Surveillance Report

Highlights from the 2018 Annual Surveillance Report of Drug-Related Risks and Outcomes — United States

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

Background

- These slides contain selected data from the second annual surveillance report summarizing the latest information at the national level for prescribing patterns, drug use, and nonfatal and fatal overdose related to the current drug overdose epidemic.
- Intended to serve as a resource for persons charged with addressing this ongoing national crisis.
- Suggested citation when using resources from this presentation:

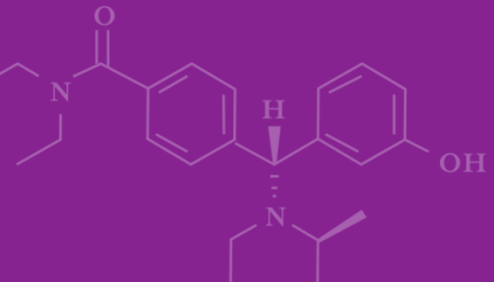
  Centers for Disease Control and Prevention. 2018 Annual Surveillance Report of Drug-Related Risks and Outcomes — United States. Surveillance Special Report. Centers for Disease Control and Prevention, U.S. Department of Health and Human Services. Published August 31, 2018. Accessed [date] from www.cdc.gov/drugoverdose/pdf/pubs/2018-cdc-drug-surveillance-report.pdf

Data Sources

Outcome	Data Source	Year(s)
Opioid prescribing practices	IQVIA™	2006–2017
Drug use, misuse, substance use disorder, and treatment	National Survey on Drug Use and Health (NSDUH)[a]	2016
Nonfatal overdose hospitalizations and emergency department visits	Healthcare Cost and Utilization Project (HCUP)[b]	2015
Drug overdose mortality	National Vital Statistics System (NVSS), Mortality Component[c]	1999–2016

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

Opioid Prescribing Practices



Opioid Prescribing Practices

Total number and rate of opioid prescriptions[a] (Rx) dispensed per 100 persons annually — United States, 2017

Opioid prescriptions (Rx)	Number	Rate[b]
All opioids	191,146,822	58.5
LA/ER opioids[c]	17,442,895	5.3
Days of supply per Rx		
< 30 days	110,759,830	33.9
≥ 30 days	80,386,991	24.6
Average opioid Rx per patient	3.4	
Average days of supply per Rx	18.3	

Source: IQVIA™ Transactional Data Warehouse.
Abbreviation: Rx, prescription.
[a]Opioid prescriptions, including codeine, fentanyl, hydrocodone, hydromorphone, methadone, morphine, oxycodone, oxymorphone, propoxyphene, tapentadol, tramadol, and Butrans® and Belbuca® (buprenorphine), were identified using the National Drug Code.
[b]Rate per 100 persons.
[c]LA/ER represents opioids that are long acting (LA) or extended release (ER).

Opioid Prescribing Practices

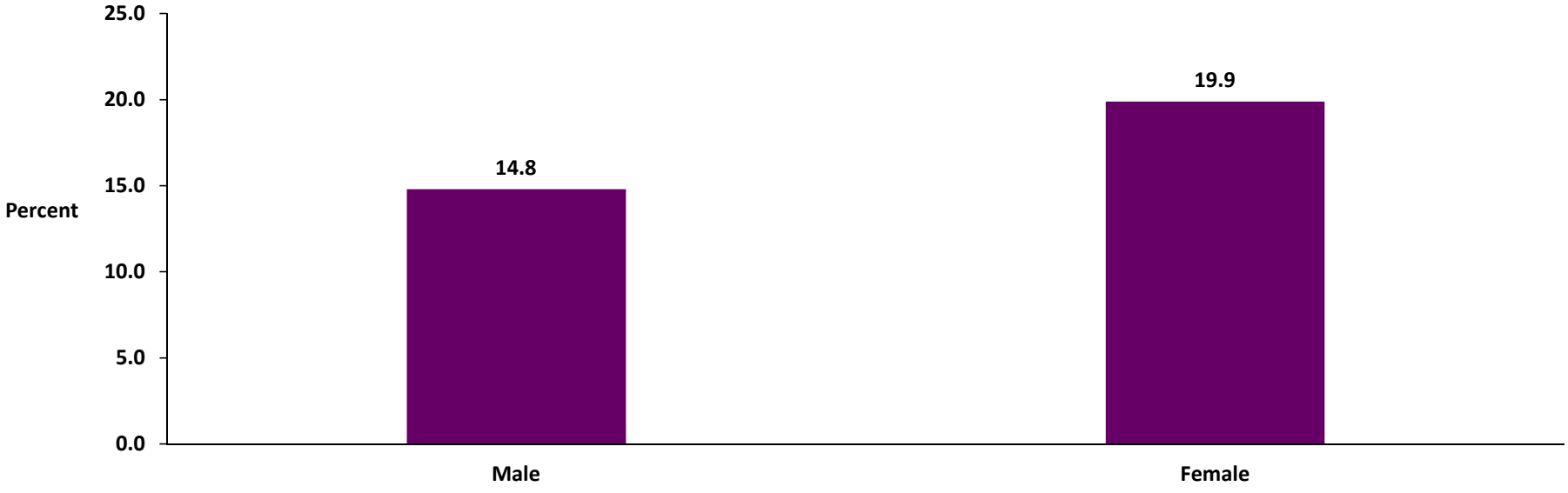
Total number and rate of morphine milligram equivalents (MME) dispensed per 100 persons annually — United States, 2017

Morphine milligram equivalents (MME)	Number	Rate[a]
Total MME	166,941,732,435	
MME per capita	511.1	
Average MME per Rx	873.4	
Average daily MME per Rx	45.3	
Daily dosage per Rx		
< 50 MME	142,842,185	43.7
≥ 50 but < 90 MME	32,079,439	9.8
≥ 90 MME (high dose)	16,225,198	5.0

Source: IQVIA™ Transactional Data Warehouse.
Abbreviation: MME, morphine milligram equivalents; Rx, prescription.
[a]Rate per 100 persons.

Opioid Prescribing Practices

Percent of persons who had at least one prescription filled for an opioid[a] by sex — United States, 2017

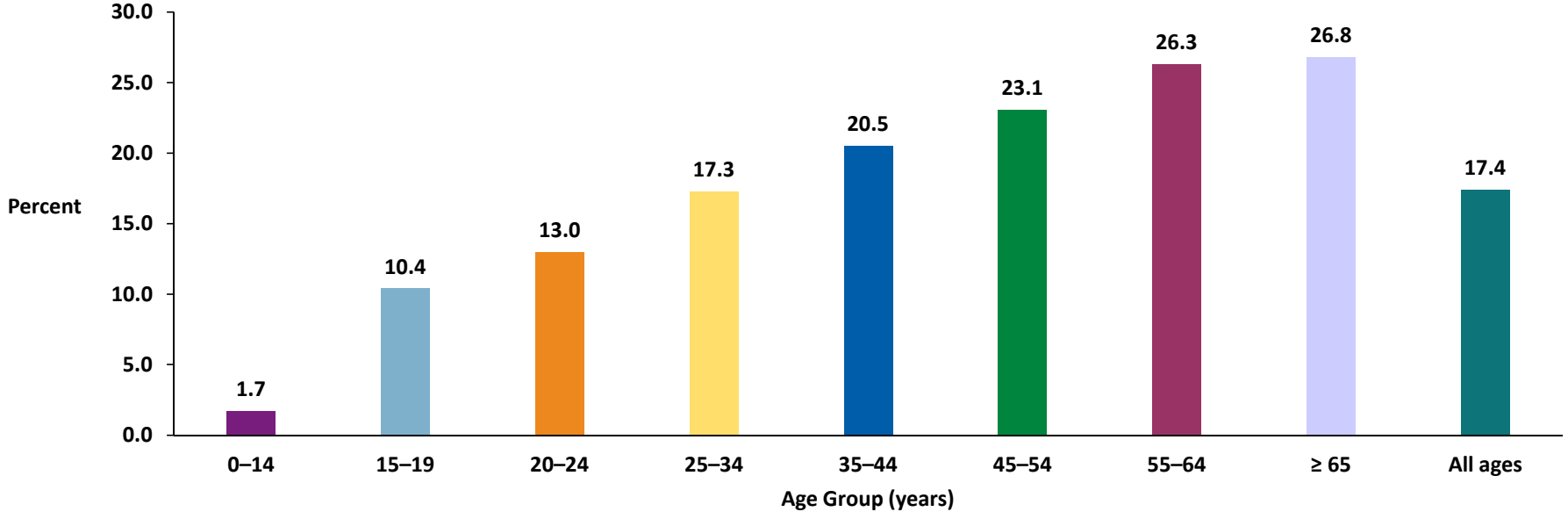


Source: IQVIA™ Total Patient Tracker, 2017 Enhanced.

[a]Opioid prescriptions, including codeine, fentanyl, hydrocodone, hydromorphone, methadone, morphine, oxycodone, oxymorphone, propoxyphene, tapentadol, tramadol, and Butrans® and Belbuca® (buprenorphine), were identified using the National Drug Code.

