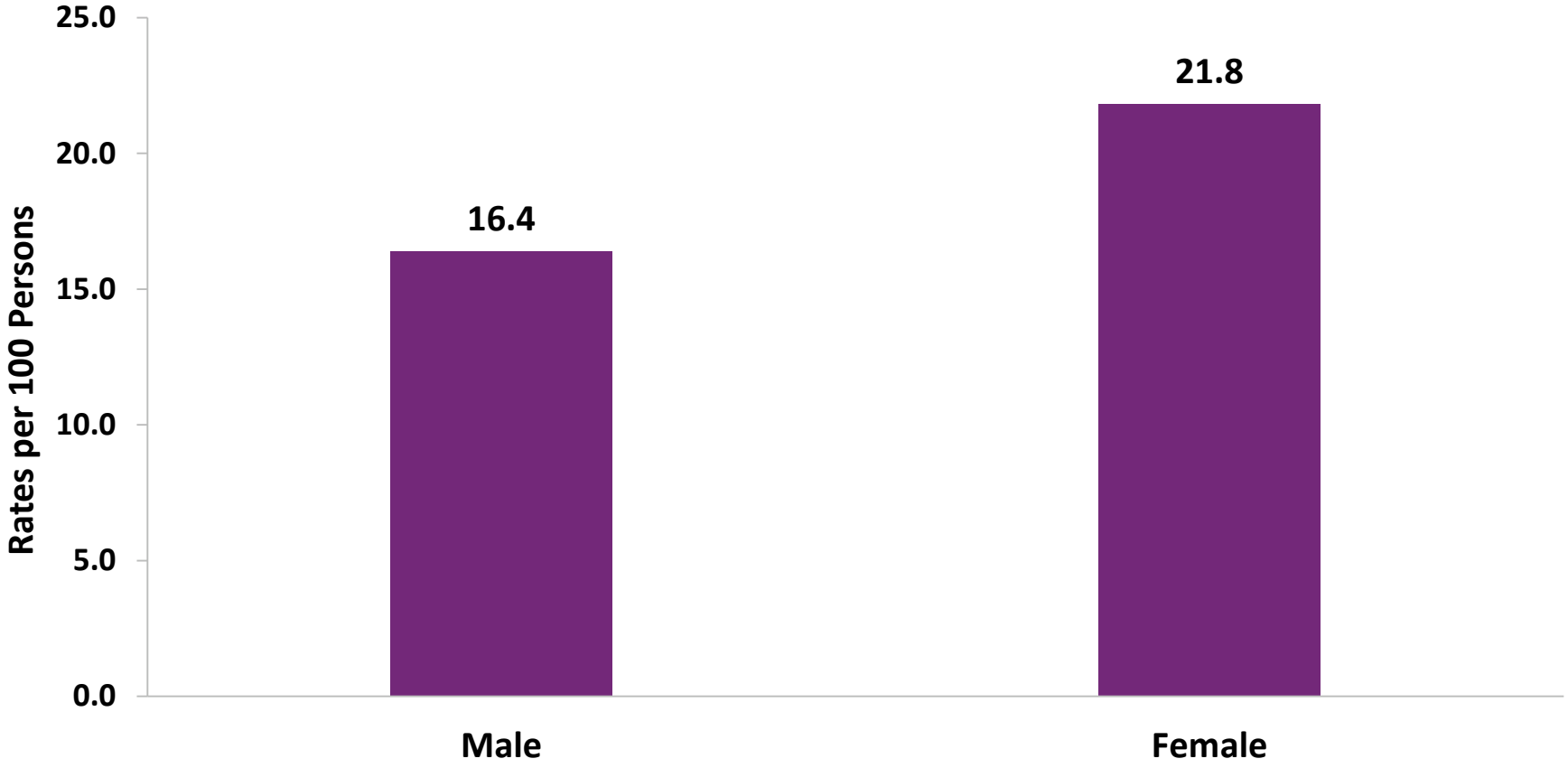
National total number and rate of morphine milligram equivalents (MME) dispensed per 100 persons annually — United States, 2016

Prescribing Opioids	2016	
	Rx Number	Rate[a]
MME		
Total MME	193,655,422,929	
MME per capita	599.3	
Average MME per Rx	901.2	
Average daily MME per Rx	47.1	
Daily dose per Rx		
< 50 MME	158,045,552.3	48.9
≥ 50 but < 90 MME	37,087,168.8	11.5
≥ 90 MME (high-dose)	19,748,900.8	6.1

Source: QuintilesIMS ® Transactional Data Warehouse. Abbreviation: MME, morphine milligram equivalent; Rx, prescription.
[a]Rate per 100 persons adjusted to the U.S. census population.

Opioid Prescribing Practices

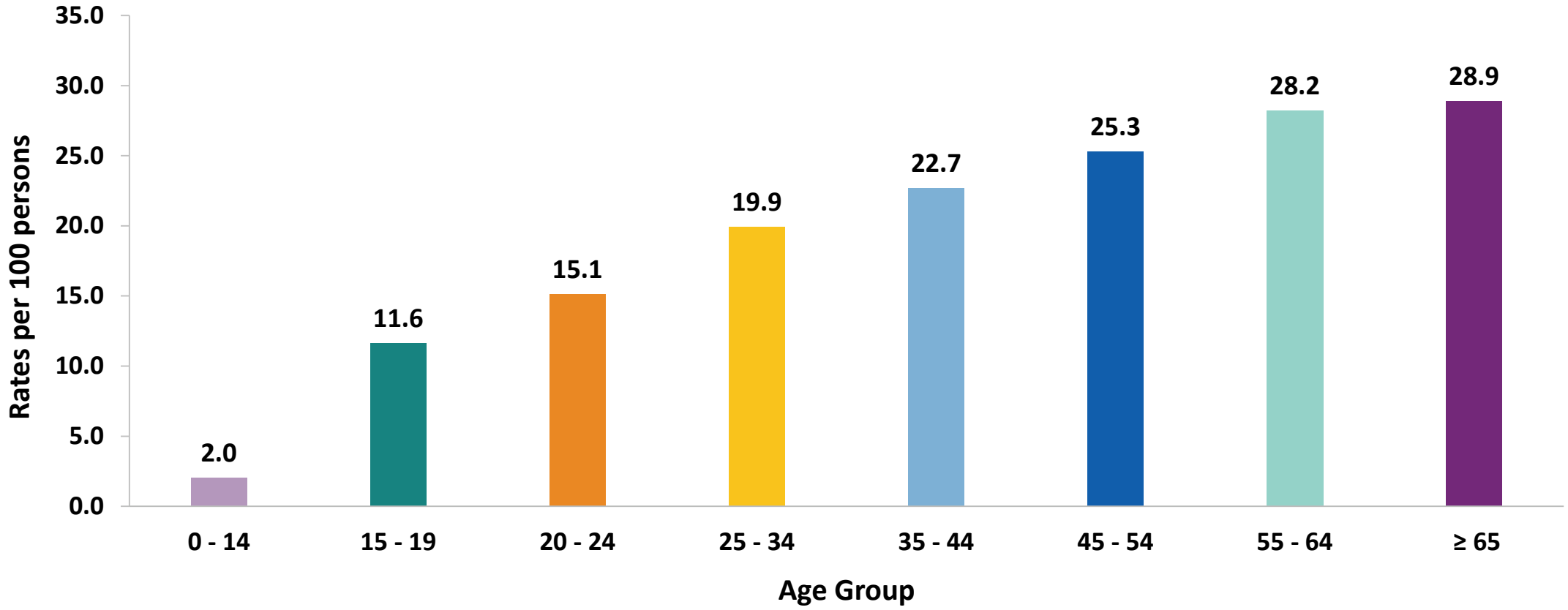
National opioid prescribing rate, by sex — United States, 2016



Source: QuintilesIMS® Total Patient Tracker, 2016 Enhanced.
Estimated rate of patients who had at least one opioid prescription filled or refilled

Opioid Prescribing Practices

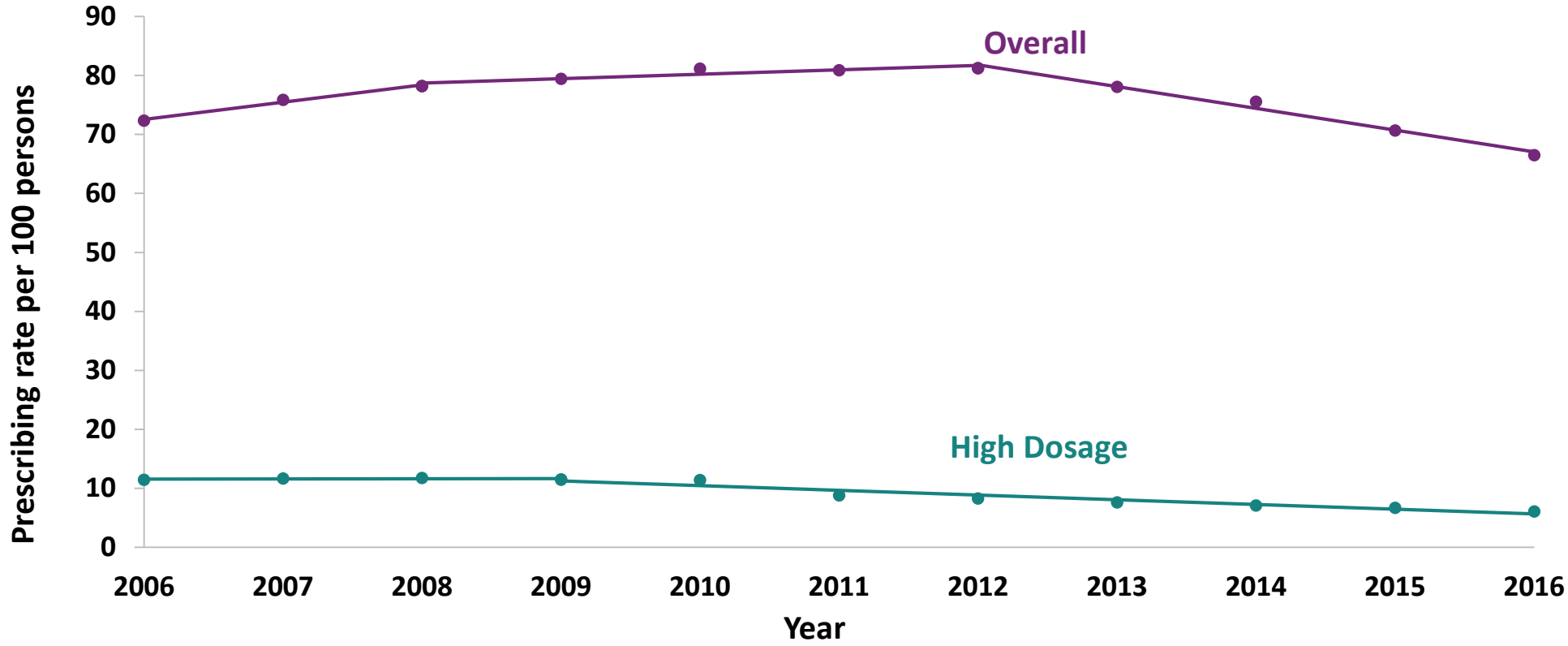
National opioid prescribing rate, by age group — United States, 2016



Source: QuintilesIMS ® Total Patient Tracker, 2016 Enhanced.
Estimated rate of patients who had at least one opioid prescription filled or refilled per100 persons, adjusted to the U.S. census population

Opioid Prescribing Practices

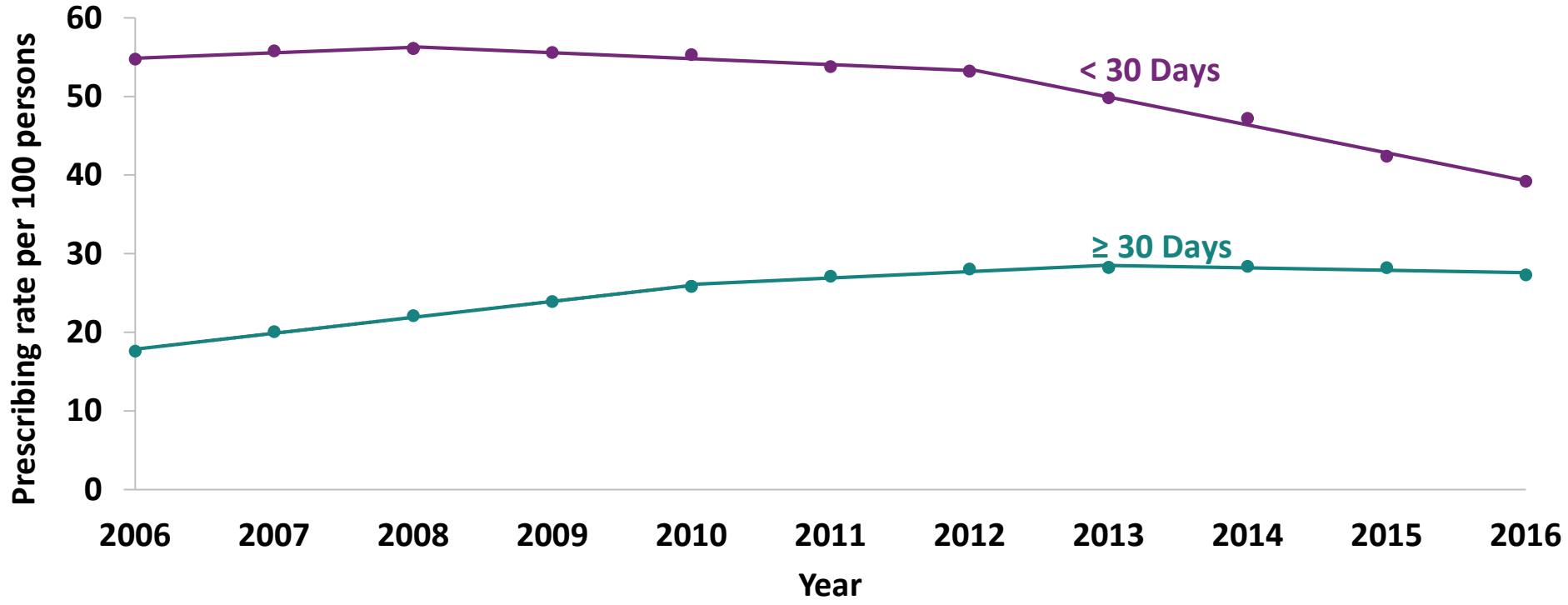
Trends in annual opioid prescribing rates by overall and high-dosage (≥ 90 MME/day) prescriptions — United States, 2006-2016



Source: QuintilesIMS ® Transactional Data Warehouse. Abbreviation: MME, morphine milligram equivalent. Rate per 100 persons adjusted to the U.S. census population. High-dosage prescriptions (≥ 90 MME/day)

Opioid Prescribing Practices

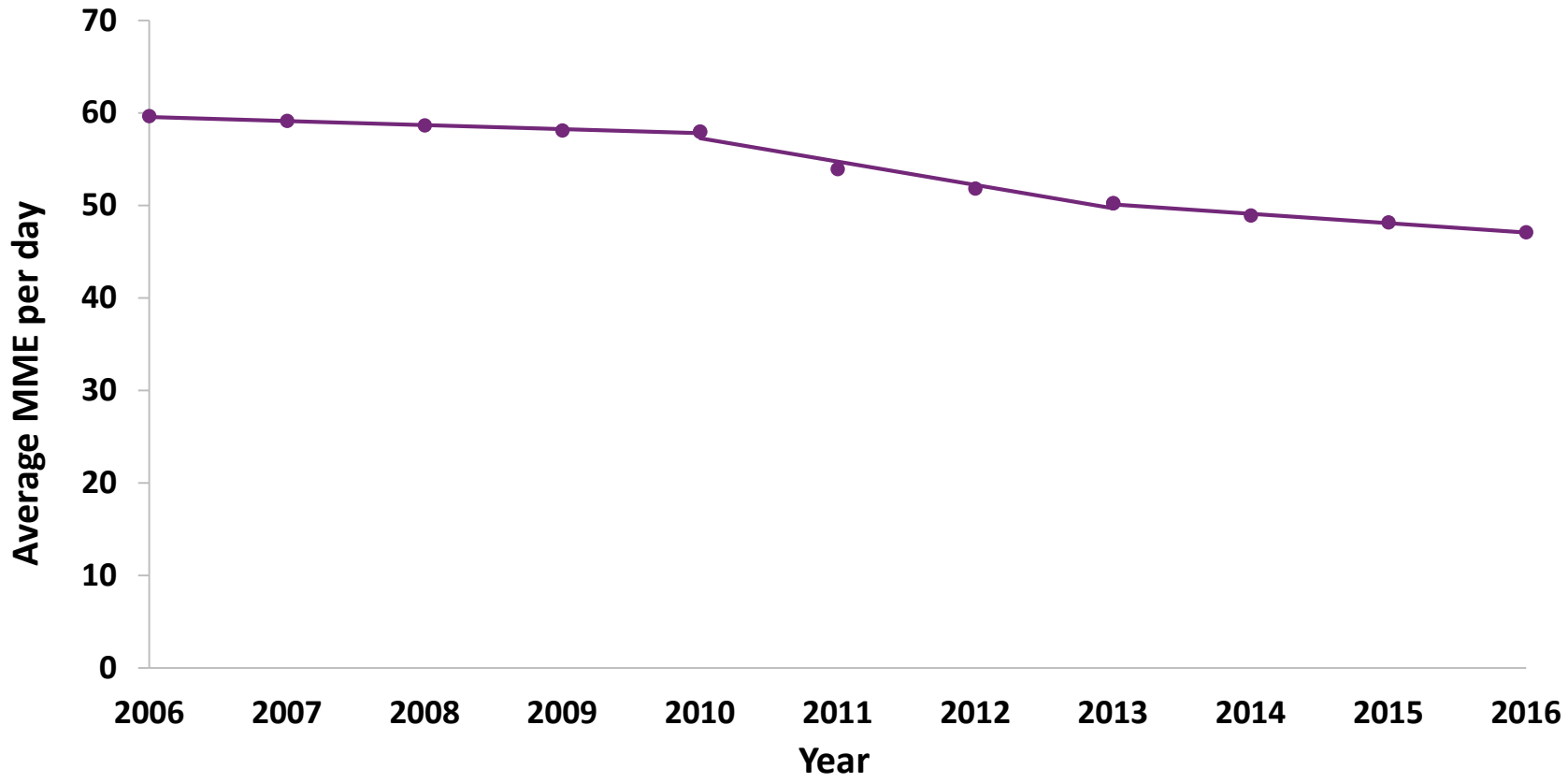
Trends in rates of average days of supply per opioid prescription per 100 persons — United States, 2006-2016



Source: QuintilesIMS® Transactional Data Warehouse. Rate per 100 persons adjusted to the U.S. census population.