Opioid Prescribing Practices

Percent of persons who had at least one prescription filled for an opioid[a] by age group — United States, 2017

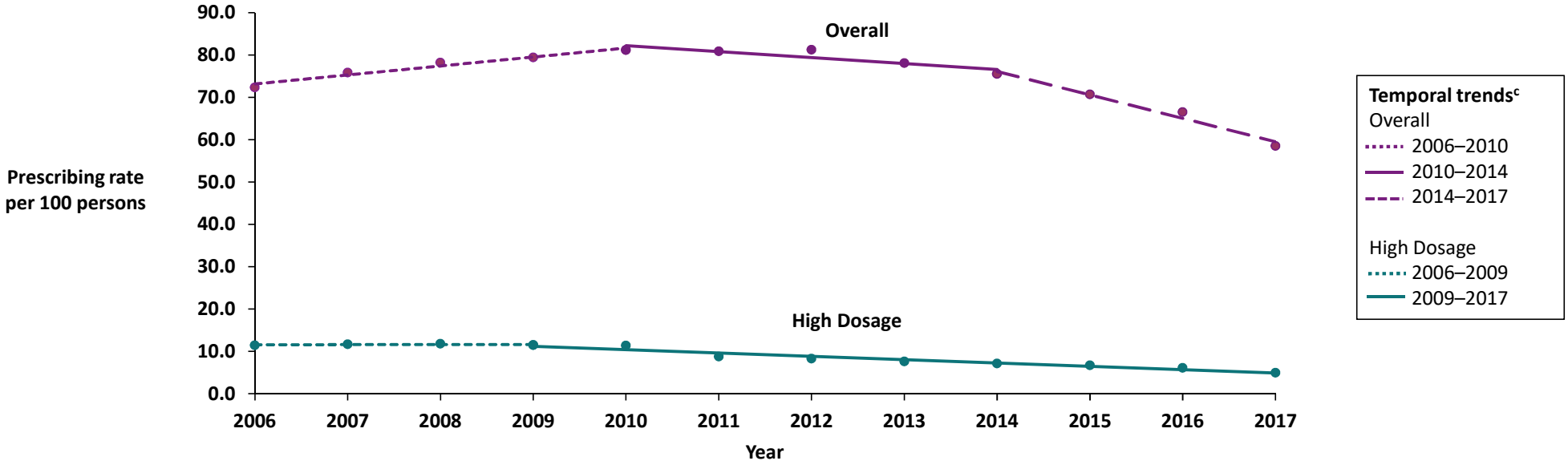


Source: IQVIA™ Total Patient Tracker, 2017 Enhanced.

[a]Opioid prescriptions, including codeine, fentanyl, hydrocodone, hydromorphone, methadone, morphine, oxycodone, oxymorphone, propoxyphene, tapentadol, tramadol and Butrans® and Belbuca® (buprenorphine), were identified using the National Drug Code.

Opioid Prescribing Practices

Annual opioid[a] prescribing rates overall and for high dosage prescriptions[b] (≥ 90 MME/day)[c] — United States, 2006–2017



Source: IQVIA™ Transactional Data Warehouse.

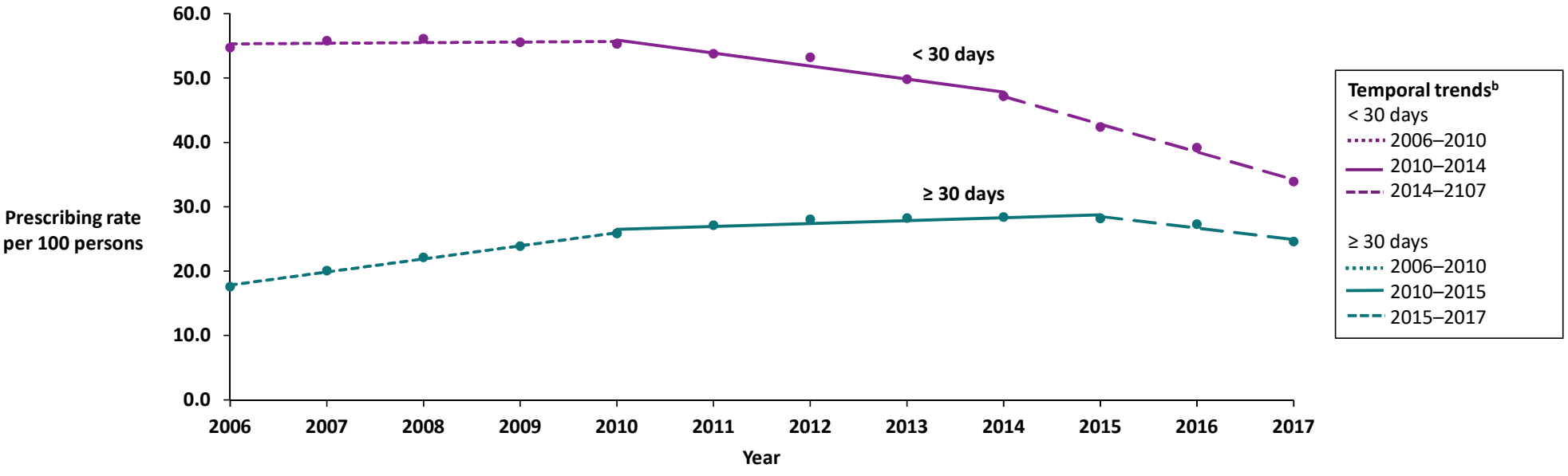
[a]Opioid prescriptions, including codeine, fentanyl, hydrocodone, hydromorphone, methadone, morphine, oxycodone, oxymorphone, propoxyphene, tapentadol, tramadol and Butrans® and Belbuca® (buprenorphine), were identified using the National Drug Code.

[b]High dosage prescriptions were defined as opioid prescriptions resulting in a daily dosage of ≥ 90 morphine milligram equivalents.

[c]Temporal trends from 2006 to 2017 were evaluated by applying joinpoint regression methodology. This modeling approach simultaneously identified statistically significant trends as well as shifts in trends that occurred within a time series. A maximum of two joinpoints was allowed. Different dash types correspond to year groupings as determined by joinpoint regression.

Opioid Prescribing Practices

Annual opioid[a] prescribing rates by days of supply per prescription[b] — United States, 2006–2017



Source: IQVIA™ Transactional Data Warehouse.

[a]Opioid prescriptions, including codeine, fentanyl, hydrocodone, hydromorphone, methadone, morphine, oxycodone, oxymorphone, propoxyphene, tapentadol, tramadol and Butrans® and Belbuca® (buprenorphine), were identified using the National Drug Code.

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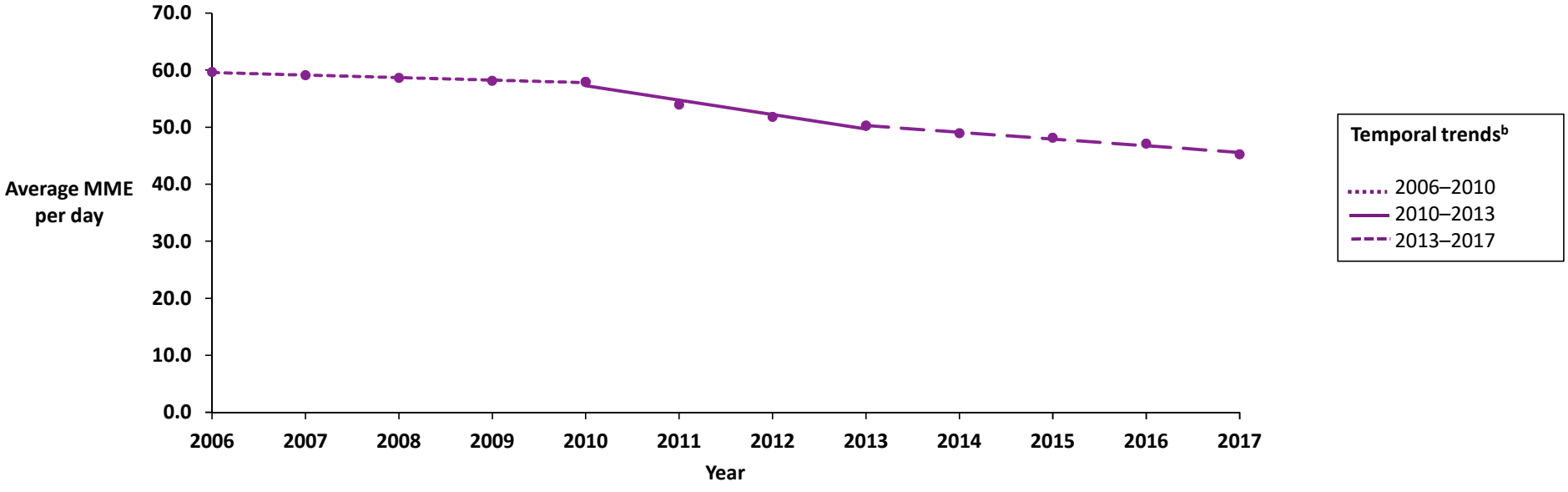
Opioid Prescribing Practices

Average daily morphine milligram equivalents (MME) per opioid[a] prescription[b] — United States, 2006–2017



Source: IQVIA™ Transactional Data Warehouse.

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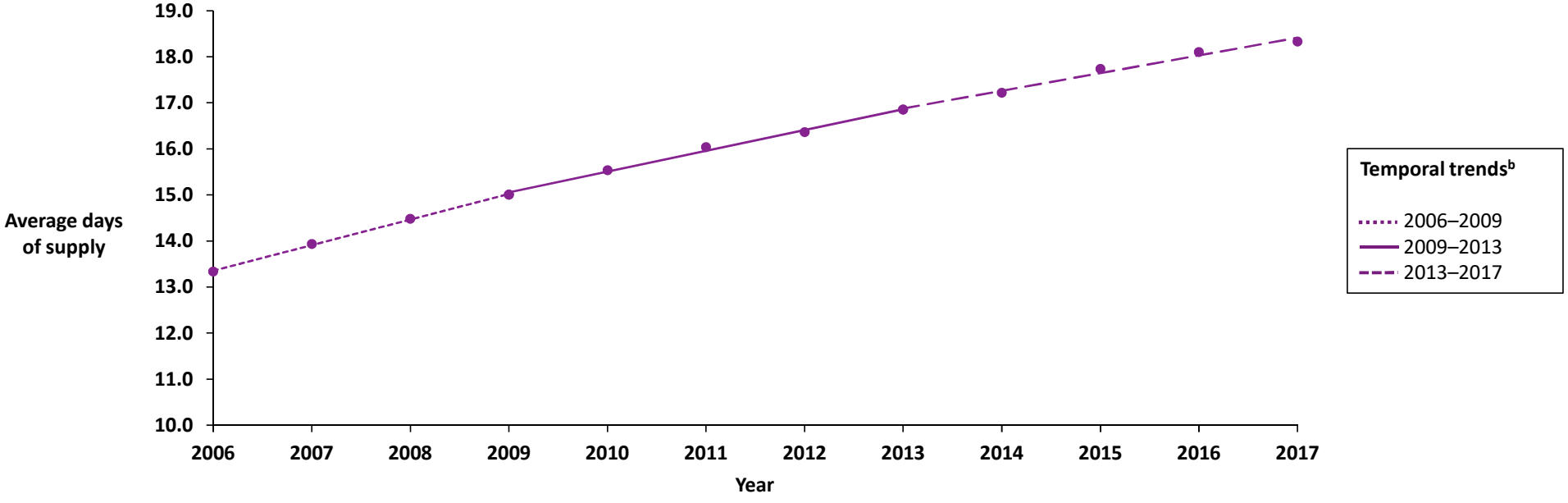
Opioid Prescribing Practices

Average days of supply per opioid[a] prescription[b] — United States, 2006–2017



Source: IQVIA™ Transactional Data Warehouse.

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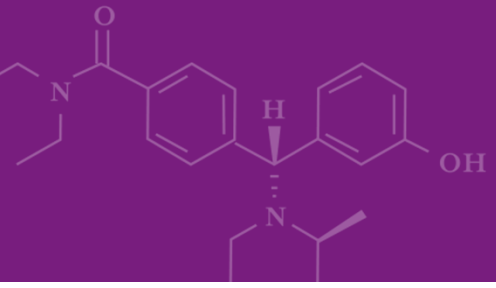
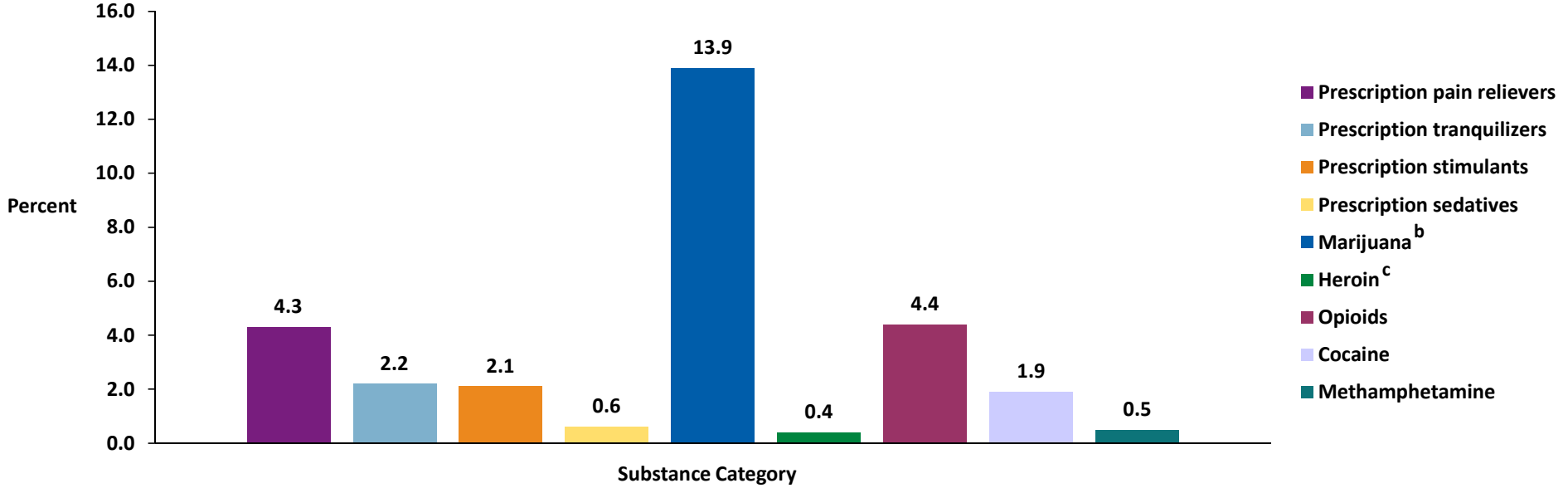
Drug Use, Misuse, Substance Use Disorder, and Treatment



Drug Use, Misuse, Substance Use Disorder, and Treatment

Self-reported prevalence of illicit drug use and prescription drug misuse[a] in the past year, persons 12+ years old — United States, 2016



Source: 2016 National Survey on Drug Use and Health. Substance Abuse and Mental Health Services Administration. Rockville, MD.

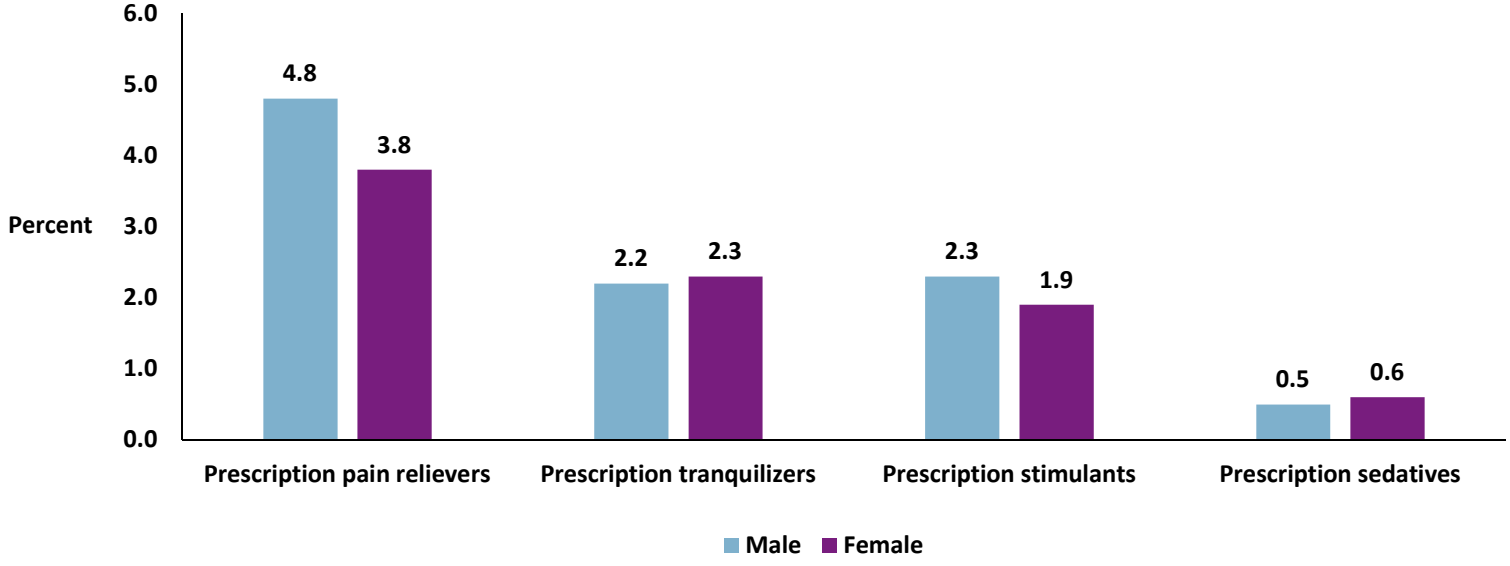
[a]Misuse of prescription drugs is defined as use in any way not directed by a doctor, including use without a prescription of one's own medication; use in greater amounts, more often, or longer than told to take a drug; or use in any other way not directed by a doctor. Prescription drugs do not include over-the-counter drugs.

[b]Marijuana was classified as an illicit substance in NSDUH because it remains an illegal substance (Schedule I drug) under federal law.

[c]Opioids include heroin use, prescription pain reliever misuse, or both; therefore, the numbers for heroin use and prescription pain reliever misuse do not add to those for opioid misuse because of poly-drug use. This category includes misuse of prescription fentanyl but excludes use of illicit fentanyl.

Drug Use, Misuse, Substance Use Disorder, and Treatment

Self-reported prevalence of prescription drug misuse[a] in the past year by sex, persons 12+ years old — United States, 2016



Source: 2016 National Survey on Drug Use and Health. Substance Abuse and Mental Health Services Administration. Rockville, MD.