Opioid Prescribing Practices

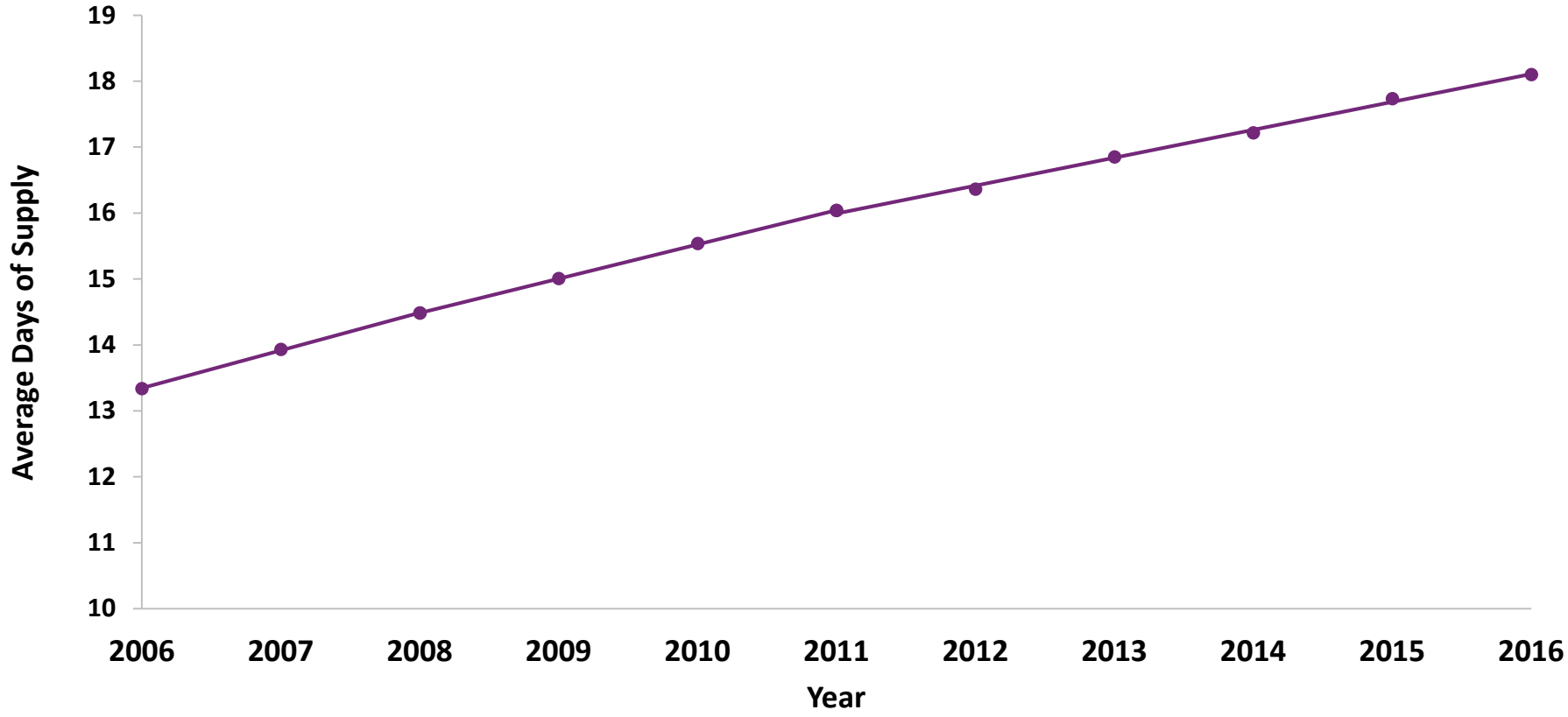
Trends in average daily morphine milligram equivalent (MME) per prescription — United States, 2006-2016



Source: QuintilesIMS ® Transactional Data Warehouse. Abbreviation: MME, morphine milligram equivalent

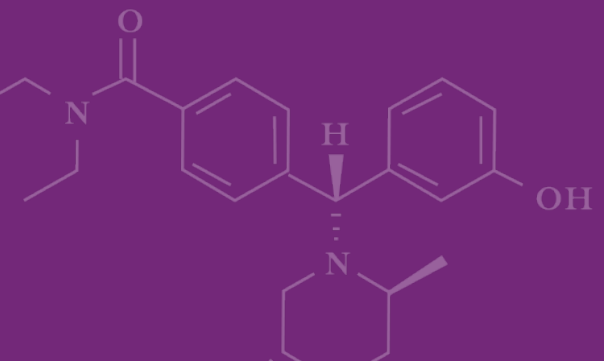
Opioid Prescribing Practices

Trends in annual opioid prescribing rates by days of supply per prescription, United States — 2006-2016



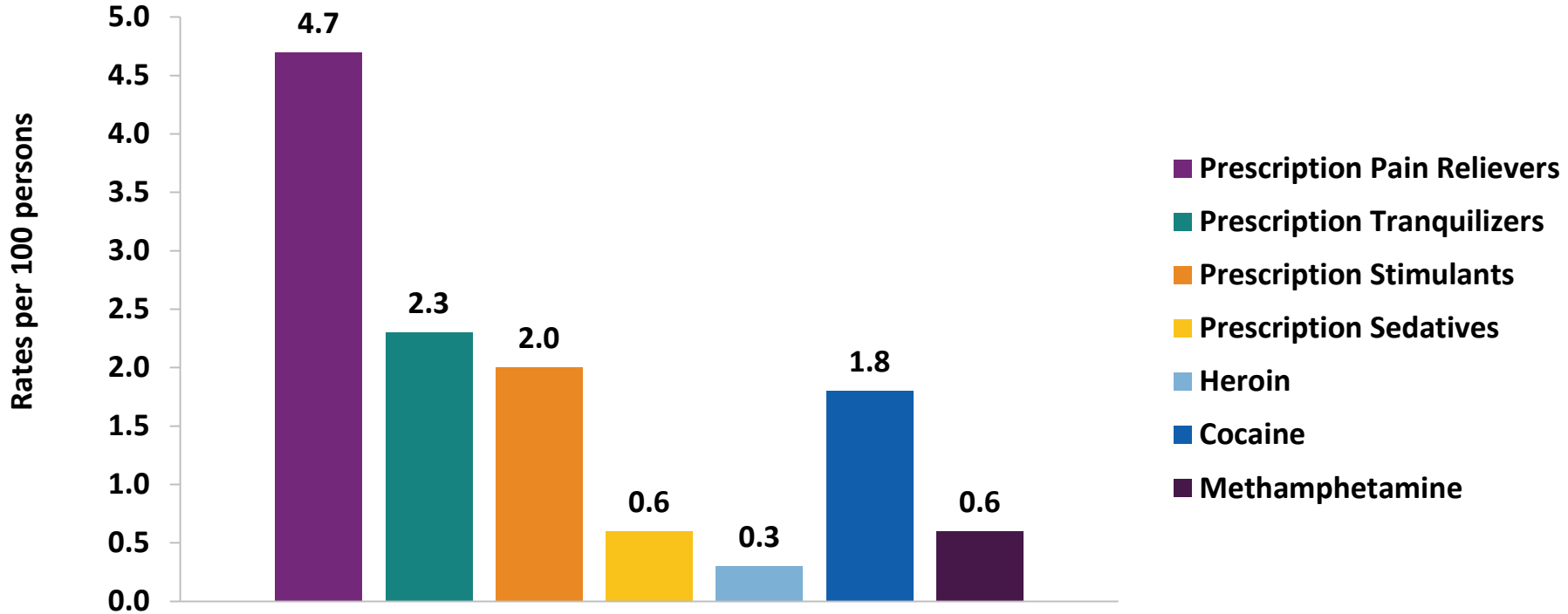
Source: QuintilesIMS ® Transactional Data Warehouse. Rate per 100 persons adjusted to the U.S. census population.

Drug Use, Misuse, and Substance Use Disorder



Drug Use, Misuse, and Substance Use Disorder

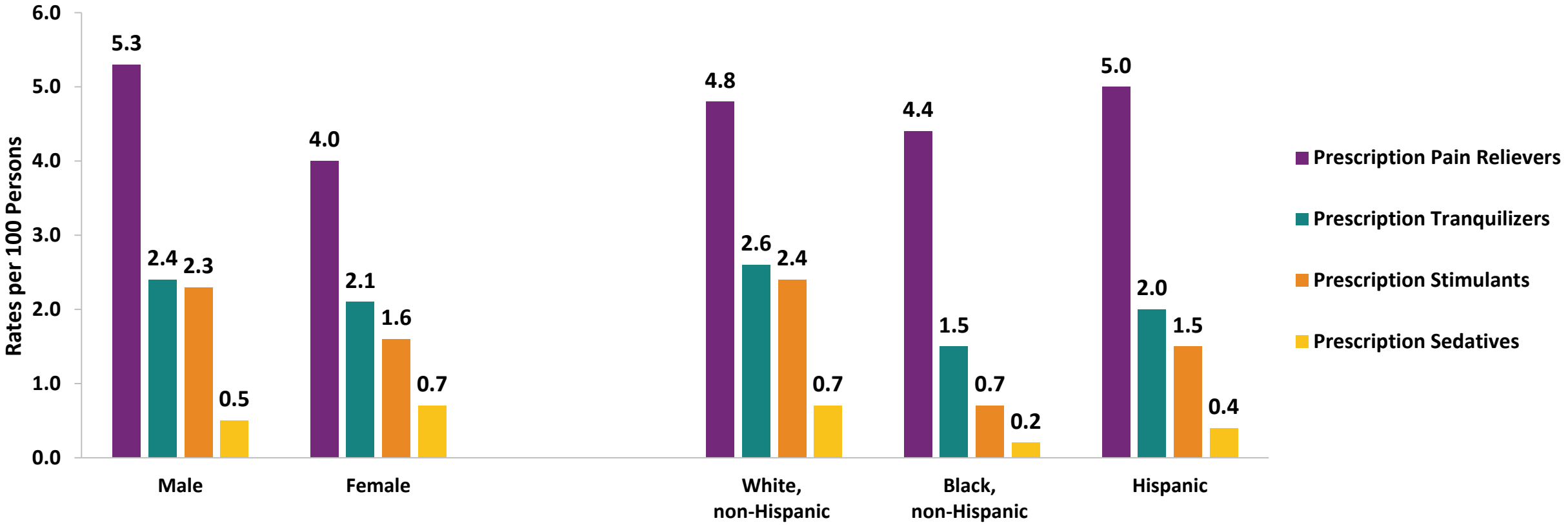
Self-reported prevalence of prescription drug misuse and illicit drug use in past year, persons 12+ years old — United States, 2015



Source: Center for Behavioral Health Statistics and Quality. (2016). 2015 National Survey on Drug Use and Health. Substance Abuse and Mental Health Services Administration, Rockville, MD
Misuse of prescription drugs is defined as use in any way not directed by a doctor, including use without a prescription of one's own medication; use in greater amounts, more often, or longer than told to take a drug; or use in any other way not directed by a doctor. Prescription drugs do not include over-the-counter drugs.
Rates per 100 persons. NSDUH presents these as prevalence estimates in the form of percentages, rounded to the nearest tenth of a percent.

Drug Use, Misuse, and Substance Use Disorder

Self-reported prevalence of prescription drug misuse in past year by sex and race/ethnicity, persons 12+ years old — United States, 2015



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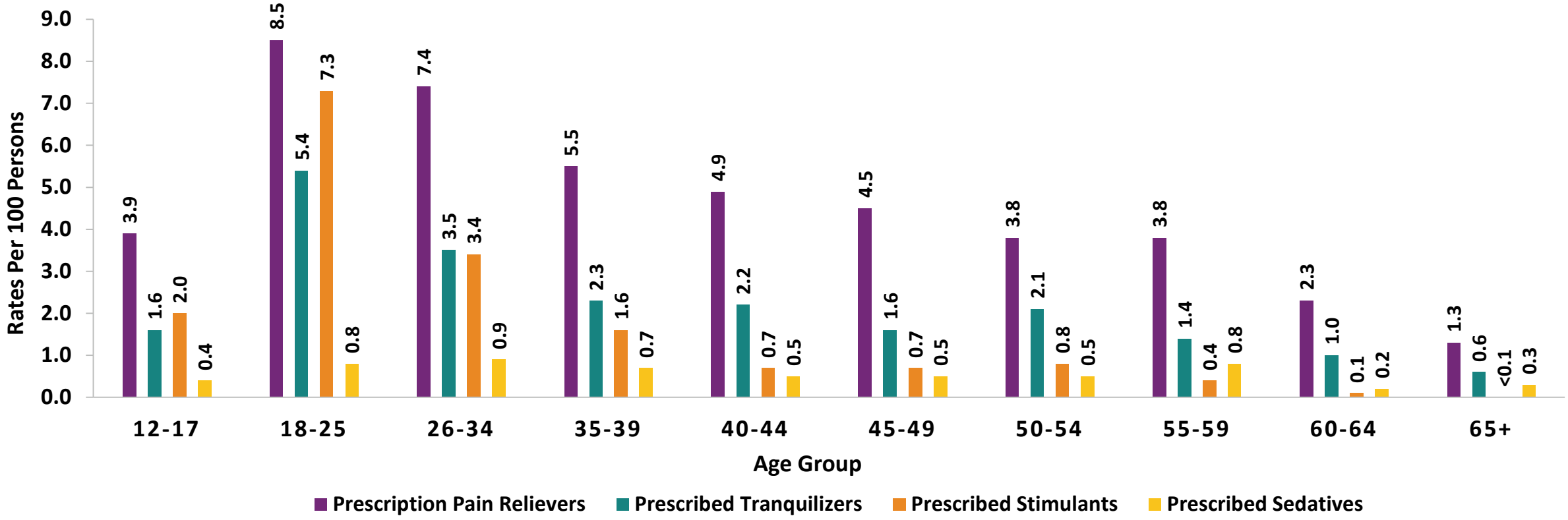
Drug Use, Misuse, and Substance Use Disorder

Self-reported prevalence of prescription drug misuse in past year by age group, persons 12+ years old — United States, 2015



Source: Center for Behavioral Health Statistics and Quality. (2016). 2015 National Survey on Drug Use and Health. Substance Abuse and Mental Health Services Administration, Rockville, MD
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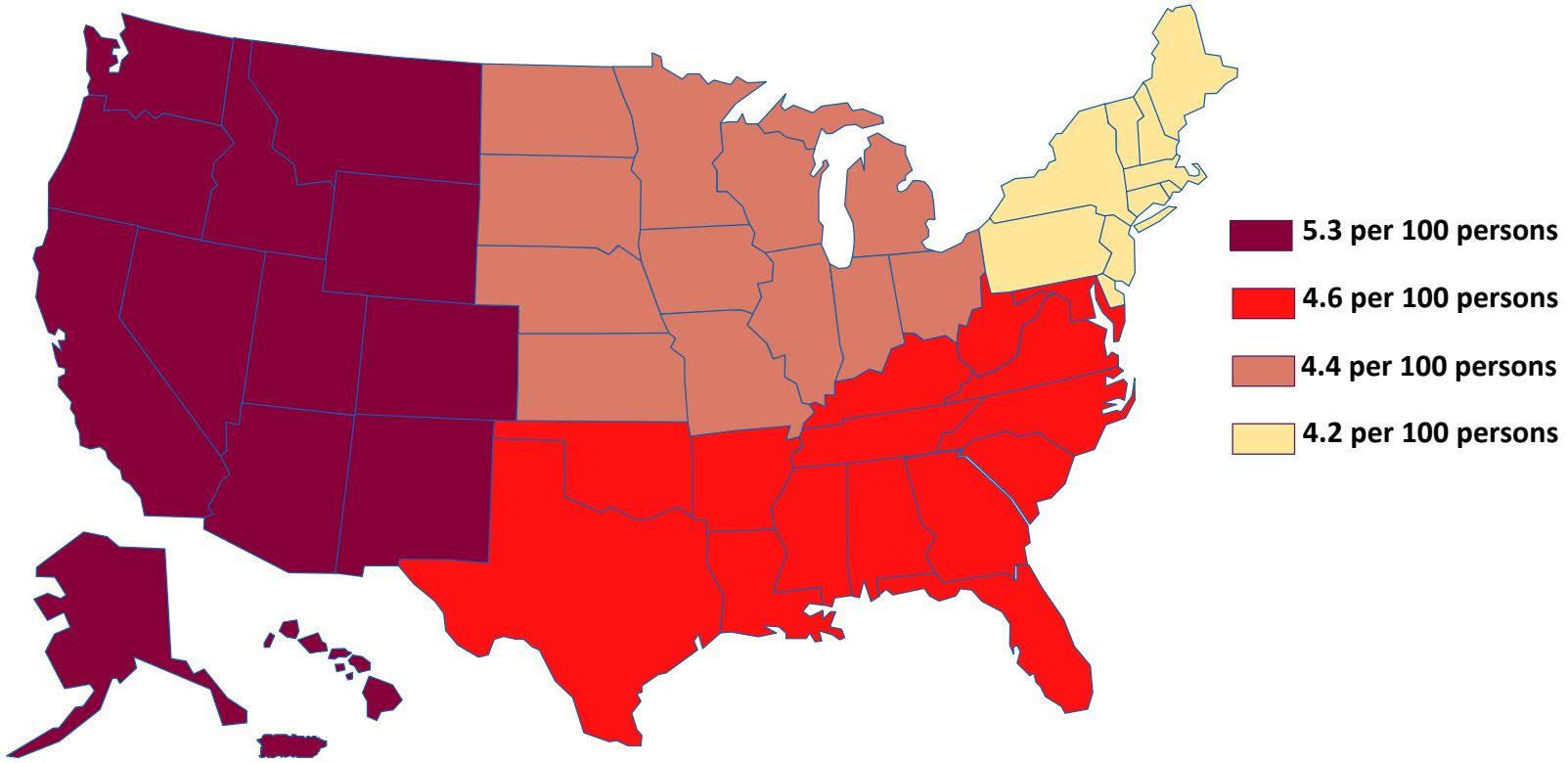
Drug Use, Misuse, and Substance Use Disorder

Self-reported prevalence of prescription pain reliever misuse in past year, persons 12+ years old by region — United States, 2015



Source: Center for Behavioral Health Statistics and Quality. (2016). 2015 National Survey on Drug Use and Health. Substance Abuse and Mental Health Services Administration, Rockville, MD
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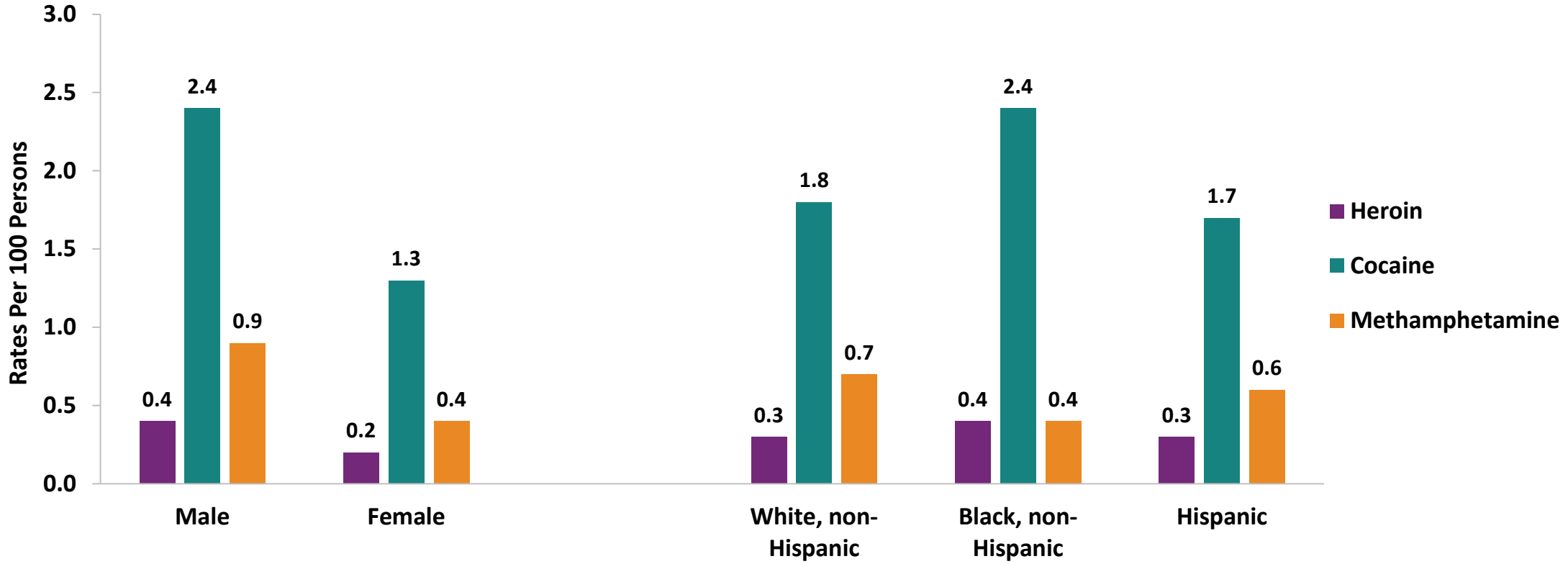
Rates per 100 persons. NSDUH presents these as prevalence estimates in the form of percentages, rounded to the nearest tenth of a percent.

Drug Use, Misuse, and Substance Use Disorder

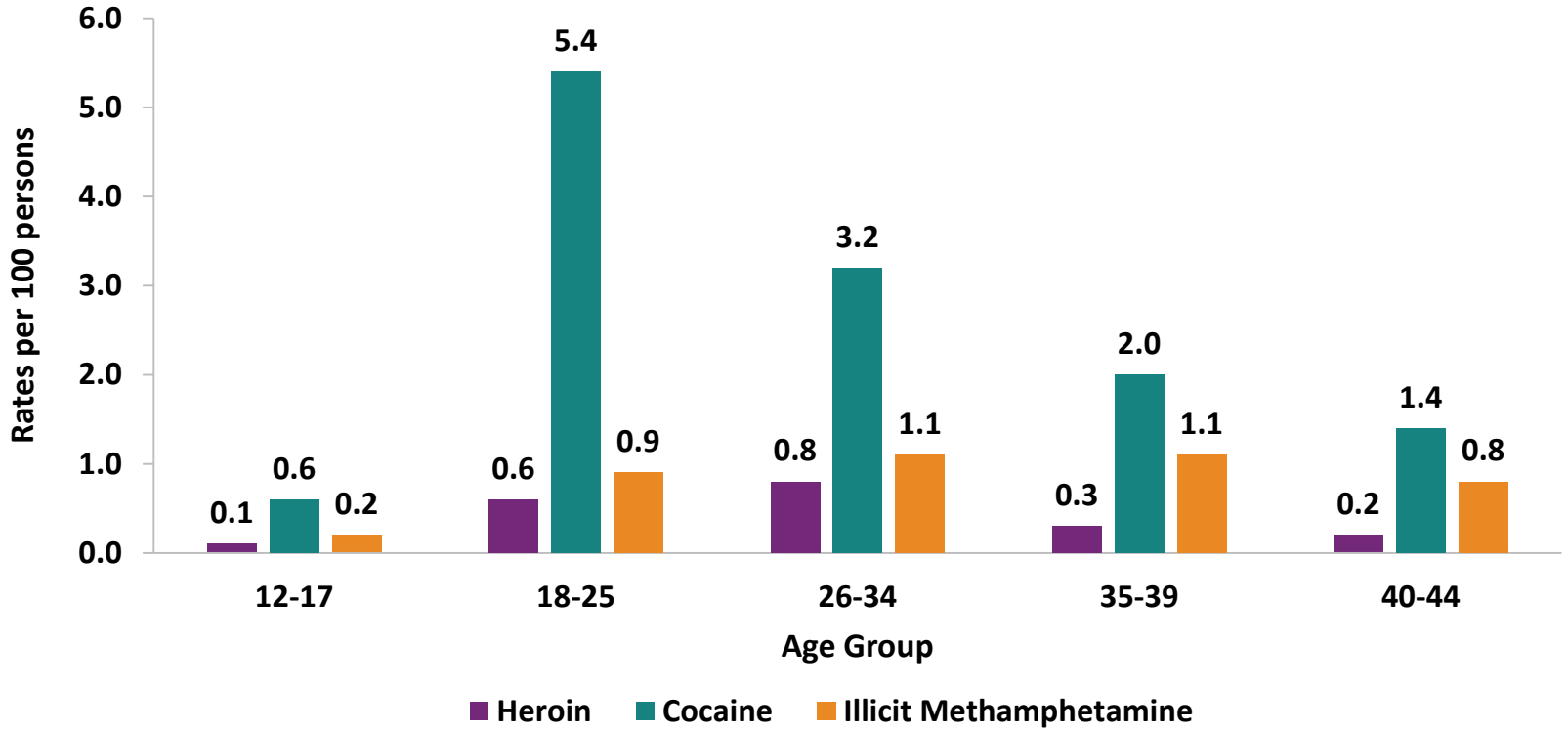
Self-reported prevalence of illicit drug use in past year by sex and race/ethnicity, persons 12+ years old — United States, 2015



Source: Center for Behavioral Health Statistics and Quality. (2016). 2015 National Survey on Drug Use and Health. Substance Abuse and Mental Health Services Administration, Rockville, MD
Rates per 100 persons. NSDUH presents these as prevalence estimates in the form of percentages, rounded to the nearest tenth of a percent.

Drug Use, Misuse, and Substance Use Disorder

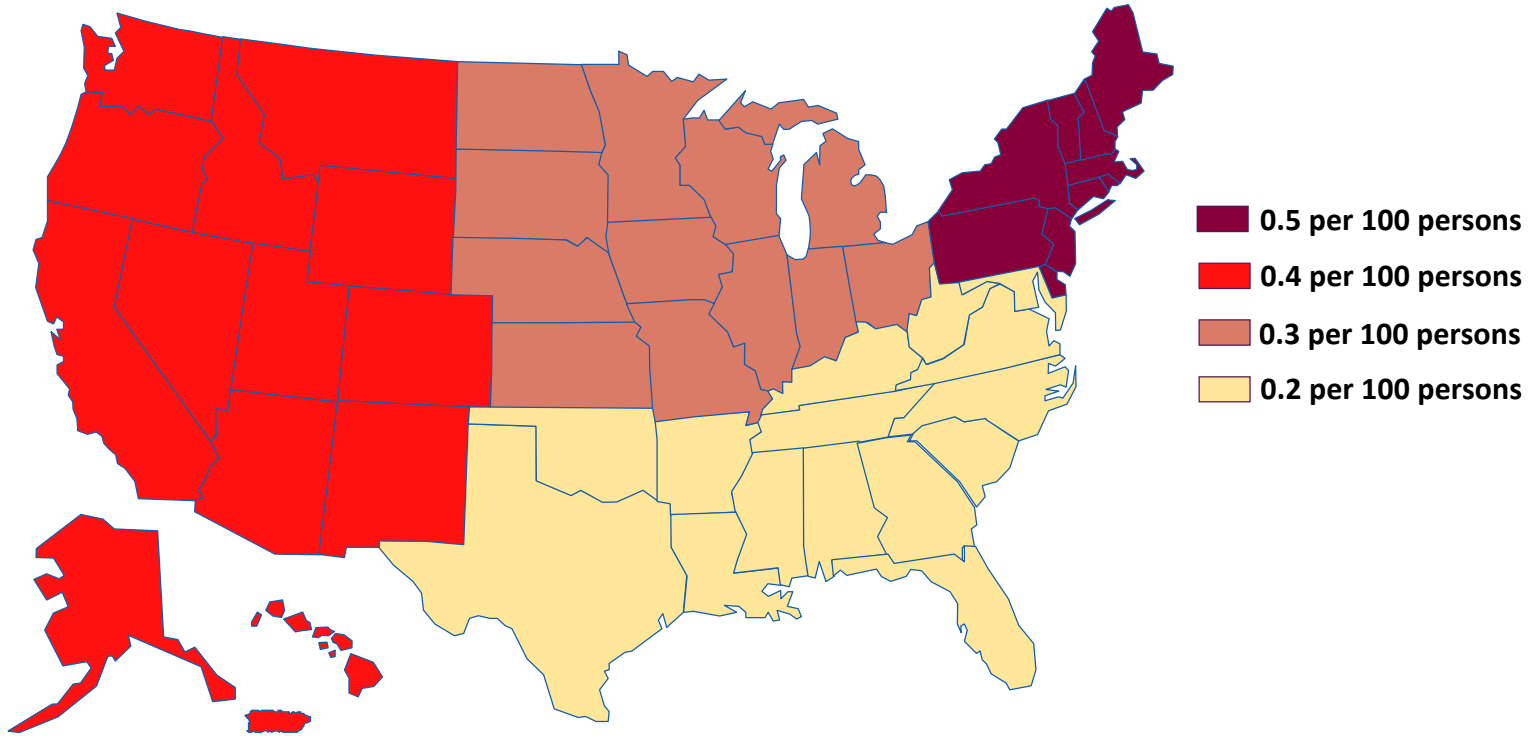
Self-reported prevalence of illicit drug use in past year by age group, persons 12-44 years old — United States, 2015



Source: Center for Behavioral Health Statistics and Quality. (2016). 2015 National Survey on Drug Use and Health. Substance Abuse and Mental Health Services Administration, Rockville, MD
Rates per 100 persons. NSDUH presents these as prevalence estimates in the form of percentages, rounded to the nearest tenth of a percent.
Age categories presented in this slide are truncated due to the lack of available information on heroin use for persons in age groups 45 years and older.

Drug Use, Misuse, and Substance Use Disorder

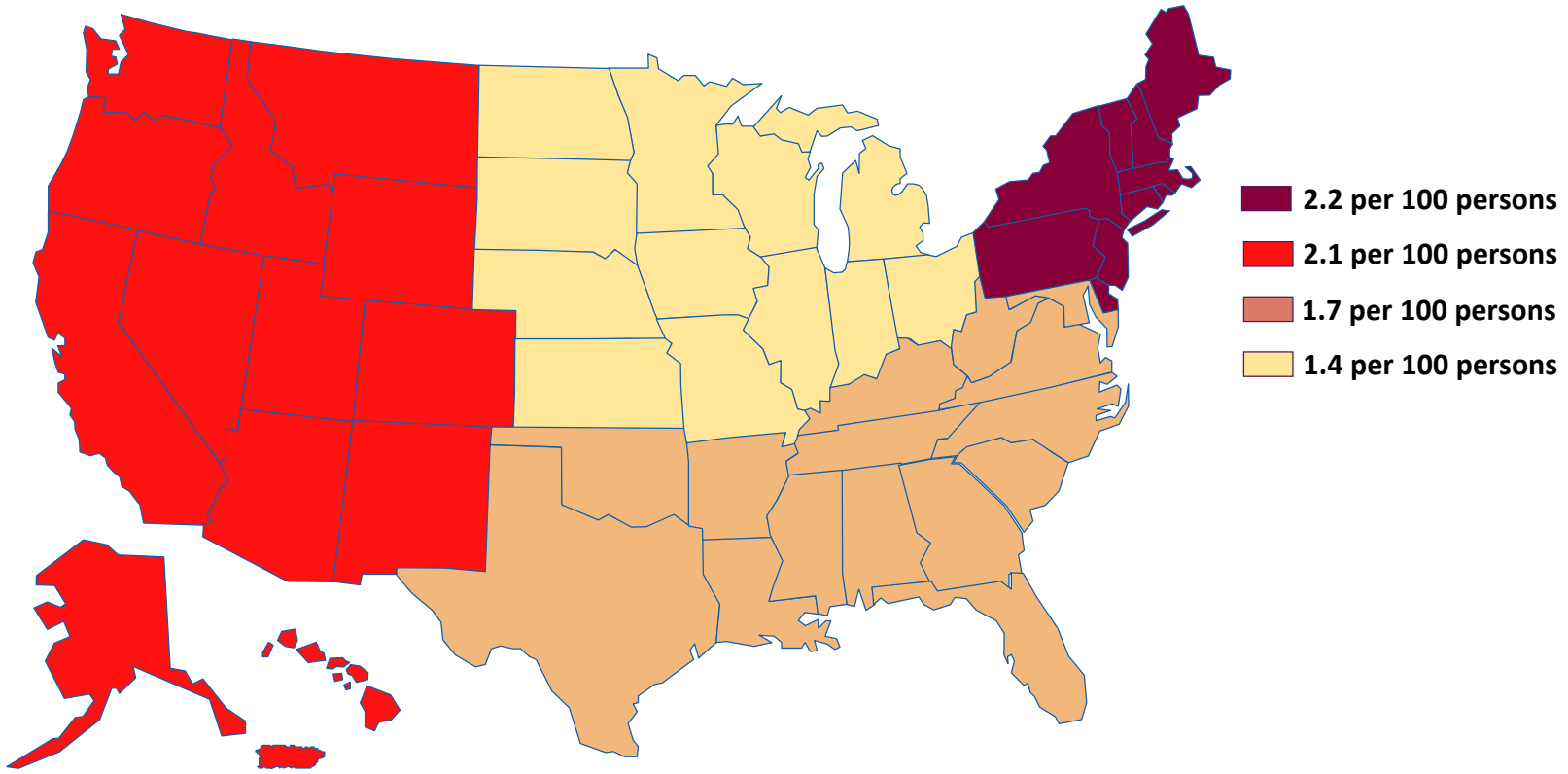
Self-reported prevalence of heroin use in past year, persons 12+ years old by region — United States, 2015



Source: Center for Behavioral Health Statistics and Quality. (2016). 2015 National Survey on Drug Use and Health. Substance Abuse and Mental Health Services Administration, Rockville, MD
Rates per 100 persons. NSDUH presents these as prevalence estimates in the form of percentages, rounded to the nearest tenth of a percent.

Drug Use, Misuse, and Substance Use Disorder

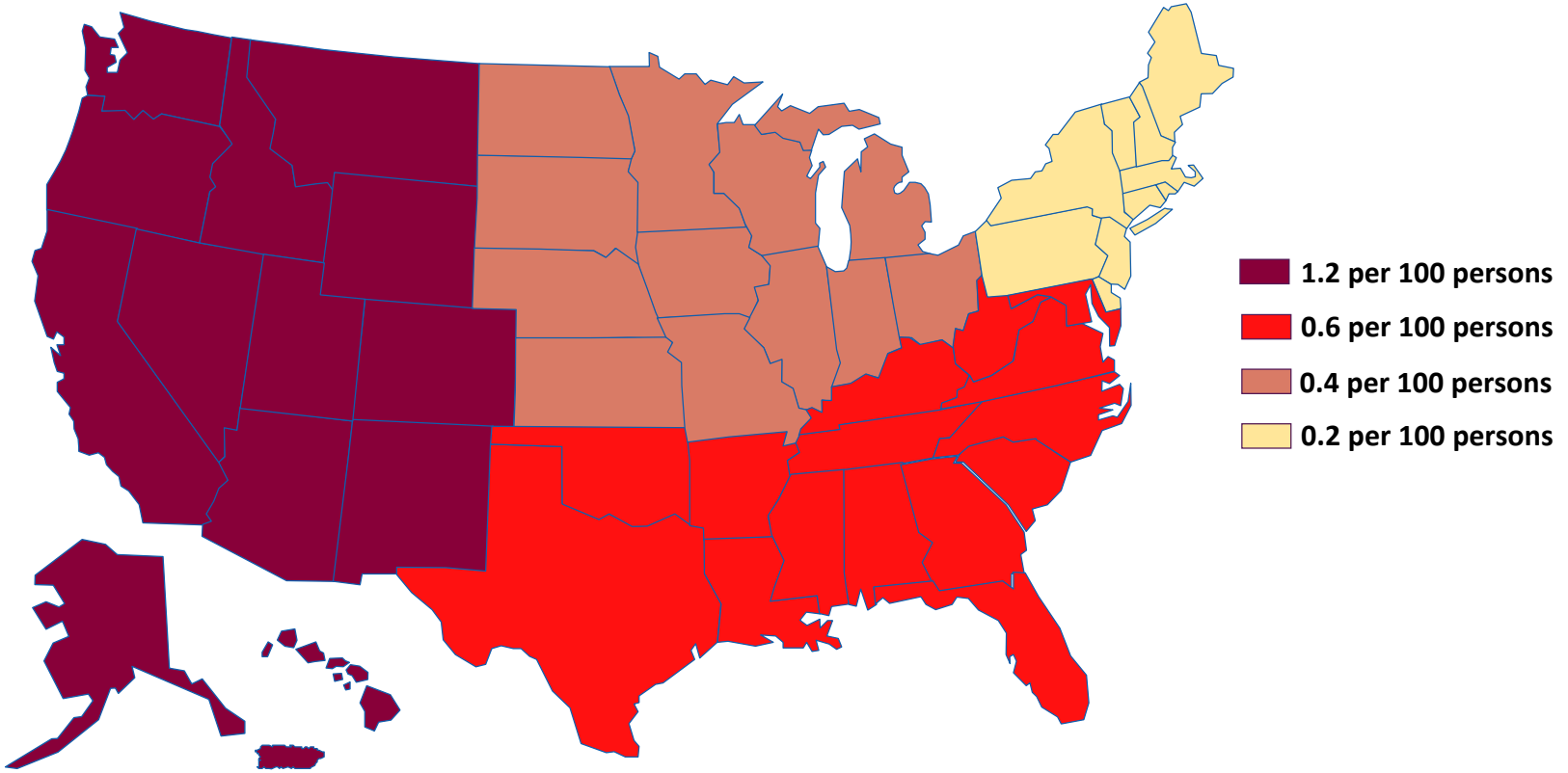
Self-reported prevalence of cocaine use in past year, persons 12+ years old by region — United States, 2015



Source: Center for Behavioral Health Statistics and Quality. (2016). 2015 National Survey on Drug Use and Health. Substance Abuse and Mental Health Services Administration, Rockville, MD
Rates per 100 persons. NSDUH presents these as prevalence estimates in the form of percentages, rounded to the nearest tenth of a percent.