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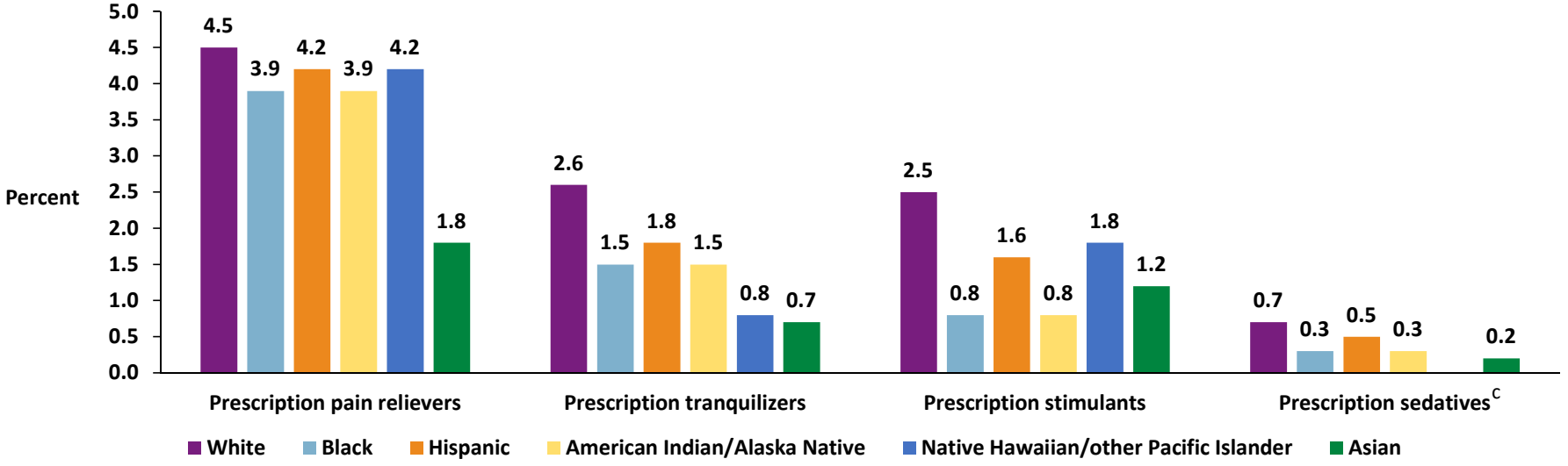
Drug Use, Misuse, Substance Use Disorder, and Treatment

Self-reported prevalence of prescription drug misuse[a] in the past year by race/ethnicity,[b] persons 12+ years old — United States, 2016



Source: 2016 National Survey on Drug Use and Health. Substance Abuse and Mental Health Services Administration. Rockville, MD.

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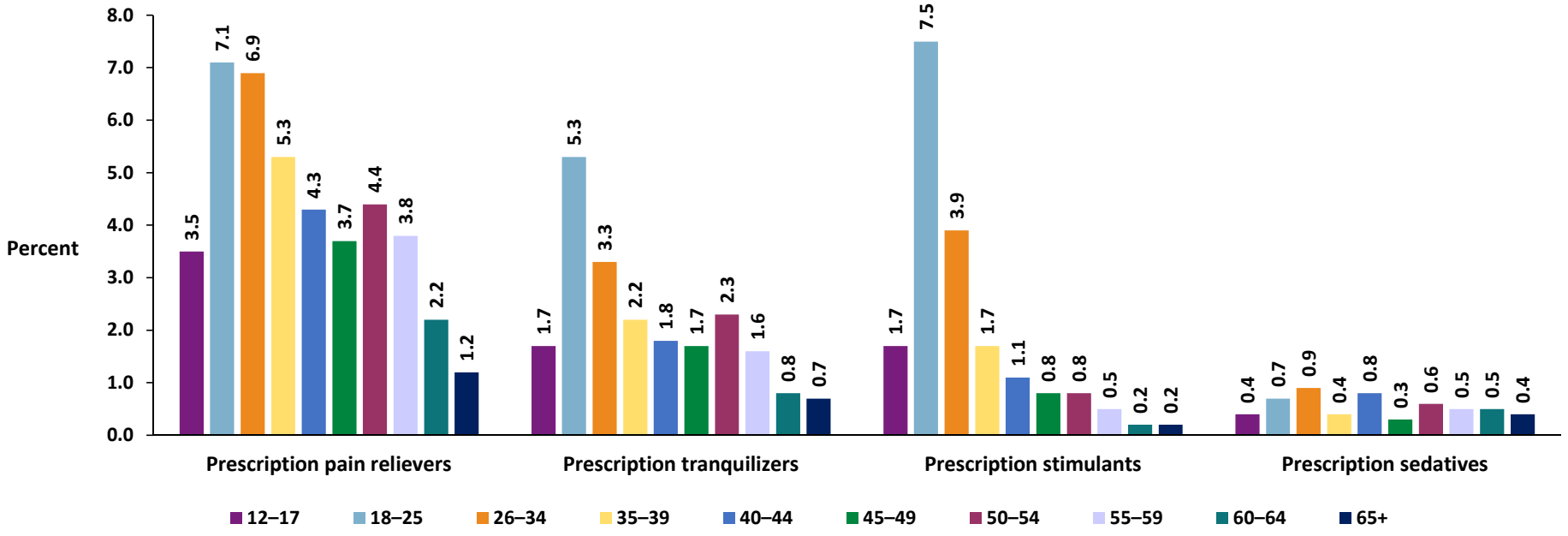
[b]All race/ethnicity categories other than "Hispanic" are non-Hispanic. Data on two or more races are not included.

[c]Low precision for Native Hawaiian/other Pacific Islander race, no estimate reported.

Drug Use, Misuse, Substance Use Disorder, and Treatment

Self-reported prevalence of prescription drug misuse[a] in the past year by age group, persons 12+ years old — United States, 2016

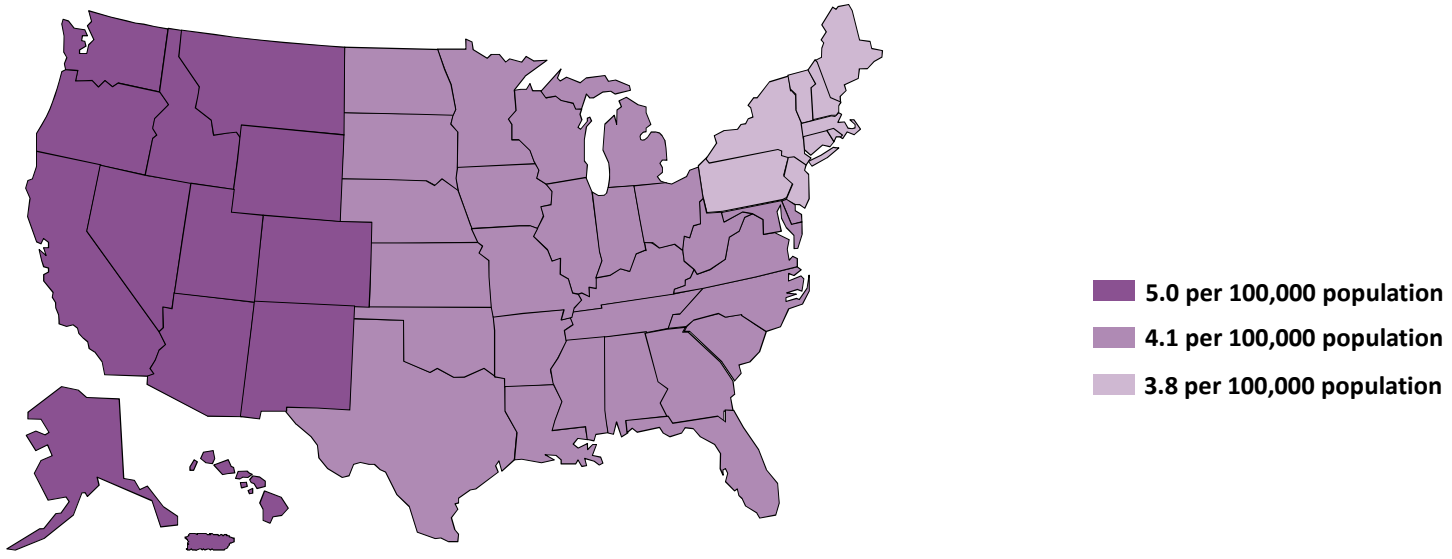


Source: 2016 National Survey on Drug Use and Health. Substance Abuse and Mental Health Services Administration. Rockville, MD.

[a]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.

Drug Use, Misuse, Substance Use Disorder, and Treatment

Self-reported prevalence of prescription pain reliever misuse[a] in the past year by region, persons 12+ years old — United States, 2016



Source: 2016 National Survey on Drug Use and Health. Substance Abuse and Mental Health Services Administration. Rockville, MD.

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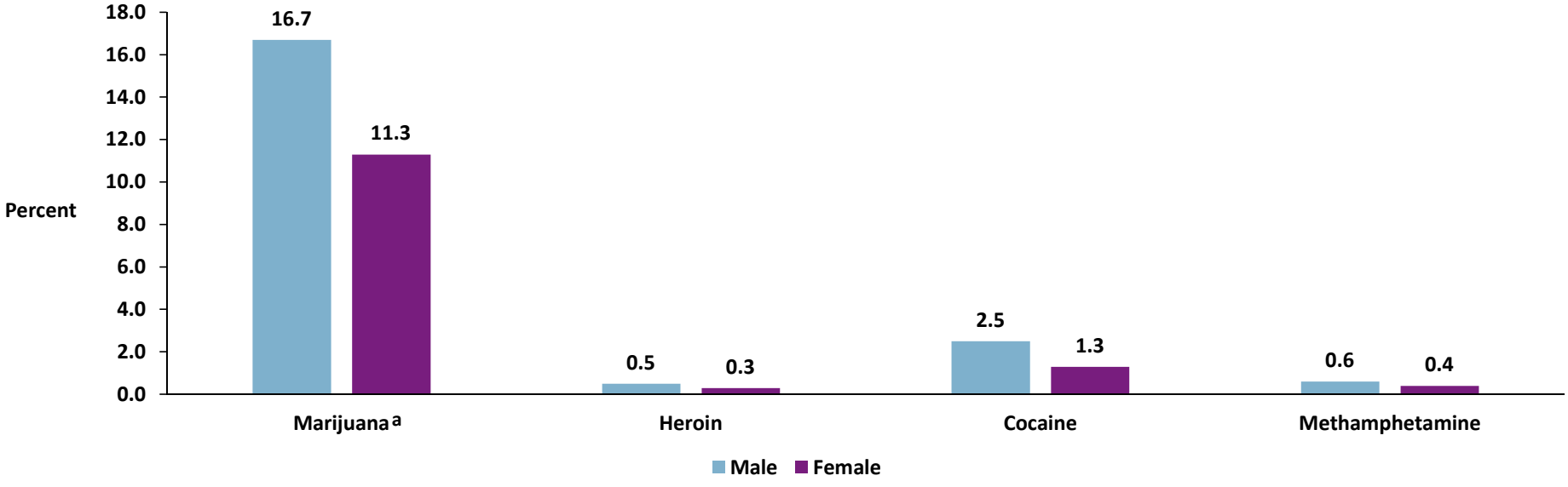
Drug Use, Misuse, Substance Use Disorder, and Treatment