Drug Use, Misuse, and Substance Use Disorder

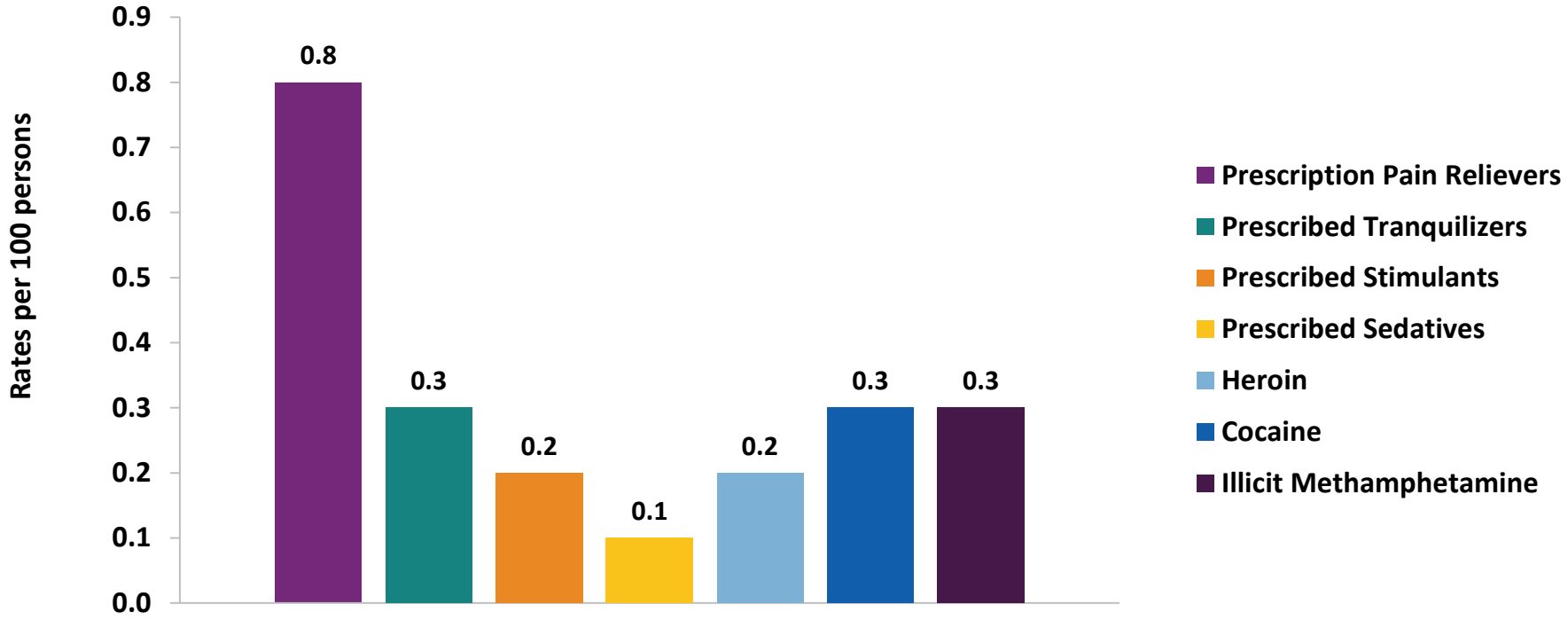
Self-reported prevalence of methamphetamine use in past year, persons 12+ years old by region — United States, 2015



Source: Center for Behavioral Health Statistics and Quality. (2016). 2015 National Survey on Drug Use and Health. Substance Abuse and Mental Health Services Administration, Rockville, MD
Rates per 100 persons. NSDUH presents these as prevalence estimates in the form of percentages, rounded to the nearest tenth of a percent.

Drug Use, Misuse, and Substance Use Disorder

Self-reported prevalence of substance use disorder in past year, persons 12+ years old, by drug type — United States, 2015

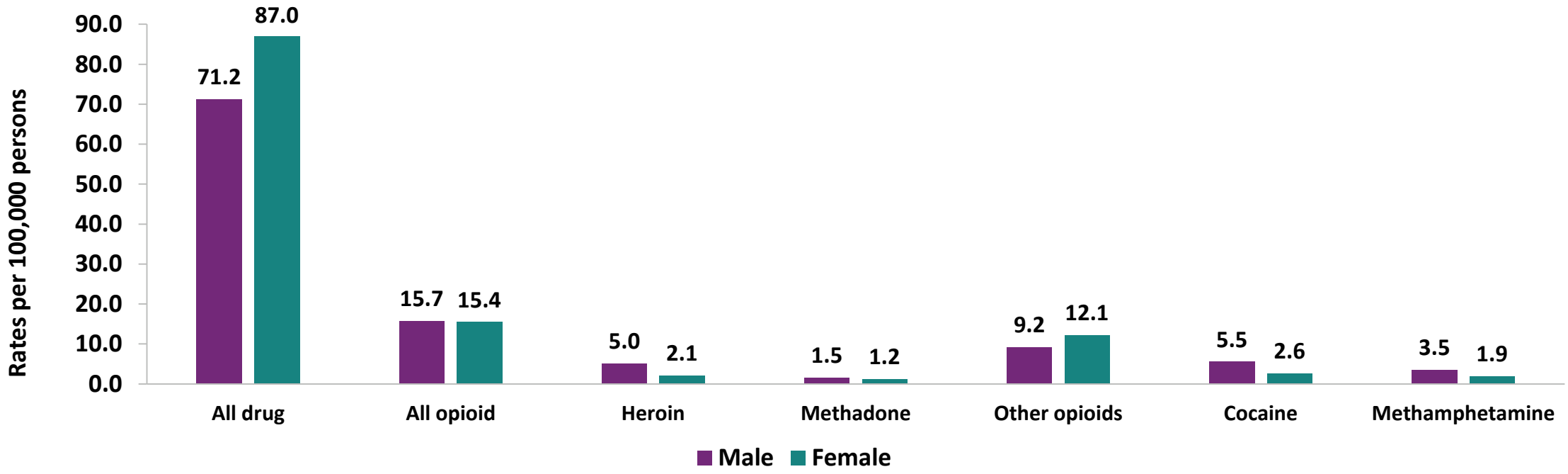


Source: Center for Behavioral Health Statistics and Quality. (2016). 2015 National Survey on Drug Use and Health. Substance Abuse and Mental Health Services Administration, Rockville, MD
Substance Use Disorder is defined as meeting criteria for illicit drug or alcohol dependence or abuse. Dependence or abuse is based on definitions found in the 4th edition of the Diagnostic more often, or longer than told to take a drug; or use in any other way not directed by a doctor. Prescription drugs do not include over-the-counter drugs.
Rates per 100 persons. NSDUH presents these as prevalence estimates in the form of percentages, rounded to the nearest tenth of a percent.

Nonfatal Overdose Hospitalizations and Emergency Department (ED) Visits

Nonfatal Overdose Hospitalizations and ED Visits

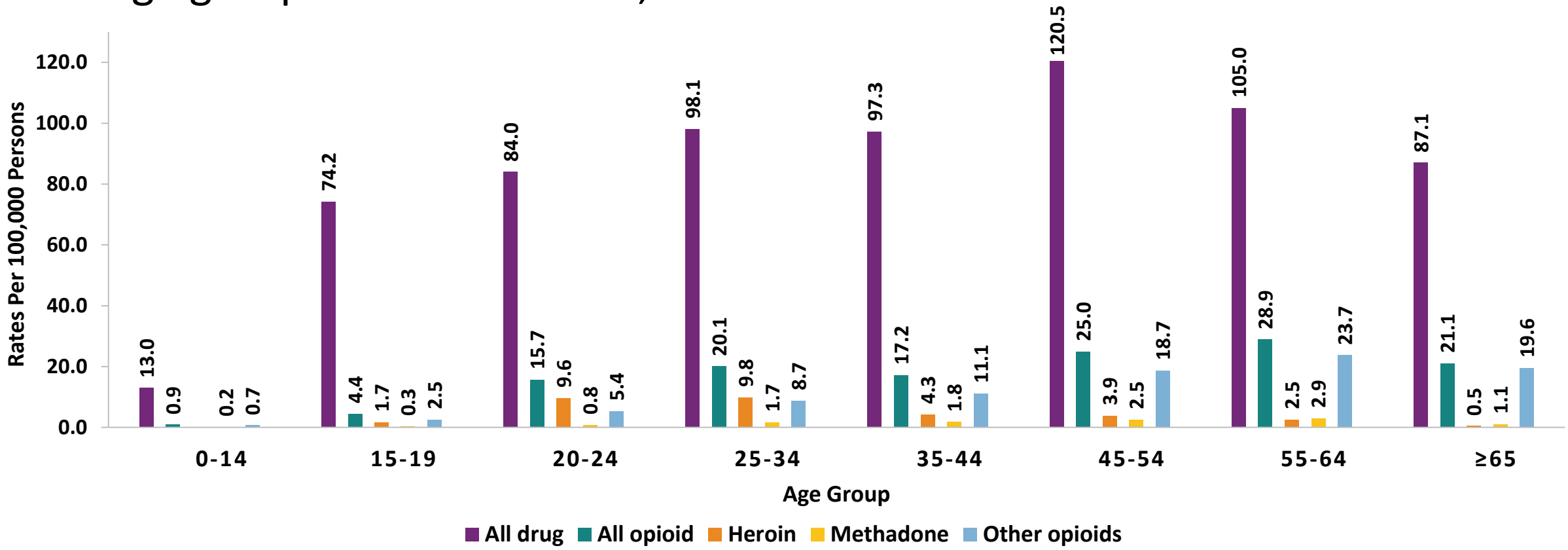
Age-adjusted rate of drug poisoning related hospitalizations, by selected substances and sex — United States, 2014



Data source: Healthcare Cost and Utilization Project's 2014 National Inpatient Sample.
All drug – includes ICD-9-CM principal diagnosis code of 960-979 (Poisoning by Drugs, Medicinal, and Biological Substances) or first listed cause of injury E850-E858 (Accidental Poisoning by Drugs, Medicinal Substances, and Biologicals). All opioid – includes ICD-9-CM principal diagnosis code of 965.00, 965.01, 965.02, 965.09 or first listed cause of injury E850.0, E850.1, E850.2. Heroin – includes ICD-9-CM principal diagnosis code of 965.01 or first listed cause of injury E850.0. Methadone – includes ICD-9-CM principal diagnosis code of 965.02 or first listed cause of injury E850.1. Other opioids – includes ICD-9-CM principal diagnosis code of 965.09, 965.00 or first listed cause of injury E850.2. Cocaine – includes ICD-9-CM principal diagnosis code of 970.81 or first listed cause of injury E854.3 or E855.2. Methamphetamine – includes ICD-9-CM principal diagnosis code of 969.72 or first listed cause of injury E854.2.

Nonfatal Overdose Hospitalizations and ED Visits

Rate of drug poisoning related hospitalizations, by selected substances and age group — United States, 2014



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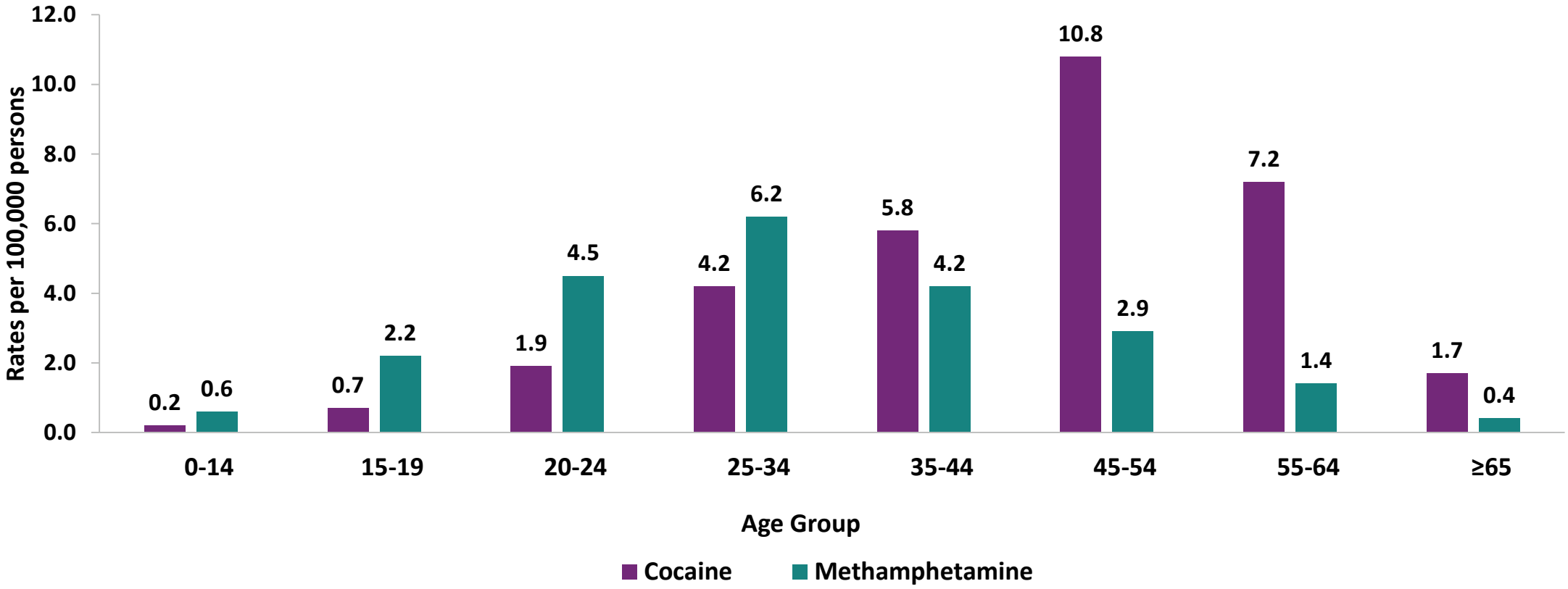
Nonfatal Overdose Hospitalizations and ED Visits

Rate of drug poisoning related hospitalizations, by selected substances and age group — United States, 2014



Data source: Healthcare Cost and Utilization Project's 2014 National Inpatient Sample.
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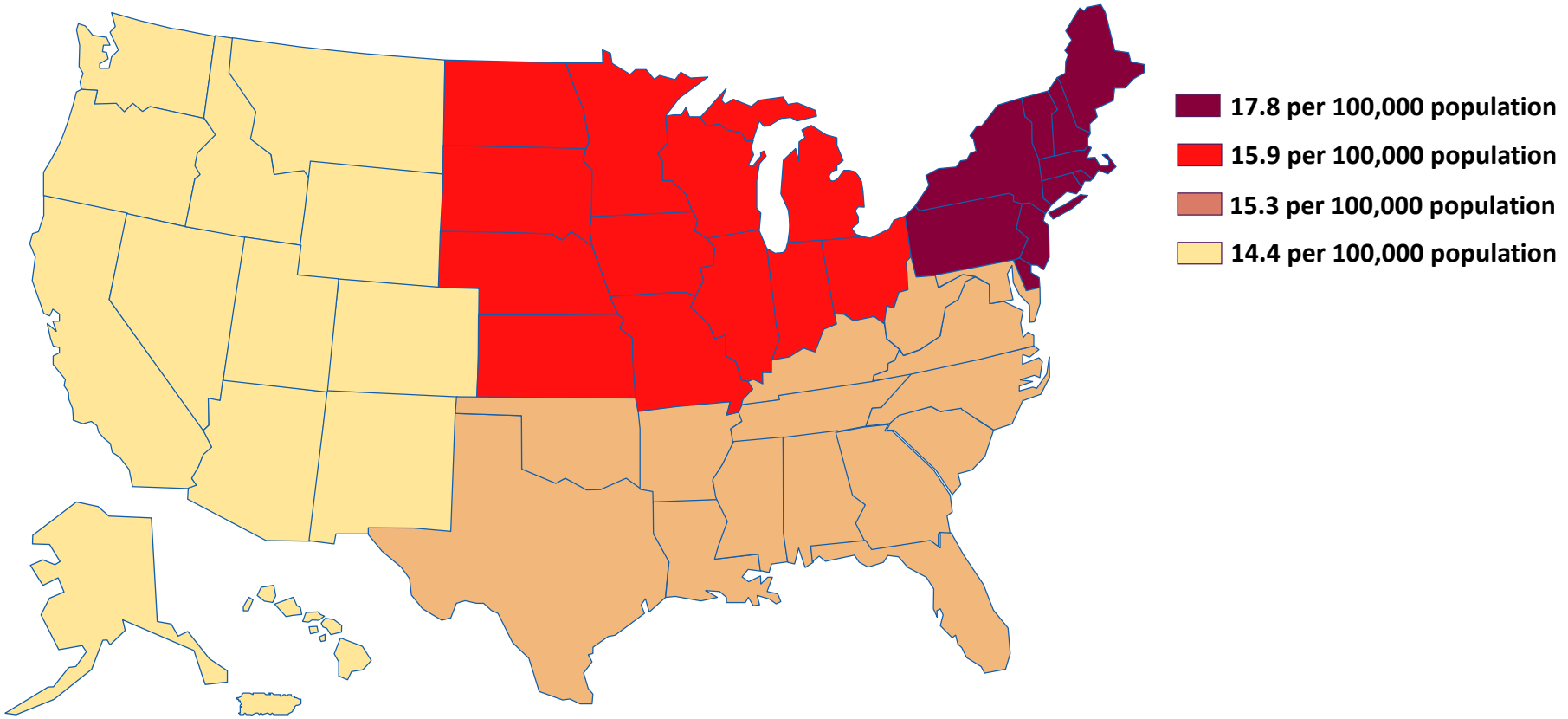
Nonfatal Overdose Hospitalizations and ED Visits

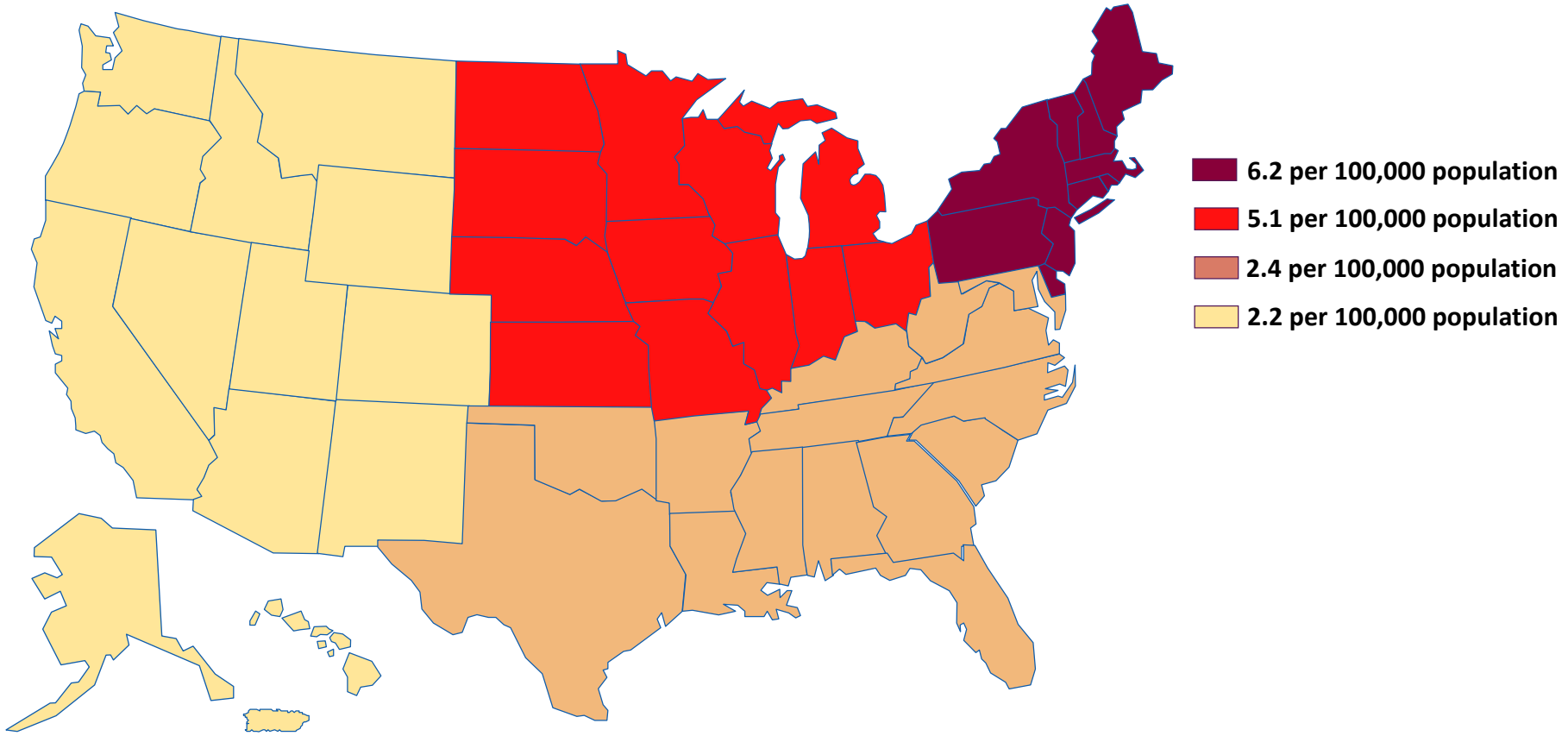
Age-adjusted rate of all opioid poisoning related hospitalizations by region — United States, 2014



Source: Weighted national estimates from HCUP Nationwide Inpatient Sample (NIS), 2014, Agency for Healthcare Research and Quality (AHRQ).
All opioid poisoning includes ICD-9-CM principal diagnosis code of 965.00, 965.01, 965.02, 965.09 or first listed cause of injury E850.0, E850.1, E850.2.

Nonfatal Overdose Hospitalizations and ED Visits

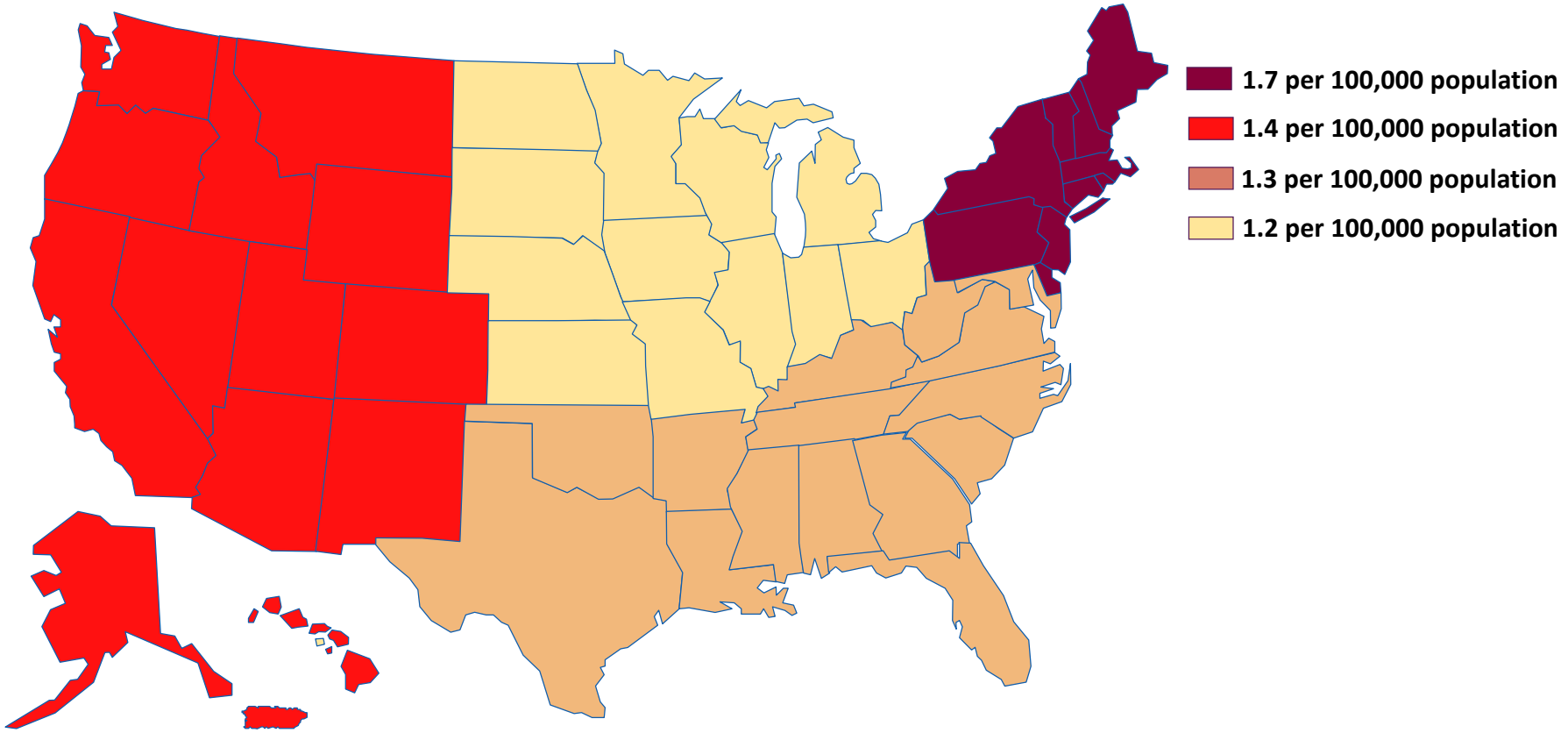
Age-adjusted of heroin poisoning related hospitalizations by region — United States, 2014



Source: Weighted national estimates from HCUP Nationwide Inpatient Sample (NIS), 2014, Agency for Healthcare Research and Quality (AHRQ).
Heroin poisoning includes ICD-9-CM principal diagnosis code of 965.01 or first listed cause of injury E850.0.

Nonfatal Overdose Hospitalizations and ED Visits

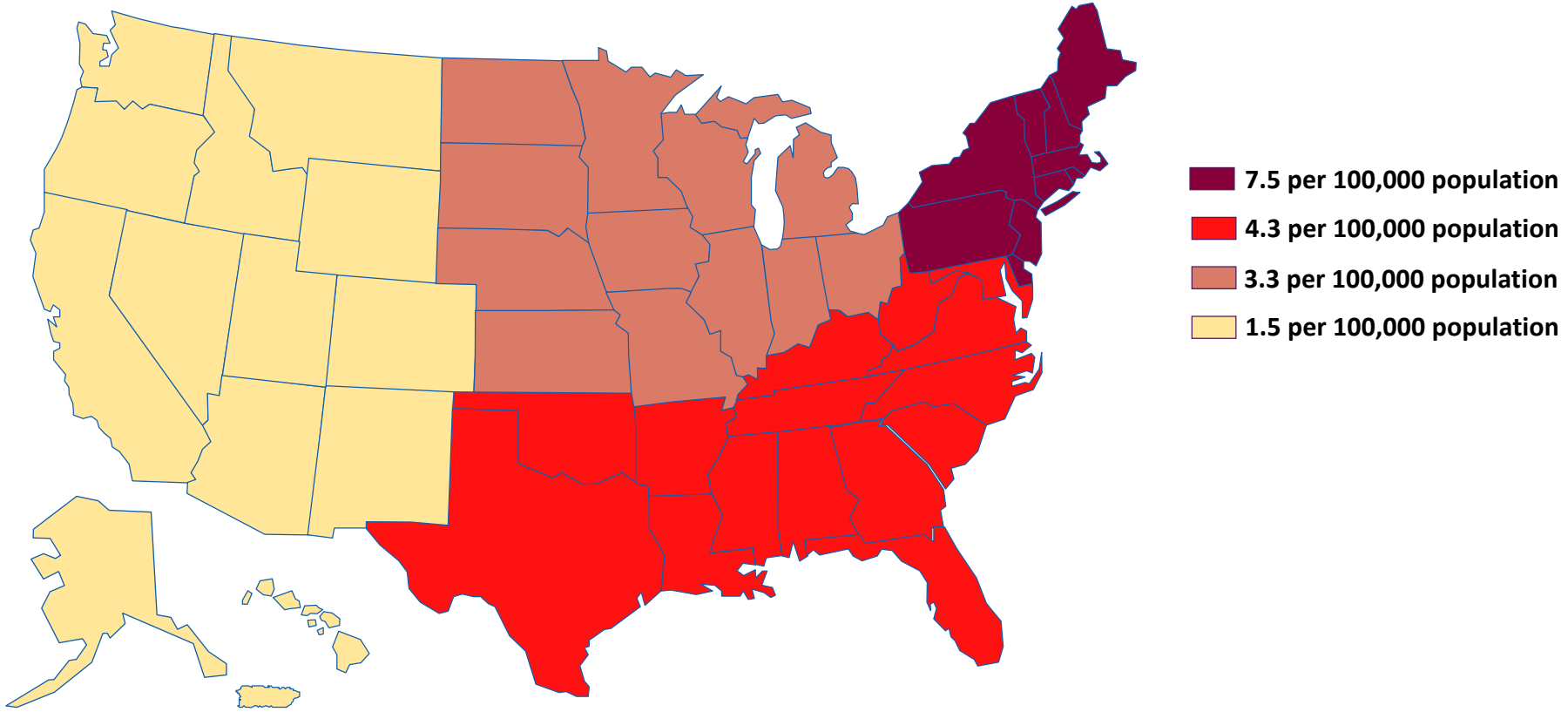
Age-adjusted rate of methadone poisoning related hospitalizations by region — United States, 2014



Source: Weighted national estimates from HCUP Nationwide Inpatient Sample (NIS), 2014, Agency for Healthcare Research and Quality (AHRQ).
Methadone poisoning includes ICD-9-CM principal diagnosis code of 965.02 or first listed cause of injury E850.1.

Nonfatal Overdose Hospitalizations and ED Visits

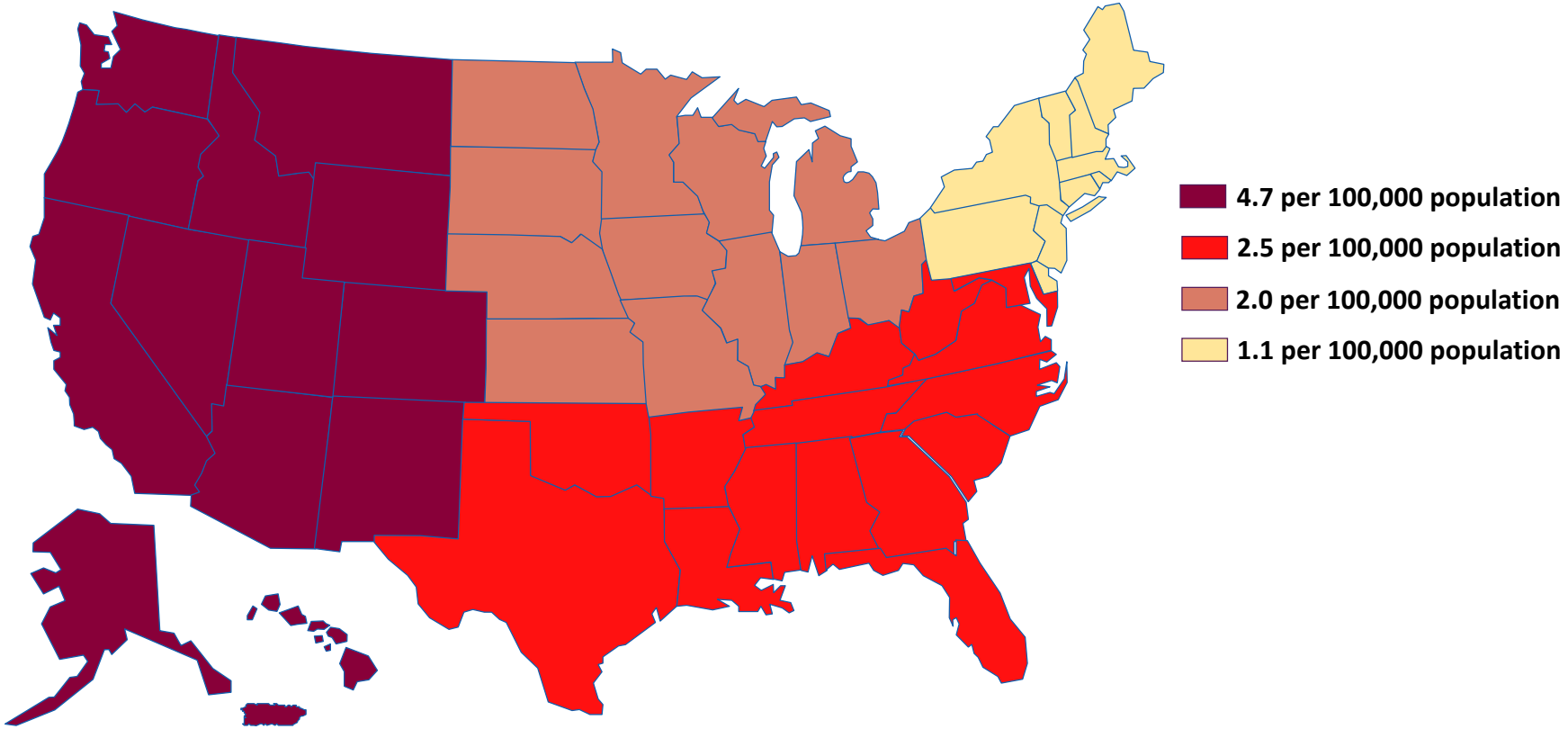
Age-adjusted rate of cocaine poisoning related hospitalizations by region — United States, 2014



Source: Weighted national estimates from HCUP Nationwide Inpatient Sample (NIS), 2014, Agency for Healthcare Research and Quality (AHRQ).
Cocaine poisoning includes ICD-9-CM principal diagnosis code of 970.81 or first listed cause of injury E854.3 or E855.2.

Nonfatal Overdose Hospitalizations and ED Visits

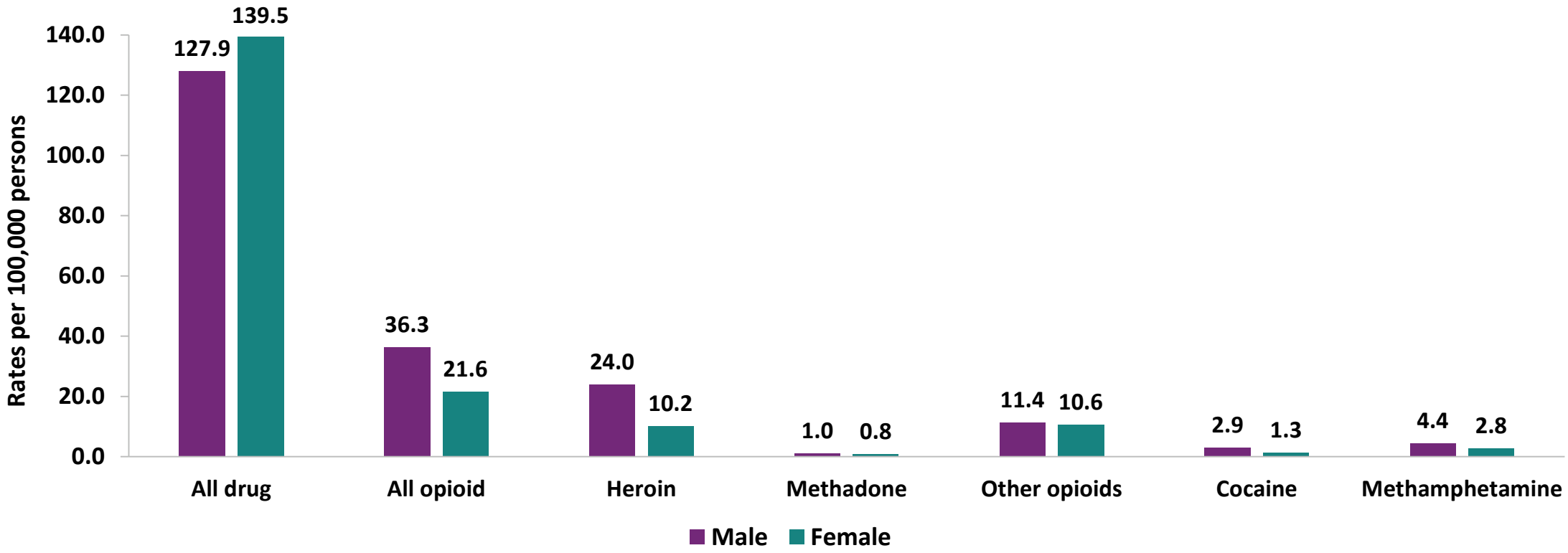
Age-adjusted rate of methamphetamine poisoning related hospitalizations by region — United States, 2014



Source: Weighted national estimates from HCUP Nationwide Inpatient Sample (NIS), 2014, Agency for Healthcare Research and Quality (AHRQ).
Methamphetamine poisoning includes ICD-9-CM principal diagnosis code of 969.72 or first listed cause of injury E854.2.