Self-reported prevalence of illicit drug use in the past year by sex, persons 12+ years old — United States, 2016

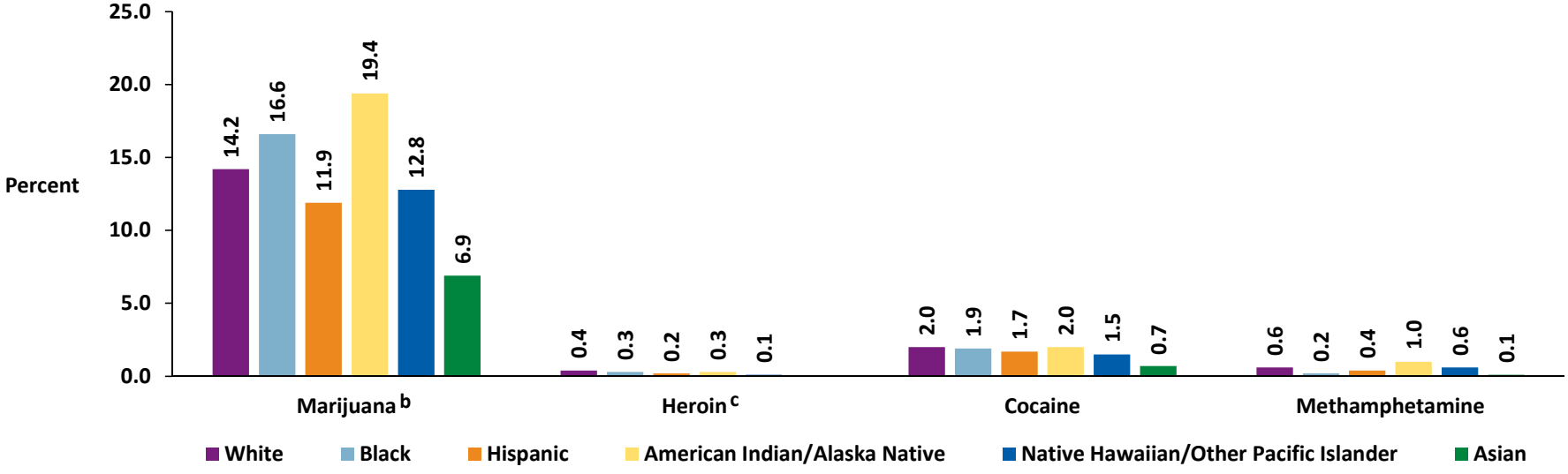


Source: 2016 National Survey on Drug Use and Health (NSDUH). Substance Abuse and Mental Health Services Administration. Rockville, MD.

[a]Marijuana was classified as an illicit substance in NSDUH because it remains an illegal substance (Schedule I drug) under federal law.

Drug Use, Misuse, Substance Use Disorder, and Treatment

Self-reported prevalence of illicit drug use in the past year by race/ethnicity,[a] persons 12+ years old — United States, 2016



Source: 2016 National Survey on Drug Use and Health (NSDUH). Substance Abuse and Mental Health Services Administration. Rockville, MD.

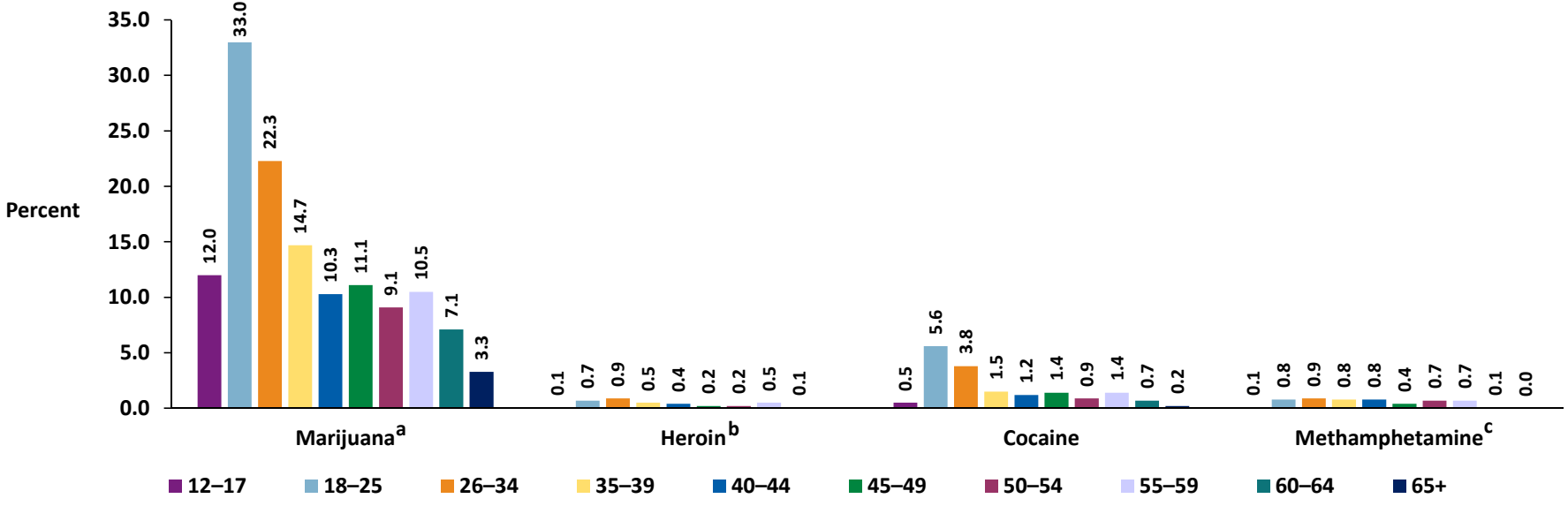
[a]All race/ethnicity categories other than "Hispanic" are non-Hispanic. Data on two or more races are not included.

[b]Marijuana was classified as an illicit substance in NSDUH because it remains an illegal substance (Schedule I drug) under federal law.

[c]Low precision for Asian race, no estimate reported.

Drug Use, Misuse, Substance Use Disorder, and Treatment

Self-reported prevalence of illicit drug use in the past year by age group, persons 12+ years old — United States, 2016



Source: 2016 National Survey on Drug Use and Health (NSDUH). Substance Abuse and Mental Health Services Administration. Rockville, MD.

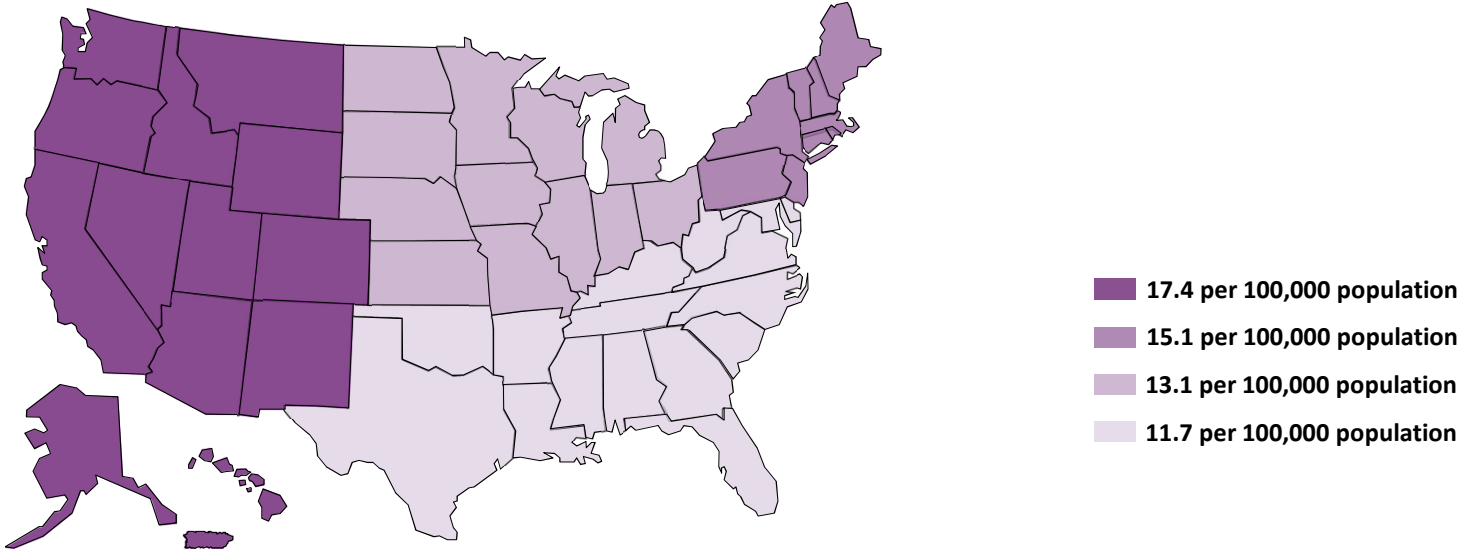
[a]Marijuana was classified as an illicit substance in NSDUH because it remains an illegal substance (Schedule I drug) under federal law.

[b]Low precision for age 65+, no estimate reported.

[c]Percents are rounded to the nearest tenth. Because of the rounding, some percents equal to 0.0 are displayed. These prevalence estimates are rounded down from < 0.05 percent and do not represent an absence of persons displaying a particular characteristic.

Drug Use, Misuse, Substance Use Disorder, and Treatment

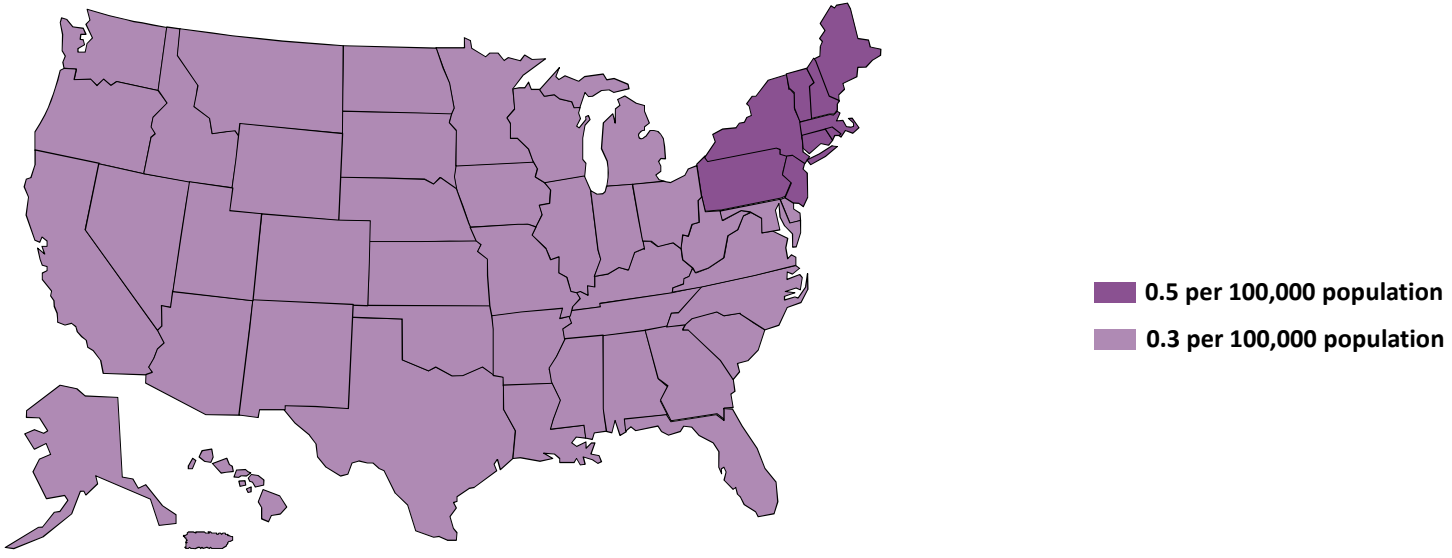
Self-reported prevalence of marijuana use in the past year by region, persons 12+ years old — United States, 2016



Source: 2016 National Survey on Drug Use and Health. Substance Abuse and Mental Health Services Administration. Rockville, MD.

Drug Use, Misuse, Substance Use Disorder, and Treatment

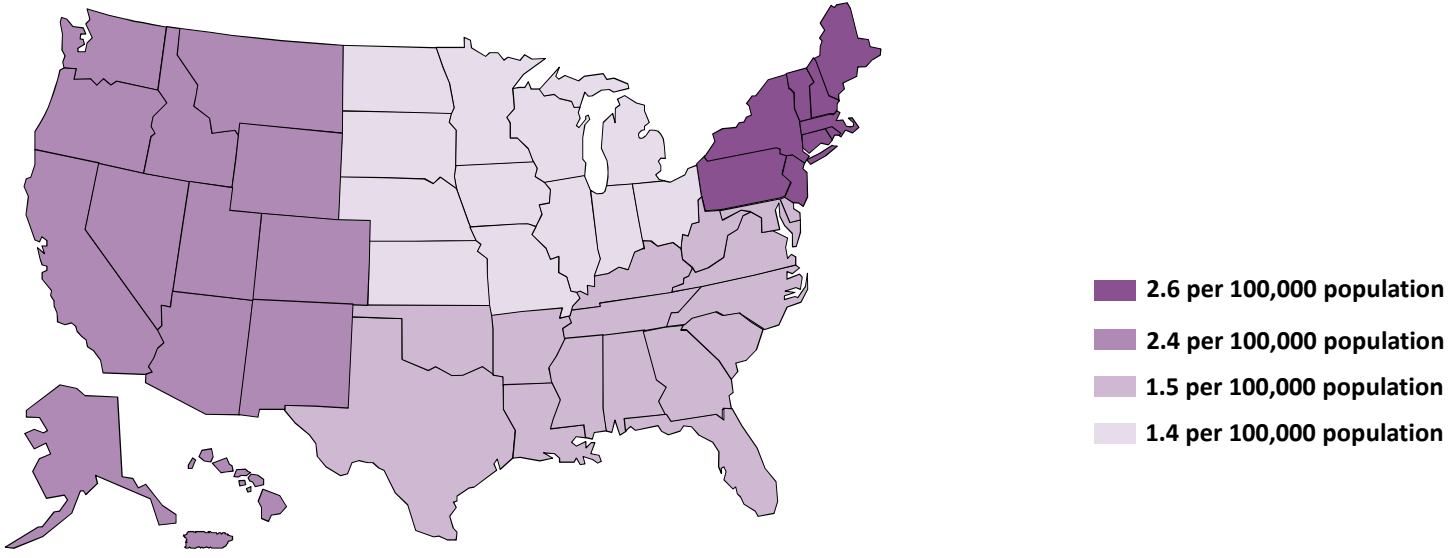
Self-reported prevalence of heroin use in the past year by region, persons 12+ years old — United States, 2016



Source: 2016 National Survey on Drug Use and Health. Substance Abuse and Mental Health Services Administration. Rockville, MD.

Drug Use, Misuse, Substance Use Disorder, and Treatment

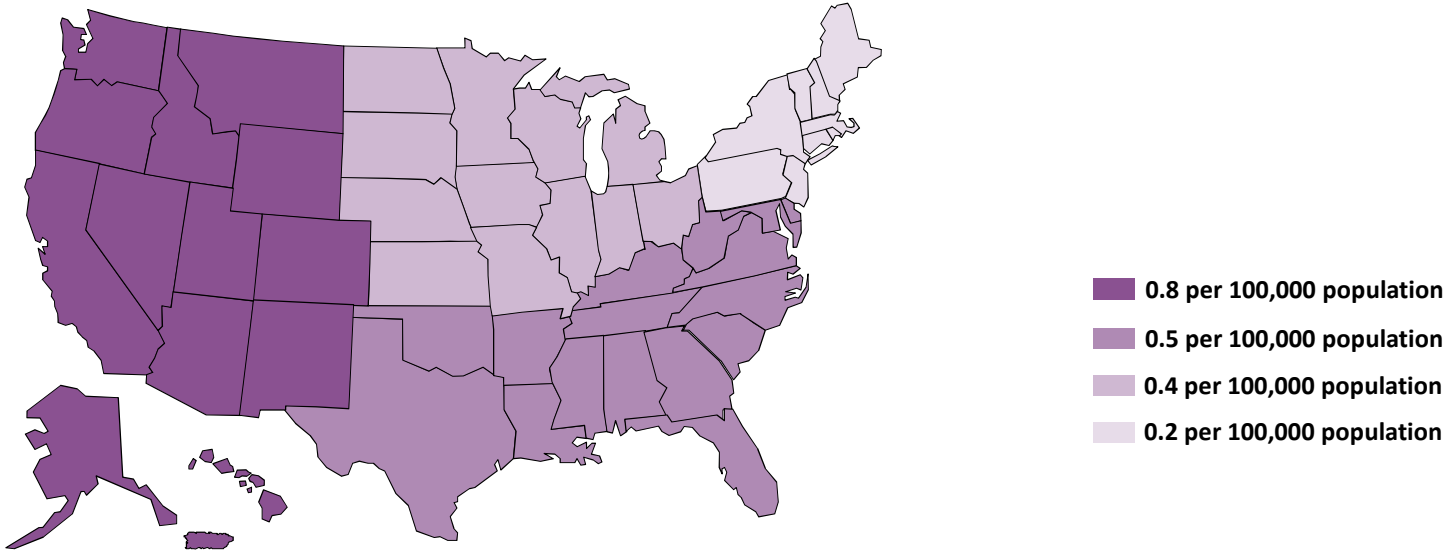
Self-reported prevalence of cocaine use in the past year by region, persons 12+ years old — United States, 2016



Source: 2016 National Survey on Drug Use and Health. Substance Abuse and Mental Health Services Administration. Rockville, MD.