Nonfatal Overdose Hospitalizations and ED Visits

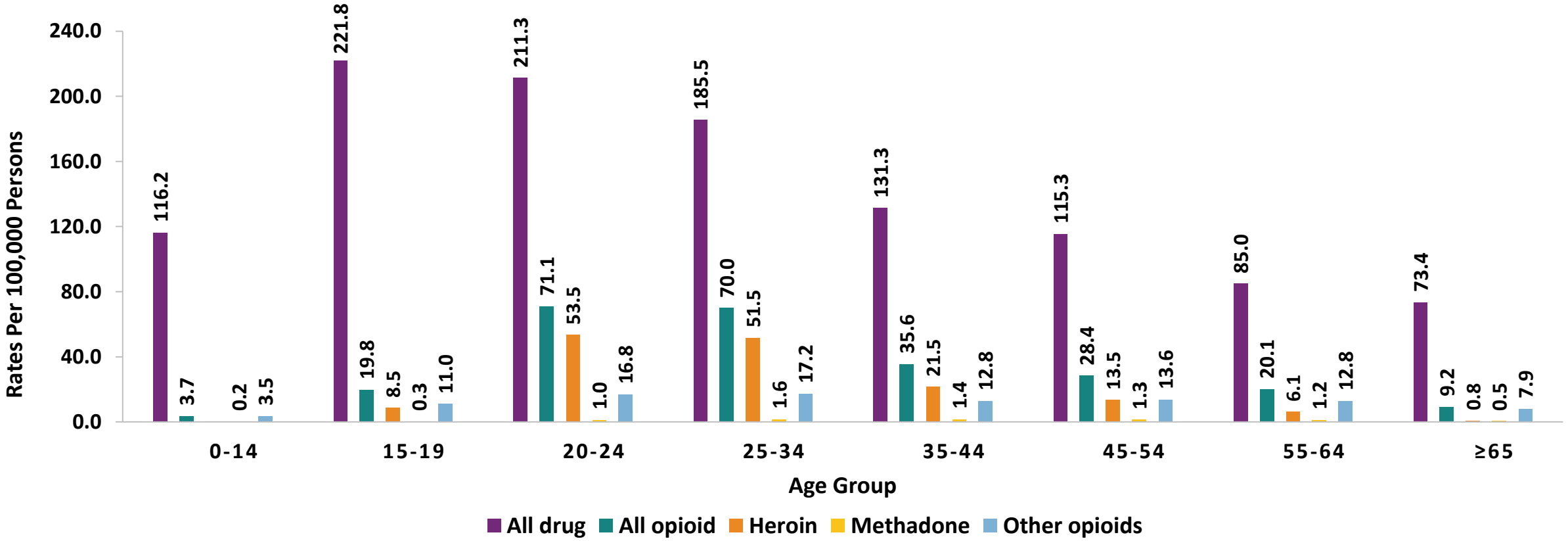
Age-adjusted rate of drug poisoning related emergency department visits, by selected substances and sex — United States, 2014



Data source: Healthcare Cost and Utilization Project's 2014 Nationwide Emergency Department Sample.
All drug – includes ICD-9-CM principal diagnosis code of 960-979 (Poisoning by Drugs, Medicinal, and Biological Substances) or first listed cause of injury E850-E858 (Accidental Poisoning by Drugs, Medicinal Substances, and Biologicals). All opioid – includes ICD-9-CM principal diagnosis code of 965.00, 965.01, 965.02, 965.09 or first listed cause of injury E850.0, E850.1, E850.2. Heroin – includes ICD-9-CM principal diagnosis code of 965.01 or first listed cause of injury E850.0. Methadone – includes ICD-9-CM principal diagnosis code of 965.02 or first listed cause of injury E850.1. Other opioids – includes ICD-9-CM principal diagnosis code of 965.09, 965.00 or first listed cause of injury E850.2. Cocaine – includes ICD-9-CM principal diagnosis code of 970.81 or first listed cause of injury E854.3 or E855.2. Methamphetamine – includes ICD-9-CM principal diagnosis code of 969.72 or first listed cause of injury E854.2.

Nonfatal Overdose Hospitalizations and ED Visits

Rate of drug poisoning related emergency department visits, by selected substances and age group — United States, 2014



Data source: Healthcare Cost and Utilization Project's 2014 Nationwide Emergency Department Sample.
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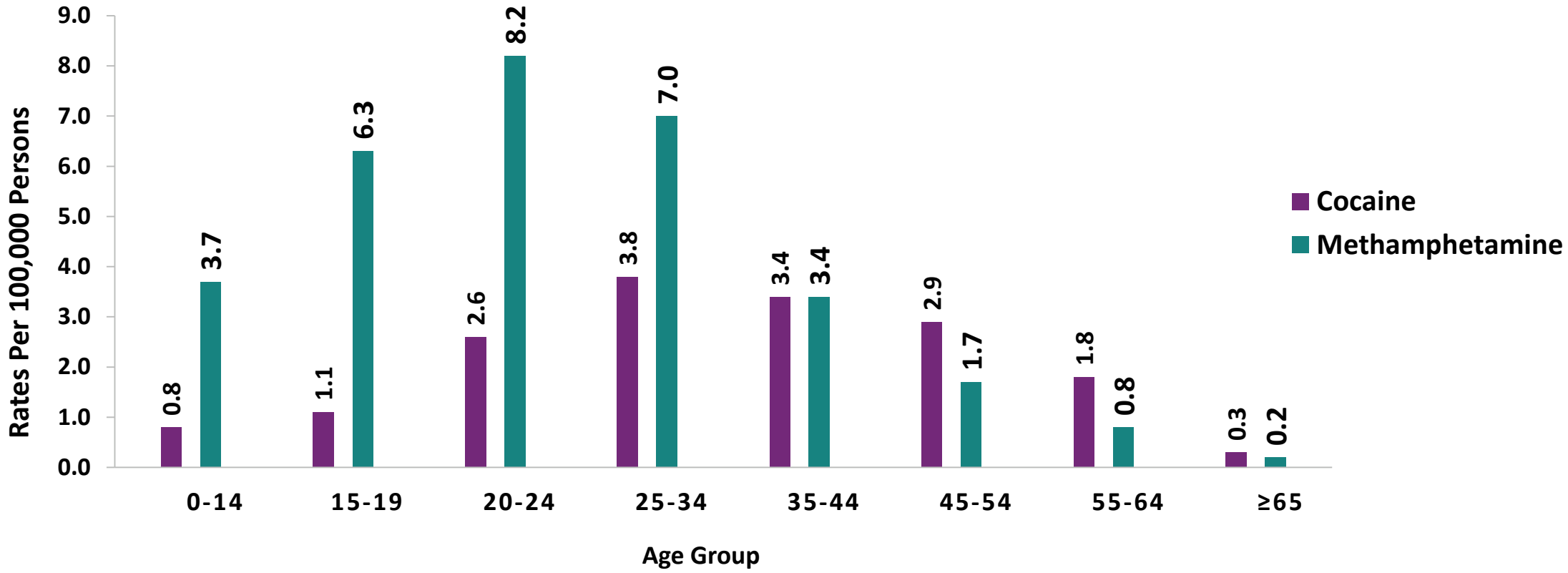
Nonfatal Overdose Hospitalizations and ED Visits

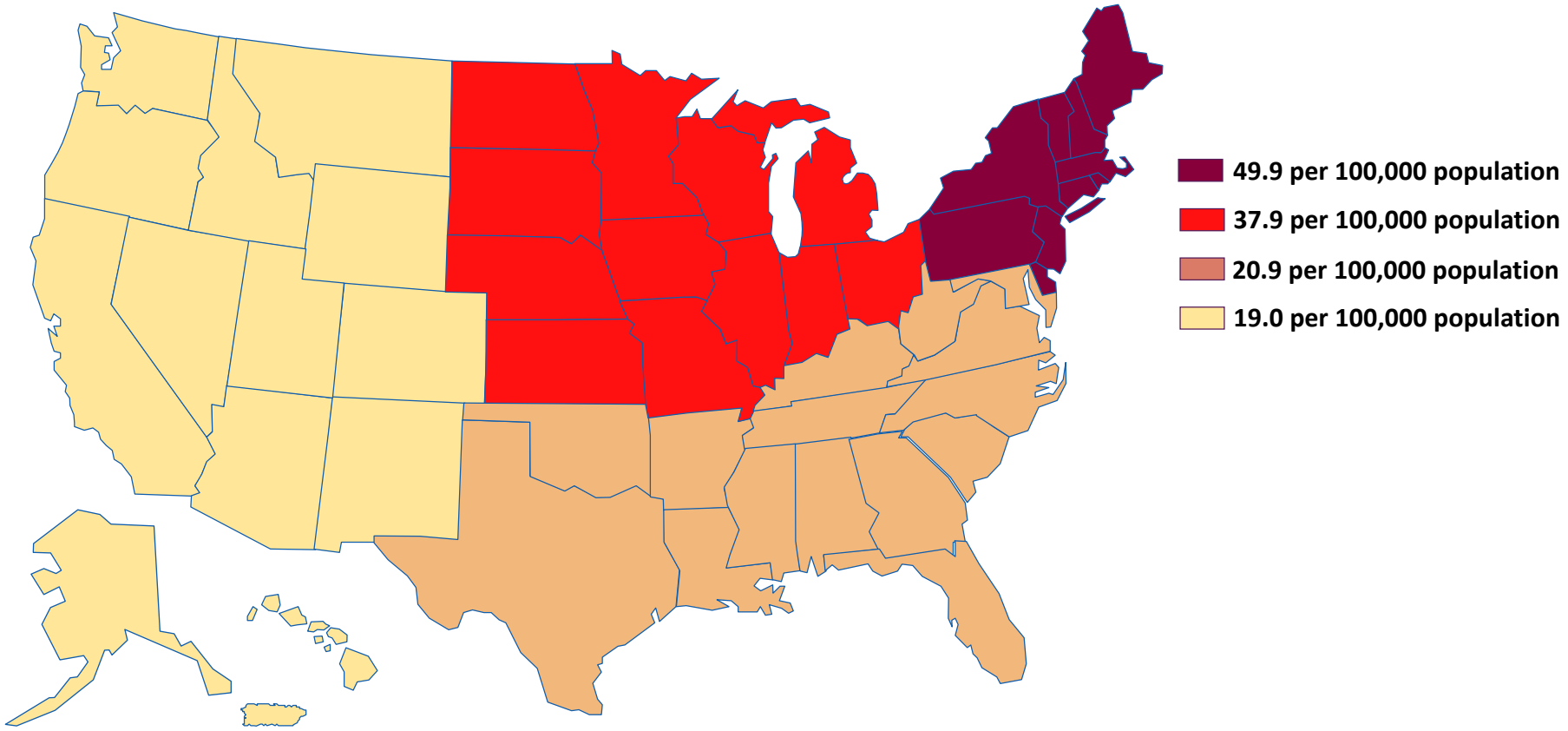
Rate of cocaine and methamphetamine poisoning related emergency department visits, by age group — United States, 2014



Data source: Healthcare Cost and Utilization Project's 2014 Nationwide Emergency Department Sample.
Cocaine – includes ICD-9-CM principal diagnosis code of 970.81 or first listed cause of injury E854.3 or E855.2.Methamphetamine – includes ICD-9-CM principal diagnosis code of 969.72 or first listed cause of injury E854.2.

Nonfatal Overdose Hospitalizations and ED Visits

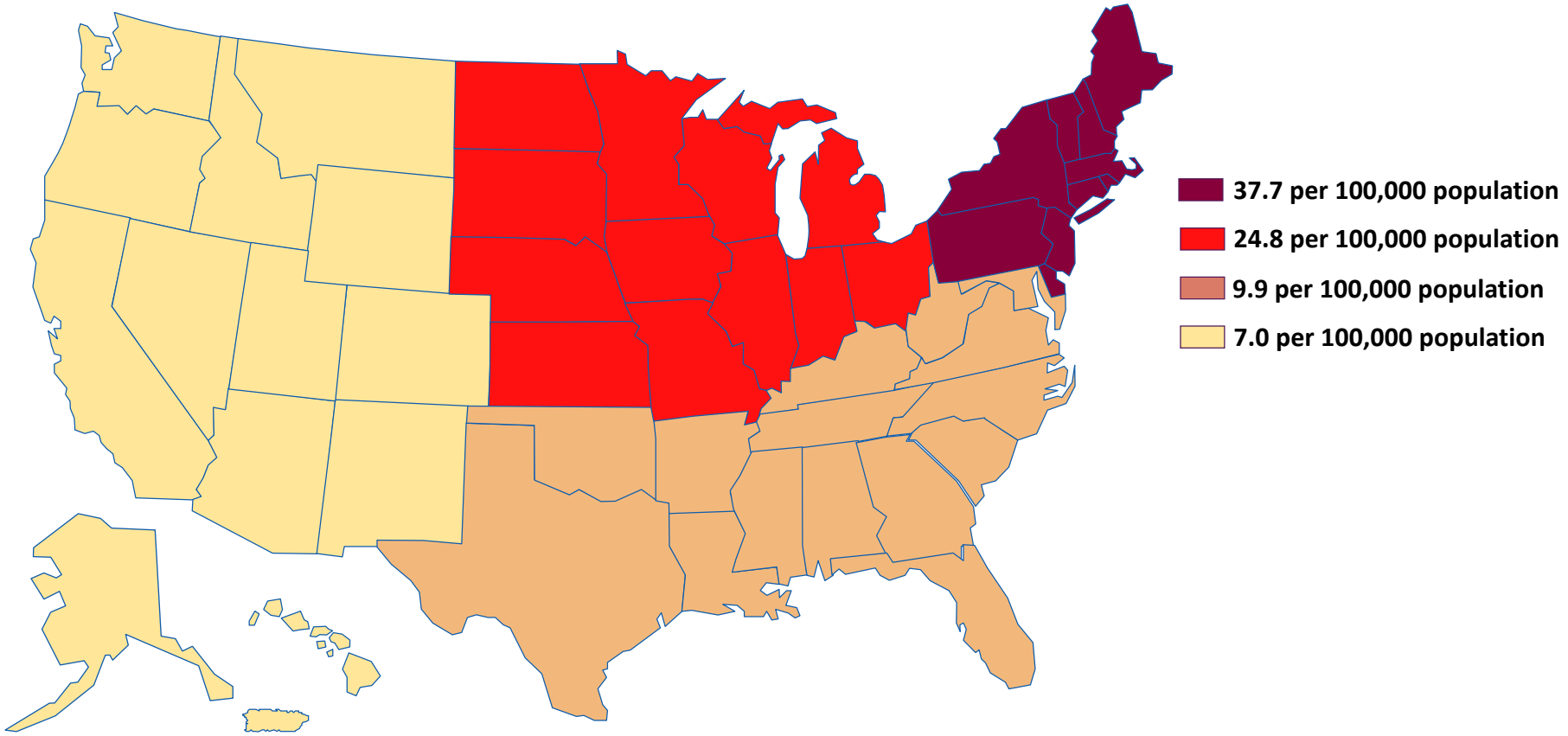
Age-adjusted rate of all opioid poisoning related emergency department visits by region — United States, 2014



Source: Weighted national estimates from HCUP Nationwide Emergency Department Sample (NEDS), 2014, Agency for Healthcare Research and Quality (AHRQ).
Persons who were hospitalized, died, or transferred to another facility were excluded.
All opioid poisoning includes ICD-9-CM principal diagnosis code of 965.00, 965.01, 965.02, 965.09 or first listed cause of injury E850.0, E850.1, E850.2.

Nonfatal Overdose Hospitalizations and ED Visits

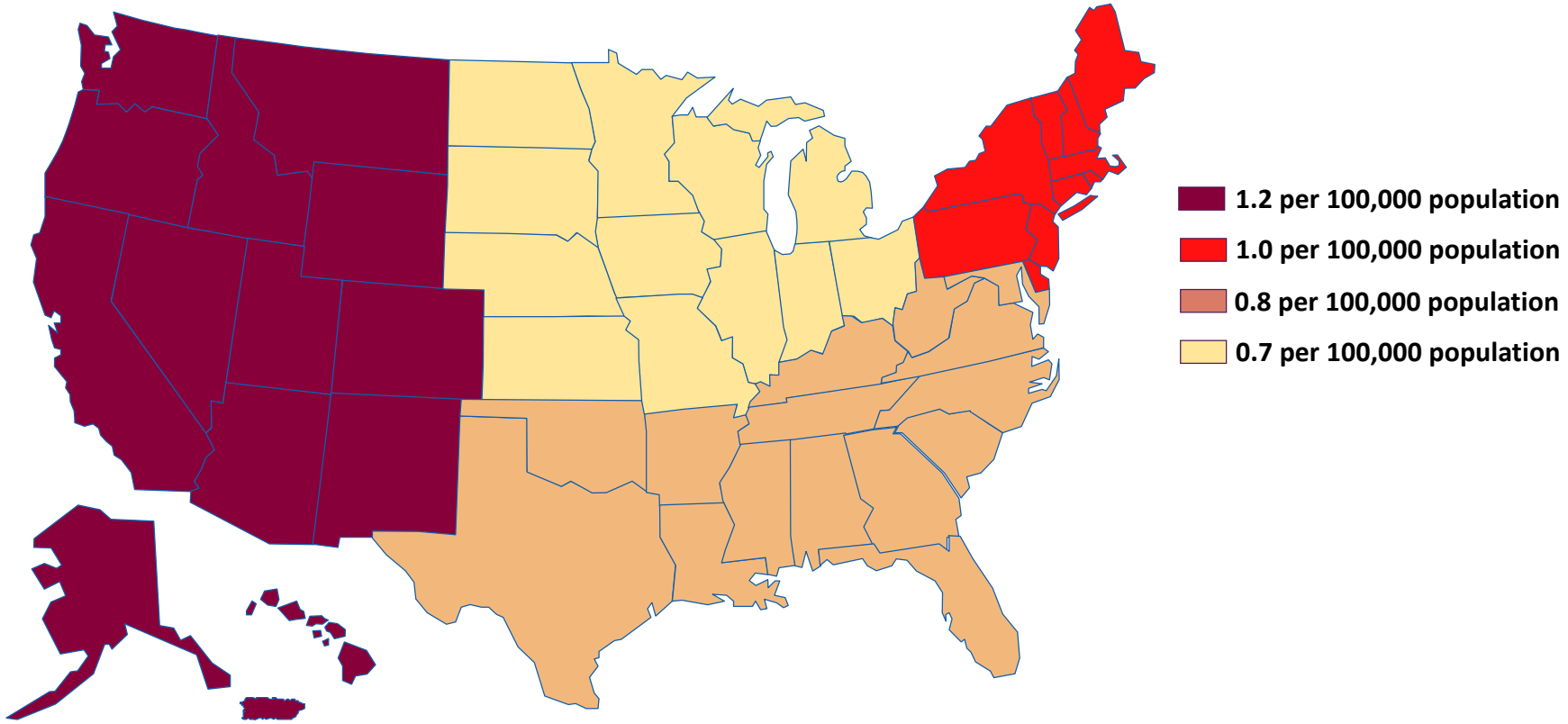
Age-adjusted rate of heroin poisoning-related emergency department visits by region — United States, 2014



Source: Weighted national estimates from HCUP Nationwide Emergency Department Sample (NEDS), 2014, Agency for Healthcare Research and Quality (AHRQ).
Persons who were hospitalized, died, or transferred to another facility were excluded.
Heroin poisoning includes ICD-9-CM principal diagnosis code of 965.01 or first listed cause of injury E850.0.