Drug Use, Misuse, Substance Use Disorder, and Treatment

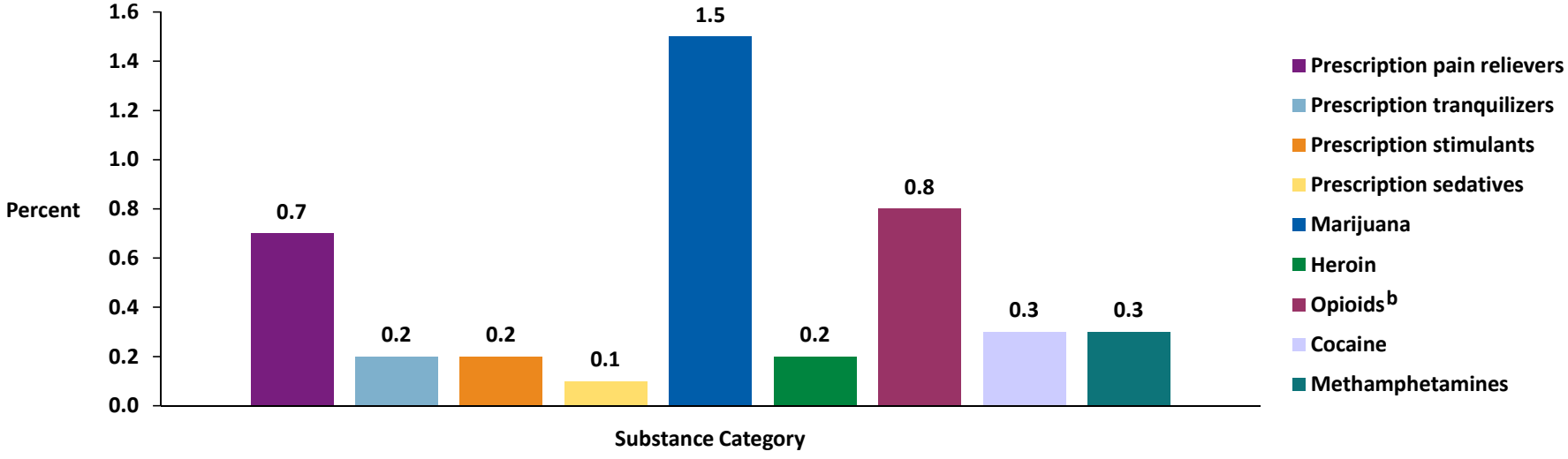
Self-reported prevalence of methamphetamine use in the past year by region, persons 12+ years old — United States, 2016



Source: 2016 National Survey on Drug Use and Health. Substance Abuse and Mental Health Services Administration. Rockville, MD.

Drug Use, Misuse, Substance Use Disorder, and Treatment

Self-reported prevalence of substance use disorder[a] in the past year, persons 12+ years old — United States, 2016



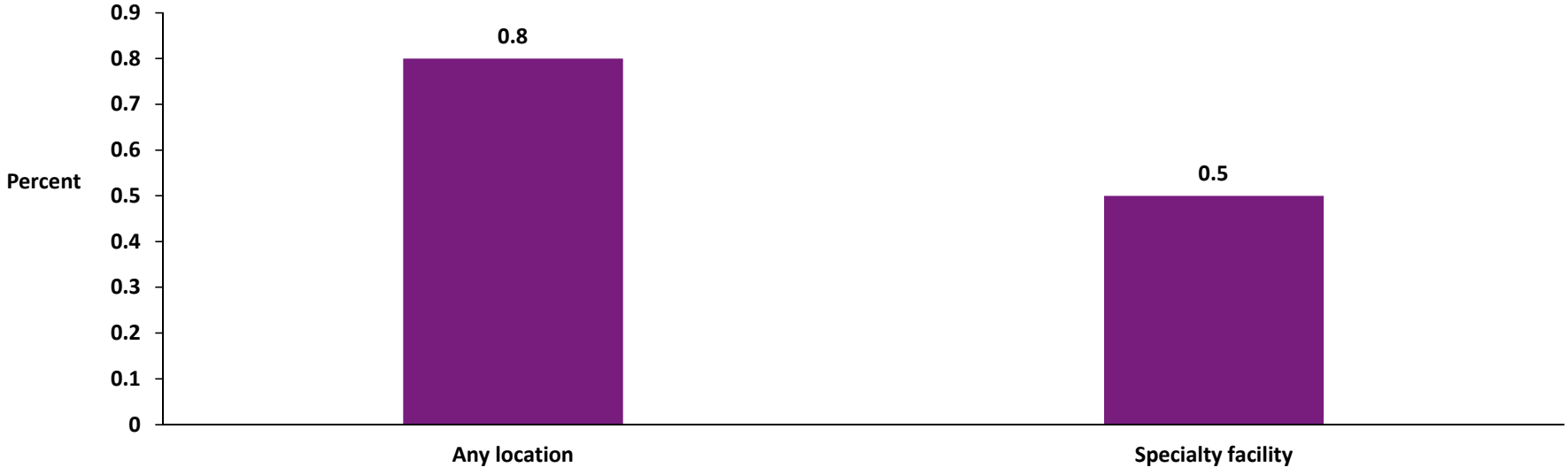
Source: 2016 National Survey on Drug Use and Health. Substance Abuse and Mental Health Services Administration. Rockville, MD.

[a]Substance use disorder is defined as meeting criteria for illicit or prescription drug dependence or abuse. Dependence or abuse is based on definitions found in the 4th edition of the Diagnostic and Statistical Manual of Mental Disorders (DSM-IV).

[b]Opioids include heroin use, prescription pain reliever misuse, or both; therefore, the numbers for heroin use and prescription pain reliever misuse do not add to those for opioid misuse because of poly-drug use. This category includes misuse of prescription fentanyl but excludes use of illicit fentanyl.

Drug Use, Misuse, Substance Use Disorder, and Treatment

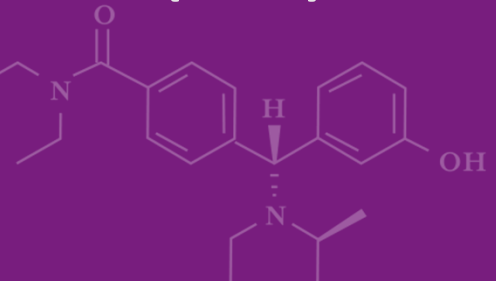
Self-reported prevalence of illicit and prescription drug treatment[a] in the past year, persons 12+ years old — United States, 2016



Source: 2016 National Survey on Drug Use and Health. Substance Abuse and Mental Health Services Administration. Rockville, MD.

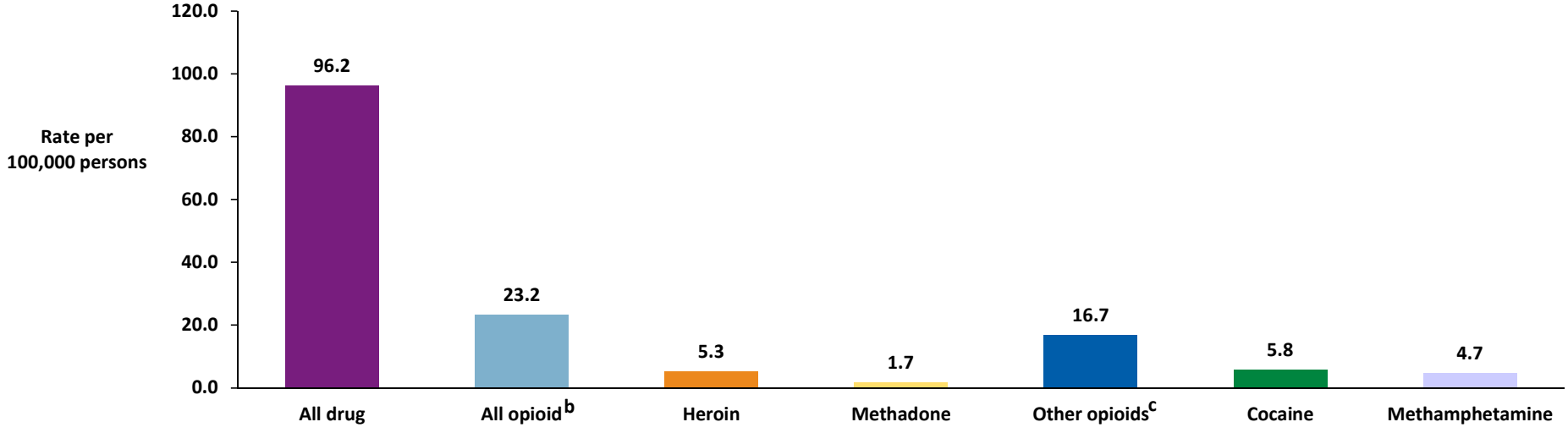
[a]Illicit or prescription drug treatment refers to treatment received in order to reduce or stop illicit drug use or prescription drug use, or for medical problems associated with illicit drug use or prescription drug use. It includes treatment received at any location, such as a hospital (inpatient), rehabilitation facility (inpatient or outpatient), mental health center, emergency room, private doctor's office, self-help group, or prison/jail. Illicit drug use includes the use of marijuana, cocaine (including crack), heroin, hallucinogens, inhalants, or methamphetamine. A specialty facility includes a hospital (inpatient only), rehabilitation facility (inpatient or outpatient), or mental health center.

Nonfatal Overdose Hospitalizations and Emergency Department (ED) Visits



Nonfatal Overdose Hospitalizations and (ED) Visits

Age-adjusted rates of drug poisoning-related hospitalizations[a] by selected substances — United States, 2015



Source: Weighted national estimates from Healthcare Cost and Utilization Project Nationwide Inpatient Sample, 2015, Agency for Healthcare Research and Quality. Data are from 2015, when HCUP transitioned from using ICD-9-CM to ICD-10-CM/PCM diagnosis codes and should not be compared with other years. Results may have been affected by the transition; please see the Surveillance Report technical notes for a discussion of transition.