Nonfatal Overdose Hospitalizations and ED Visits

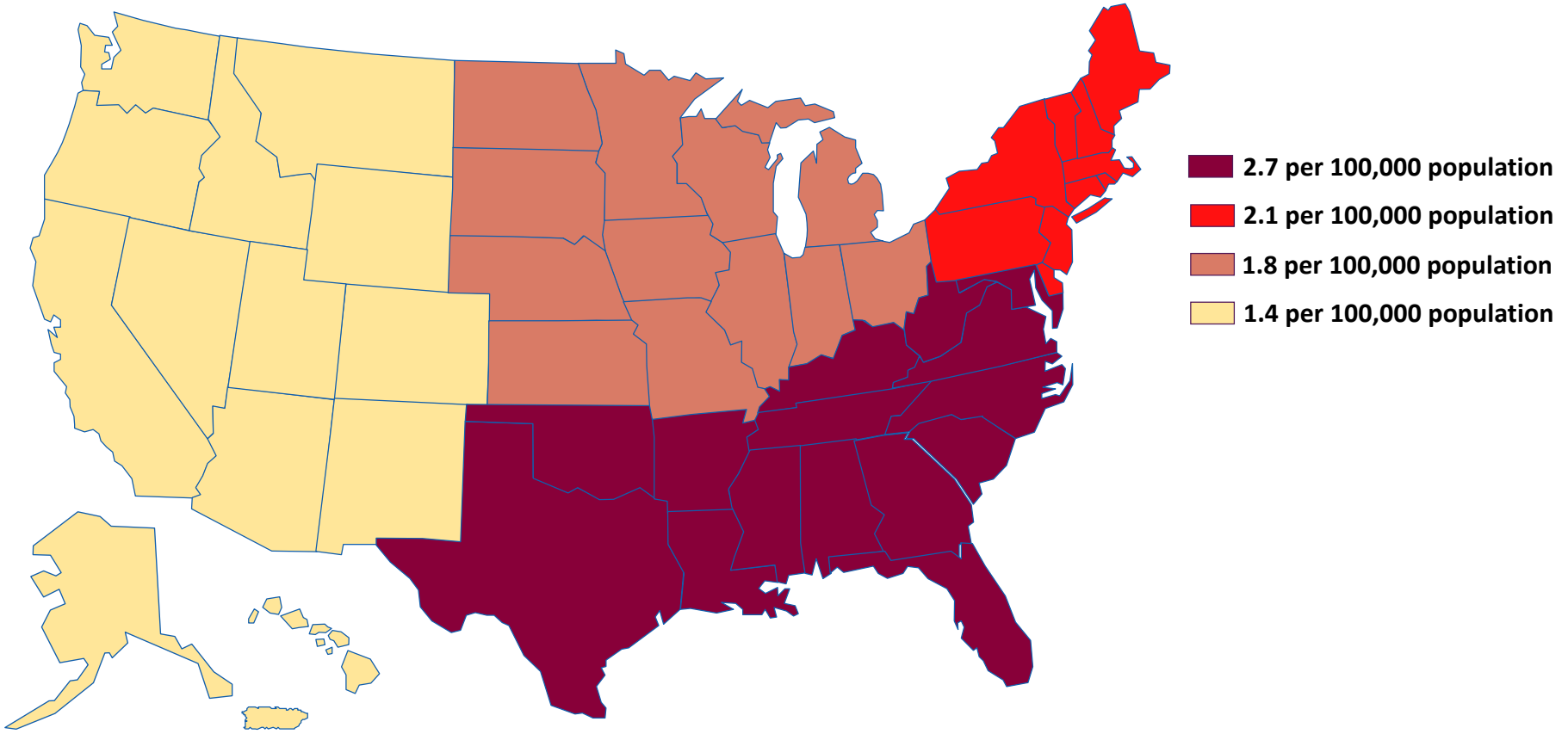
Age-adjusted rate of methadone poisoning related emergency department visits by region — United States, 2014



Source: Weighted national estimates from HCUP Nationwide Emergency Department Sample (NEDS), 2014, Agency for Healthcare Research and Quality (AHRQ).
Persons who were hospitalized, died, or transferred to another facility were excluded.
Methadone poisoning includes ICD-9-CM principal diagnosis code of 965.02 or first listed cause of injury E850.1.

Nonfatal Overdose Hospitalizations and ED Visits

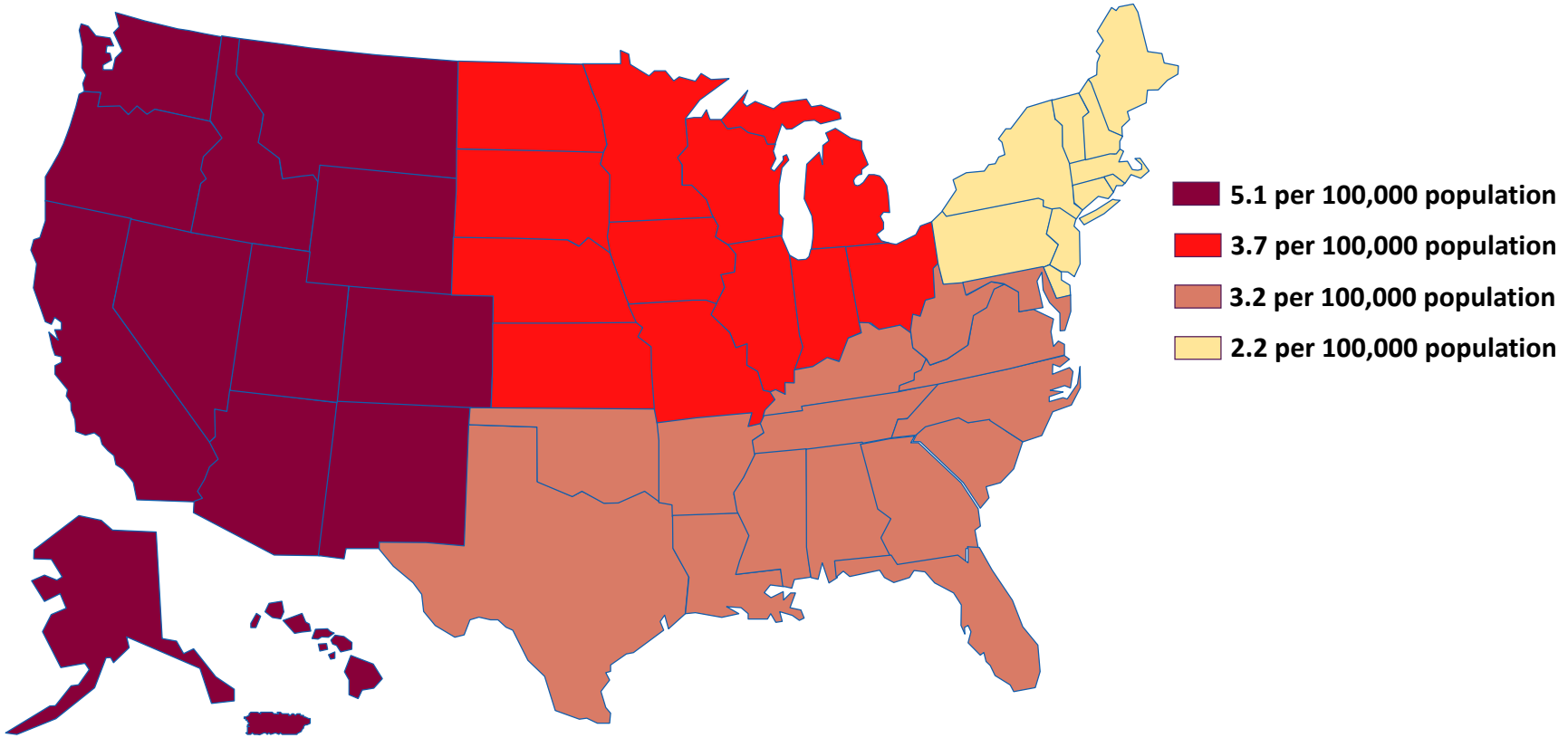
Age-adjusted rate of cocaine poisoning related emergency department visits by region — United States, 2014



Source: Weighted national estimates from HCUP Nationwide Emergency Department Sample (NEDS), 2014, Agency for Healthcare Research and Quality (AHRQ).
Persons who were hospitalized, died, or transferred to another facility were excluded.
Cocaine poisoning includes ICD-9-CM principal diagnosis code of 970.81 or first listed cause of injury E854.3 or E855.2.

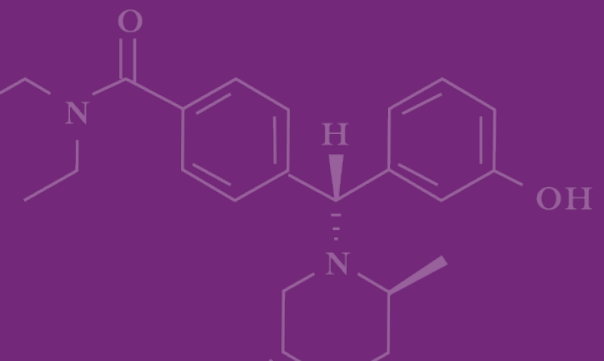
Nonfatal Overdose Hospitalizations and ED Visits

Age-adjusted rate of methamphetamine poisoning related emergency department visits by region — United States, 2014



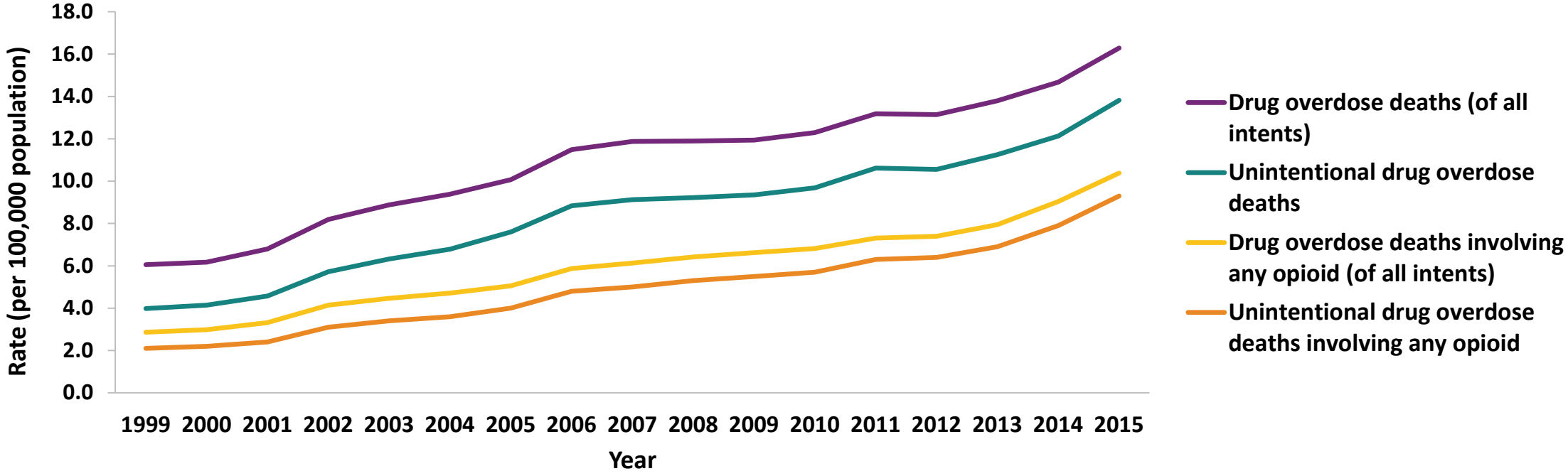
Source: Weighted national estimates from HCUP Nationwide Emergency Department Sample (NEDS), 2014, Agency for Healthcare Research and Quality (AHRQ).
Persons who were hospitalized, died, or transferred to another facility were excluded.
Methamphetamine poisoning includes ICD-9-CM principal diagnosis code of 969.72 or first listed cause of injury E854.2.

Drug Overdose Mortality



Drug Overdose Mortality

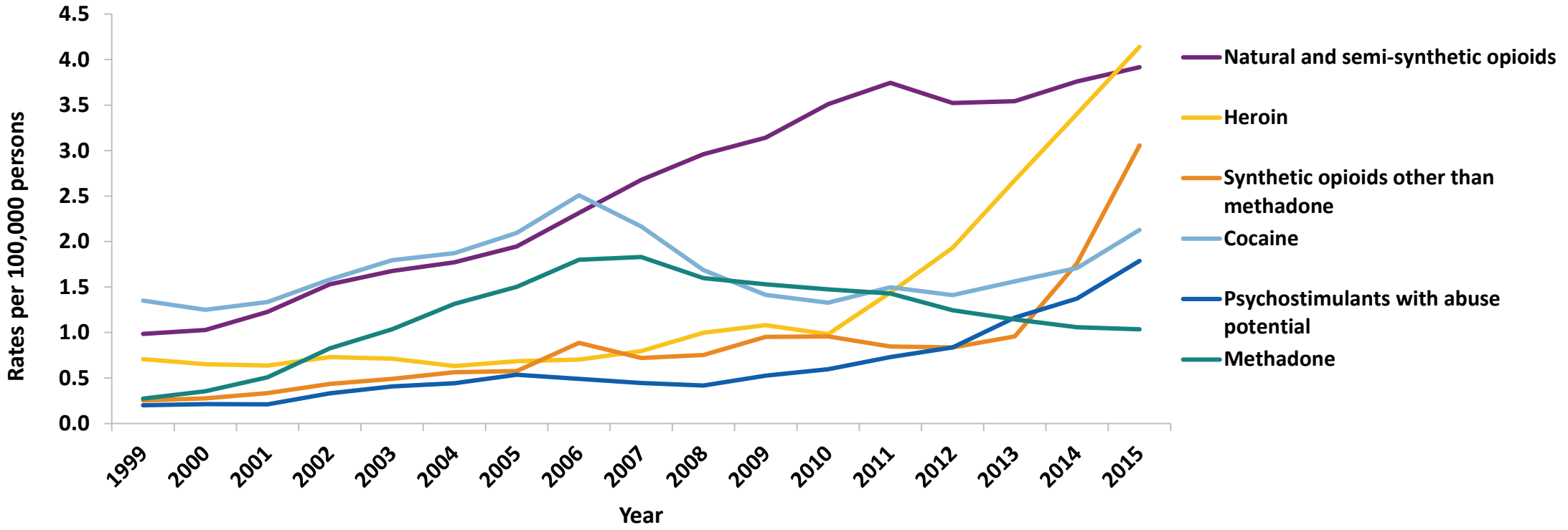
Age-adjusted rates of drug overdose deaths and drug overdose deaths involving any opioid, for all intents and for unintentional intent, by year — United States, 1999–2015



Source: National Vital Statistics System, Mortality File, CDC WONDER.
Rate per 100,000 population age-adjusted to the 2000 U.S. standard population using the vintage year population of the data year.
Deaths are classified using the International Classification of Diseases, Tenth Revision (ICD–10). All drug overdose deaths are identified using underlying cause-of-death codes X40–X44 (unintentional), X60–X64 (suicide), X85 (homicide), and Y10–Y14 (undetermined). Unintentional drug overdose deaths are identified using underlying cause-of-death codes X40–X44.
Drug overdose deaths, as defined, that involve opium (T40.0), heroin (T40.1), natural and semi-synthetic opioids (T40.2), methadone (T40.3), other synthetic opioids excluding methadone (T40.4), and other and unspecified narcotics (T40.6). Specification on death certificates of drugs involved with deaths varies over time. In 2015, approximately 17% of drug overdose deaths did not include information on the specific type of drug(s) involved.

Drug Overdose Mortality

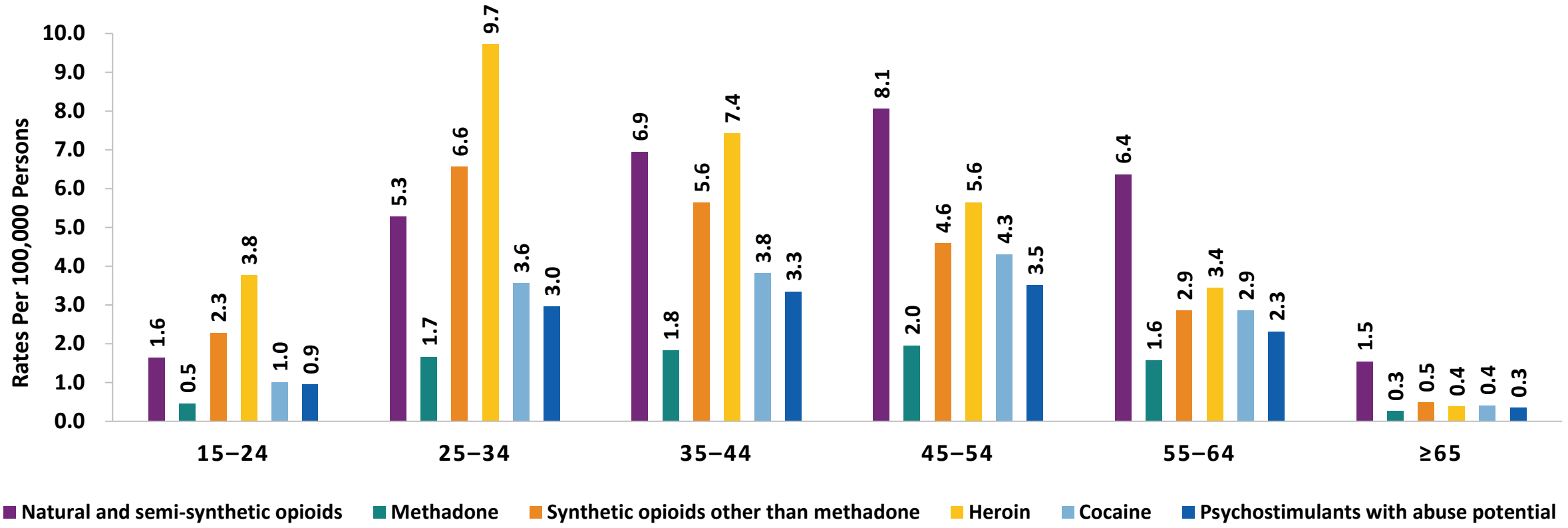
Age-adjusted rates of drug overdose deaths, by drug or drug class and year — United States, 1999–2015



Source: National Vital Statistics System, Mortality File. Source: National Vital Statistics System, Mortality File, CDC WONDER. Rate per 100,000 population age-adjusted to the 2000 U.S. standard population using the vintage year population of the data year. Because deaths might involve more than one drug, some deaths are included in more than one category. Specification on death certificates of drugs involved with deaths varies over time. In 2015, approximately 17% of drug overdose deaths did not include information on the specific type of drug(s) involved. Some of these deaths may have involved opioids or stimulants. Deaths are classified using the International Classification of Diseases, Tenth Revision (ICD–10). Drug overdose deaths are identified using underlying cause-of-death codes X40–X44 (unintentional), X60–X64 (suicide), X85 (homicide), and Y10–Y14 (undetermined).
Natural and semi-synthetic opioids: Drug overdose deaths, as defined, that involve natural and semi-synthetic opioids (T40.2). Heroin: Drug overdose deaths, as defined, that involve heroin (T40.1). Synthetic opioids other than methadone: Drug overdose deaths, as defined, that involve synthetic opioids other than methadone (T40.4). Cocaine: Drug overdose deaths, as defined, that involve cocaine (T40.5). Psychostimulants with abuse potential: Drug overdose deaths, as defined, that involve psychostimulants with abuse potential (T43.6). Methadone: Drug overdose deaths, as defined, that involve methadone (T40.3).

Drug Overdose Mortality

Rates of drug overdose deaths, by drug or drug class and age category — United States, 2015

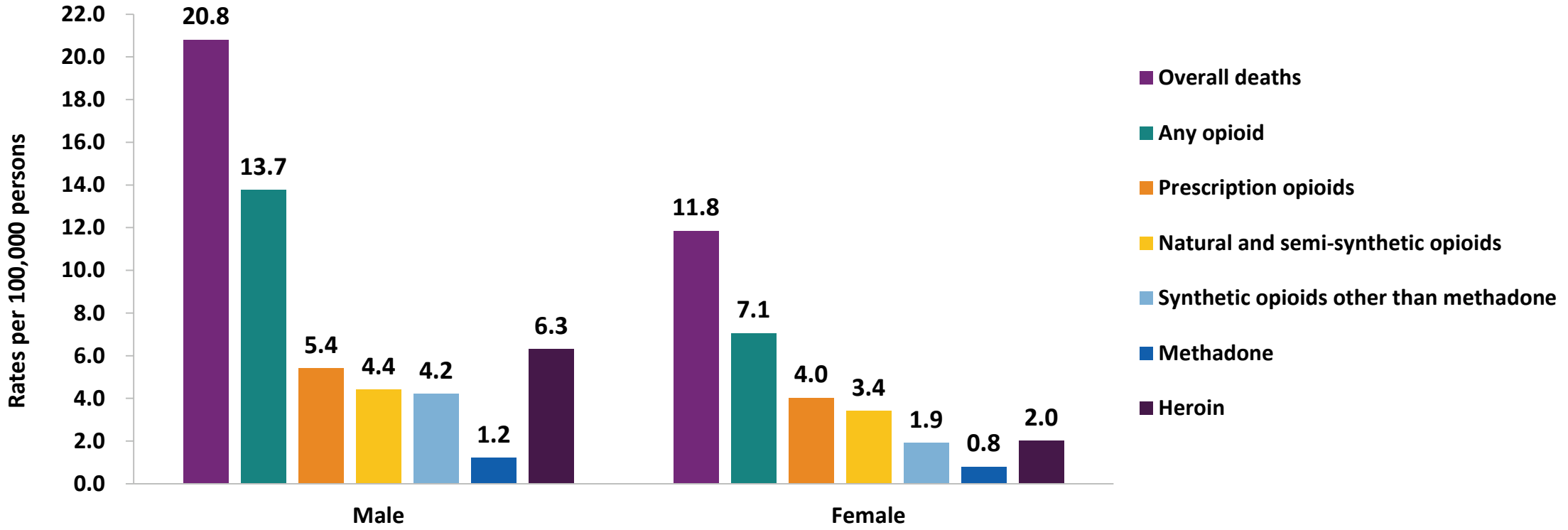


Source: National Vital Statistics System, Mortality File. Source: National Vital Statistics System, Mortality File, CDC WONDER. Rate per 100,000 population age-adjusted to the 2000 U.S. standard population using the vintage year population of the data year. Because deaths might involve more than one drug, some deaths are included in more than one category. Specification on death certificates of drugs involved with deaths varies over time. In 2015, approximately 17% of drug overdose deaths did not include information on the specific type of drug(s) involved. Some of these deaths may have involved opioids or stimulants. Deaths are classified using the International Classification of Diseases, Tenth Revision (ICD–10). Drug overdose deaths are identified using underlying cause-of-death codes X40–X44 (unintentional), X60–X64 (suicide), X85 (homicide), and Y10–Y14 (undetermined).

Natural and semi-synthetic opioids: Drug overdose deaths, as defined, that involve natural and semi-synthetic opioids (T40.2). Methadone: Drug overdose deaths, as defined, that involve methadone (T40.3). Synthetic opioids other than methadone: Drug overdose deaths, as defined, that involve synthetic opioids other than methadone (T40.4). Heroin: Drug overdose deaths, as defined, that involve heroin (T40.1). Cocaine: Drug overdose deaths, as defined, that involve cocaine (T40.5). Psychostimulants with abuse potential: Drug overdose deaths, as defined, that involve psychostimulants with abuse potential (T43.6).

Drug Overdose Mortality

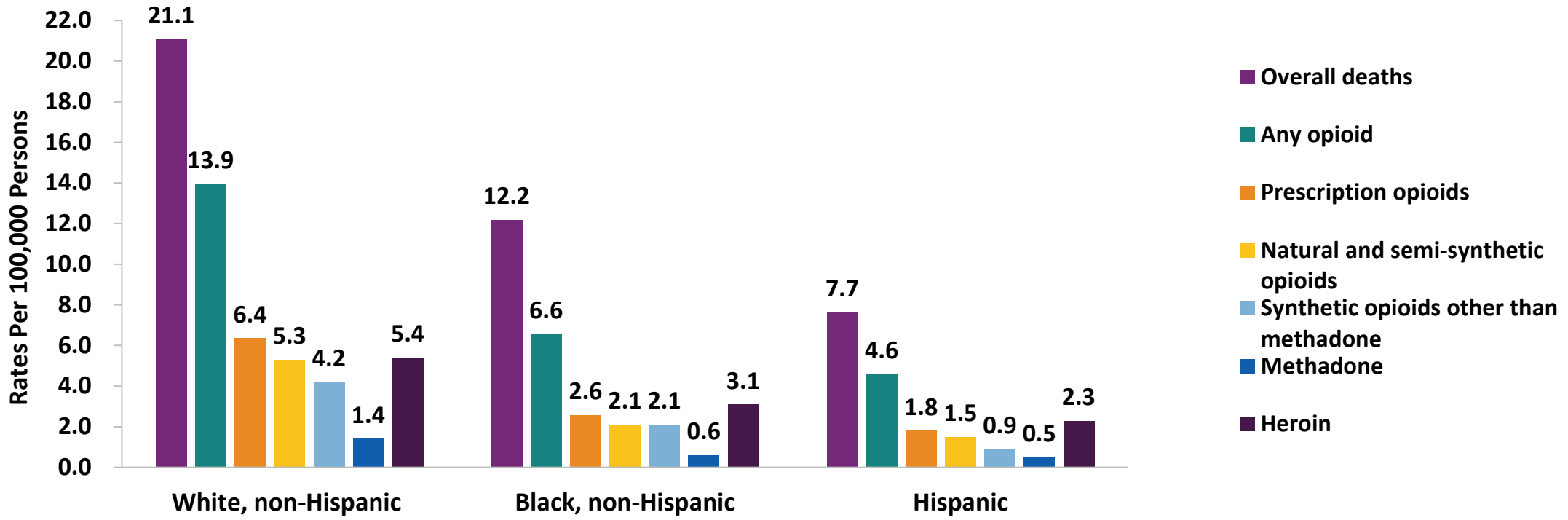
Age-adjusted rates of drug overdose deaths, by sex— United States, 2015



Source: National Vital Statistics System, Mortality File, CDC WONDER. Deaths are classified using the International Classification of Diseases, Tenth Revision (ICD–10)
Any opioid: Drug overdose deaths, as defined, that have opium (T40.0), heroin (T40.1), natural and semi-synthetic opioids (T40.2), methadone (T40.3), synthetic opioids other than methadone (T40.4) and other and unspecified narcotics (T40.6) as contributing causes.
Prescription opioids: Drug overdose deaths, as defined, that have natural and semi-synthetic opioids (T40.2) and methadone (T40.3) as contributing causes.
Natural and semi-synthetic opioids: Drug overdose deaths, as defined, that have natural and semi-synthetic opioids (T40.2) as a contributing cause.
Synthetic opioids other than methadone: Drug overdose deaths, as defined, that have synthetic opioids other than methadone (T40.4) as a contributing cause.
Methadone: Drug overdose deaths, as defined, that have methadone (T40.3) as a contributing cause. Heroin: Drug overdose deaths, as defined, that have heroin (T40.1) as a contributing cause.

Drug Overdose Mortality

Age-adjusted rates of drug overdose deaths, by race and Hispanic origin — United States, 2015



Source: National Vital Statistics System, Mortality File, CDC WONDER. Deaths are classified using the International Classification of Diseases, Tenth Revision (ICD–10)
Any opioid: Drug overdose deaths, as defined, that have opium (T40.0), heroin (T40.1), natural and semi-synthetic opioids (T40.2), methadone (T40.3), synthetic opioids other than methadone (T40.4) and other and unspecified narcotics (T40.6) as contributing causes.
Prescription opioids: Drug overdose deaths, as defined, that have natural and semi-synthetic opioids (T40.2) and methadone (T40.3) as contributing causes.
Natural and semi-synthetic opioids: Drug overdose deaths, as defined, that have natural and semi-synthetic opioids (T40.2) as a contributing cause.
Synthetic opioids other than methadone: Drug overdose deaths, as defined, that have synthetic opioids other than methadone (T40.4) as a contributing cause.
Methadone: Drug overdose deaths, as defined, that have methadone (T40.3) as a contributing cause. Heroin: Drug overdose deaths, as defined, that have heroin (T40.1) as a contributing cause.

Limitations

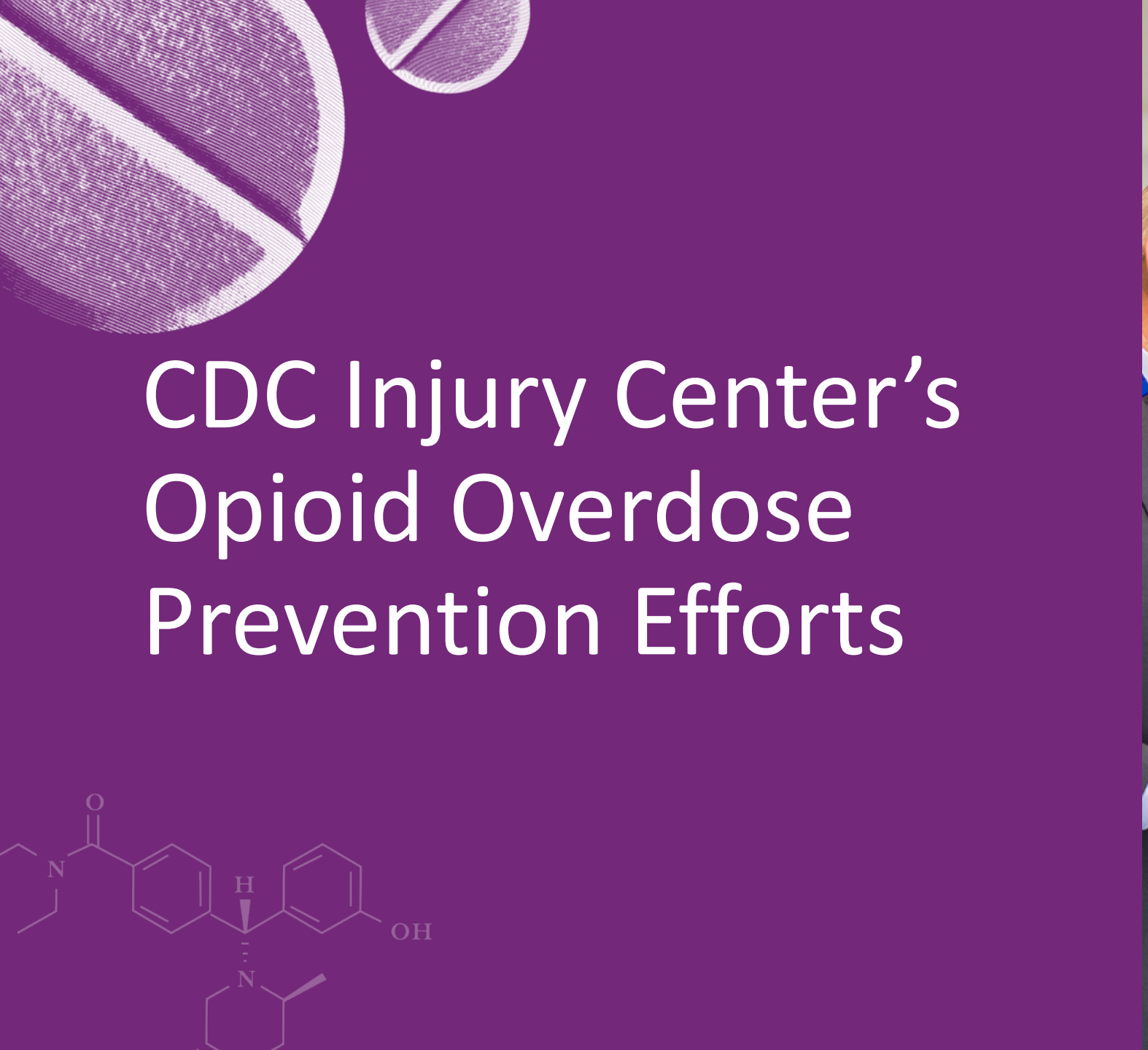
- Since multiple data sources were used, terminology and definitions were not standardized across all outcomes and most recent year of available data varied.
  - Comparability of information across sections is limited
- Polysubstance use (i.e., the consumption of more than one drug over a defined period, simultaneously or at different times) was not addressed.
- For a detailed description of the data sources, definitions, and caveats please refer to the technical notes in the surveillance report.*

*Centers for Disease Control and Prevention. Annual Surveillance Report of Drug-Related Risks and Outcomes — United States, 2017. Surveillance Special Report 1. Centers for Disease Control and Prevention, U.S. Department of Health and Human Services. https://www.cdc.gov/drugoverdose/data Published [August 31, 2017].

Conclusions

1. Through 2015, drug overdose remained a large and growing public health crisis in the United States.
2. In 2015, misuse of prescription opioids and illicit use of heroin and fentanyl remain of concern; illicit use of cocaine and methamphetamine are increasing.
3. The leveling off and declines in opioid prescribing rates since 2012 and high-dose prescribing rates since 2009 suggest that healthcare providers have become more cautious in their opioid prescribing practices.
4. Additional measures are now urgently needed to address a diverse and evolving array of drug types.

CDC Injury Center's Opioid Overdose Prevention Efforts



CDC Injury Center's Opioid Overdose Prevention Efforts

Pillars of Prevention Work

1. Improve data quality & timeliness and track trends
2. Strengthen state efforts by scaling up promising and effective public health interventions
3. Supply healthcare providers with data, tools, and guidance for evidence-based decision making

CDC Injury Center's Opioid Overdose Prevention Efforts

Overdose in States Prevention

1. **Enhanced State Opioid Overdose Surveillance (ESOOS) – funds 32 states and Washington DC**
   - Increase timeliness of nonfatal and fatal opioid overdose reporting and dissemination of results to key stakeholders

2. **Prevention for States (PfS) funds 29 states**
   - Enhance and maximize prescription drug monitoring programs, implement interventions, evaluate impact of state policies

3. **Data-Driven Prevention Initiative (DDPI) – funds 13 states and Washington DC**
   - Improve data collection and analysis around opioid misuse, abuse, overdose and develop comprehensive prevention programs

CDC Injury Center's Opioid Overdose Prevention Efforts

Centers for Disease Control and Prevention
MMWR
Morbidity and Mortality Weekly Report
Recommendations and Reports / Vol. 65 / No. 1
March 18, 2016

CDC Guideline for Prescribing Opioids for Chronic Pain — United States, 2016

Continuing Education Examination available at http://www.cdc.gov/mmwr/cme/conted.html.

U.S. Department of Health and Human Services
Centers for Disease Control and Prevention

Special Communication

CDC Guideline for Prescribing Opioids for Chronic Pain—United States, 2016

Deborah Dowell, MD, MPH; Tamara M. Haegerich, PhD; Roger Chou, MD

IMPORTANCE Primary care clinicians find managing chronic pain challenging. Evidence of long-term efficacy of opioids for chronic pain is limited. Opioid use is associated with serious risks, including opioid use disorder and overdose.

OBJECTIVE To provide recommendations about opioid prescribing for primary care clinicians treating adult patients with chronic pain outside of active cancer treatment, palliative care, and end-of-life care.

PROCESS The Centers for Disease Control and Prevention (CDC) updated a 2014 systematic review on effectiveness and risks of opioids and conducted a supplemental review on benefits and harms, values and preferences, and costs. CDC used the Grading of Recommendations Assessment, Development, and Evaluation (GRADE) framework to assess evidence type and determine the recommendation category.

EVIDENCE SYNTHESIS Evidence consisted of observational studies or randomized clinical trials with notable limitations, characterized as low quality using GRADE methodology. Meta-analysis was not attempted due to the limited number of studies, variability in study designs and clinical heterogeneity, and methodological shortcomings of studies. No study evaluated long-term (≥1 year) benefit of opioids for chronic pain. Opioids were associated with increased risks, including opioid use disorder, overdose, and death, with dose-dependent effects.

RECOMMENDATIONS There are 12 recommendations. Of primary importance, nonopioid therapy is preferred for treatment of chronic pain. Opioids should be used only when benefits for pain and function are expected to outweigh risks. Before starting opioids, clinicians should establish treatment goals with patients and consider how opioids will be discontinued if benefits do not outweigh risks. When opioids are used, clinicians should prescribe the lowest effective dosage, carefully reassess benefits and risks when considering increasing dosage to 50 morphine milligram equivalents or more per day, and avoid concurrent opioids and benzodiazepines whenever possible. Clinicians should evaluate benefits and harms of continued opioid therapy with patients every 3 months or more frequently and review prescription drug monitoring program data, when available, for high-risk combinations or dosages. For patients with opioid use disorder, clinicians should offer or arrange evidence-based treatment, such as medication-assisted treatment with buprenorphine or methadone.

CONCLUSIONS AND RELEVANCE The guideline is intended to improve communication about benefits and risks of opioids for chronic pain, improve safety and effectiveness of pain treatment, and reduce risks associated with long-term opioid therapy.

JAMA. doi:10.1001/jama.2016.1464
Published online March 15, 2016.

- Editorials
- Author Audio Interview at jama.com
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For a detailed description of data sources, definitions, and statistical analyses as well as an in-depth presentation of results, please refer to:

Centers for Disease Control and Prevention. Annual Surveillance Report of Drug-Related Risks and Outcomes — United States, 2017. Surveillance Special Report 1. Centers for Disease Control and Prevention, U.S. Department of Health and Human Services. https://www.cdc.gov/drugoverdose/data Published [August 31, 2017].

For more information, see: https://www.cdc.gov/drugoverdose/index.html

For more information, contact CDC
1-800-CDC-INFO (232-4636)
TTY: 1-888-232-6348 www.cdc.gov