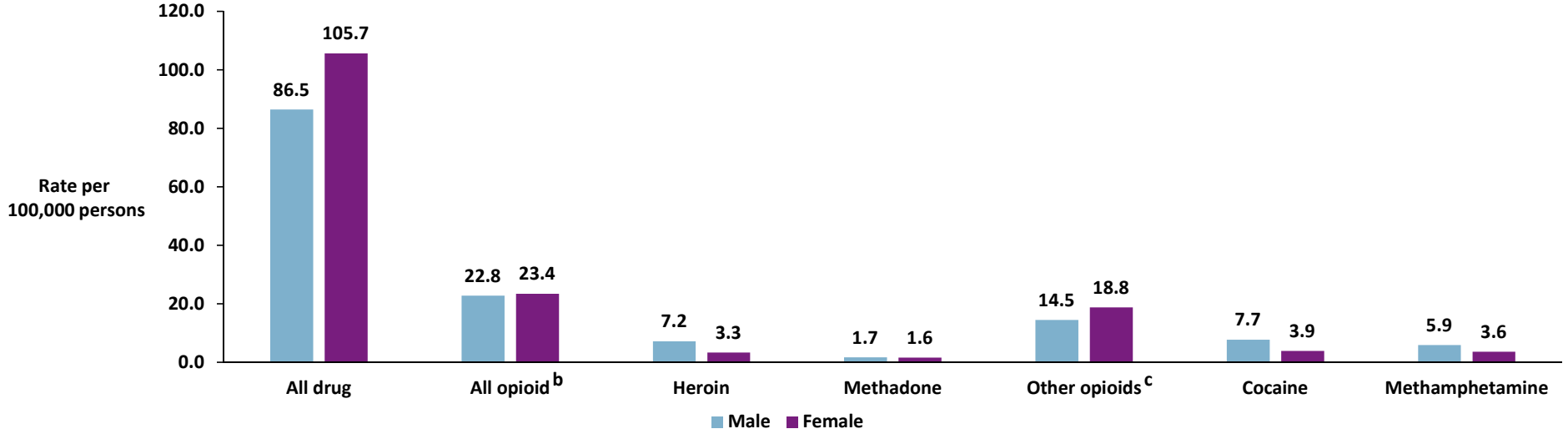
[a]In-hospital deaths and patients who transferred from another hospital were excluded. Visits with missing age and gender were excluded. Numbers subject to rounding error.

[b]For the first three quarters of 2015, includes ICD-9-CM principal diagnosis code of 965.00, 965.01, 965.02, 965.09 or external cause of injury E850.0, E850.1, E850.2; for the fourth quarter of 2015, includes ICD-10-CM/PCS contributing causes T40.0, T40.1, T40.2, T40.3, T40.6, T40.69.

[c]For the first three quarters of 2015, includes ICD-9-CM principal diagnosis code of 965.00, 965.09 or external cause of injury E850.2; for the fourth quarter of 2015, includes ICD-10-CM/PCS contributing causes T40.0, T40.2, T40.4, T40.6, T40.69.

Nonfatal Overdose Hospitalizations and (ED) Visits

Age-adjusted rates of drug poisoning-related hospitalizations[a] by selected substances and sex — United States, 2015



Source: Weighted national estimates from Healthcare Cost and Utilization Project Nationwide Inpatient Sample, 2015, Agency for Healthcare Research and Quality. Data are from 2015, when HCUP transitioned from using ICD-9-CM to ICD-10-CM/PCM diagnosis codes and should not be compared with other years. Results may have been affected by the transition; please see the Surveillance Report technical notes for a discussion of transition.

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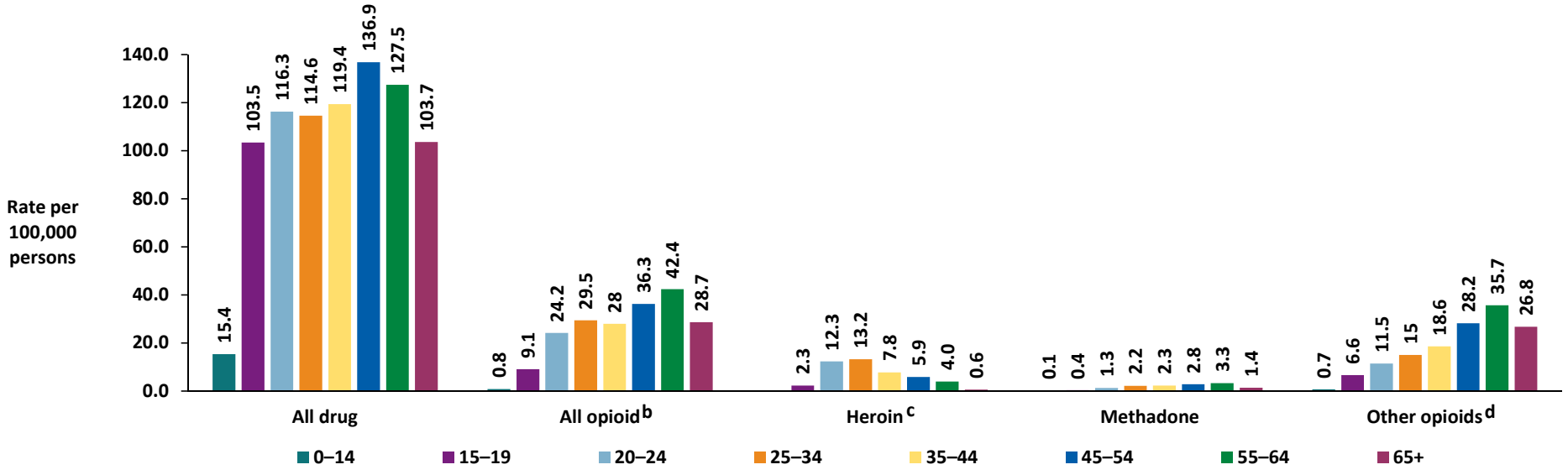
Nonfatal Overdose Hospitalizations and (ED) Visits

Age-adjusted rates of drug poisoning-related hospitalizations[a] by selected substances and age group — United States, 2015



Source: Weighted national estimates from Healthcare Cost and Utilization Project Nationwide Inpatient Sample, 2015, Agency for Healthcare Research and Quality. Data are from 2015, when HCUP transitioned from using ICD-9-CM to ICD-10-CM/PCM diagnosis codes and should not be compared with other years. Results may have been affected by the transition; please see the Surveillance Report technical notes for a discussion of transition.

[a]In-hospital deaths and patients who transferred from another hospital were excluded. Visits with missing age and gender were excluded. Numbers subject to rounding error.

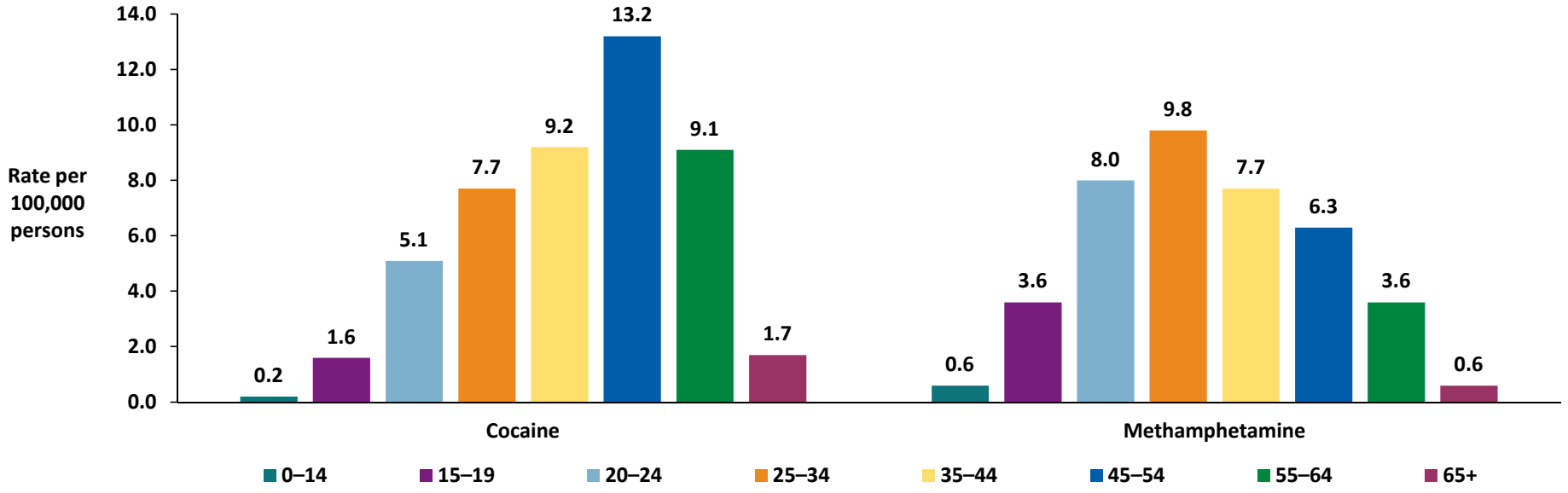
[b]For the first three quarters of 2015, includes ICD-9-CM principal diagnosis code of 965.00, 965.01, 965.02, 965.09 or external cause of injury E850.0, E850.1, E850.2; for the fourth quarter of 2015, includes ICD-10-CM/PCS contributing causes T40.0, T40.1, T40.2, T40.3, T40.6, T40.69.

[c]Because the relative standard error was > 30% or the standard error = 0 for age group 0–14, the value of the estimate was considered unreliable and was not reported.

[d]For the first three quarters of 2015, includes ICD-9-CM principal diagnosis code of 965.00, 965.09 or external cause of injury E850.2; for the fourth quarter of 2015, includes ICD-10-CM/PCS contributing causes T40.0, T40.2, T40.4, T40.6, T40.69.

Nonfatal Overdose Hospitalizations and (ED) Visits

Age-adjusted rates of drug poisoning-related hospitalizations[a] by selected substances and age group — United States, 2015

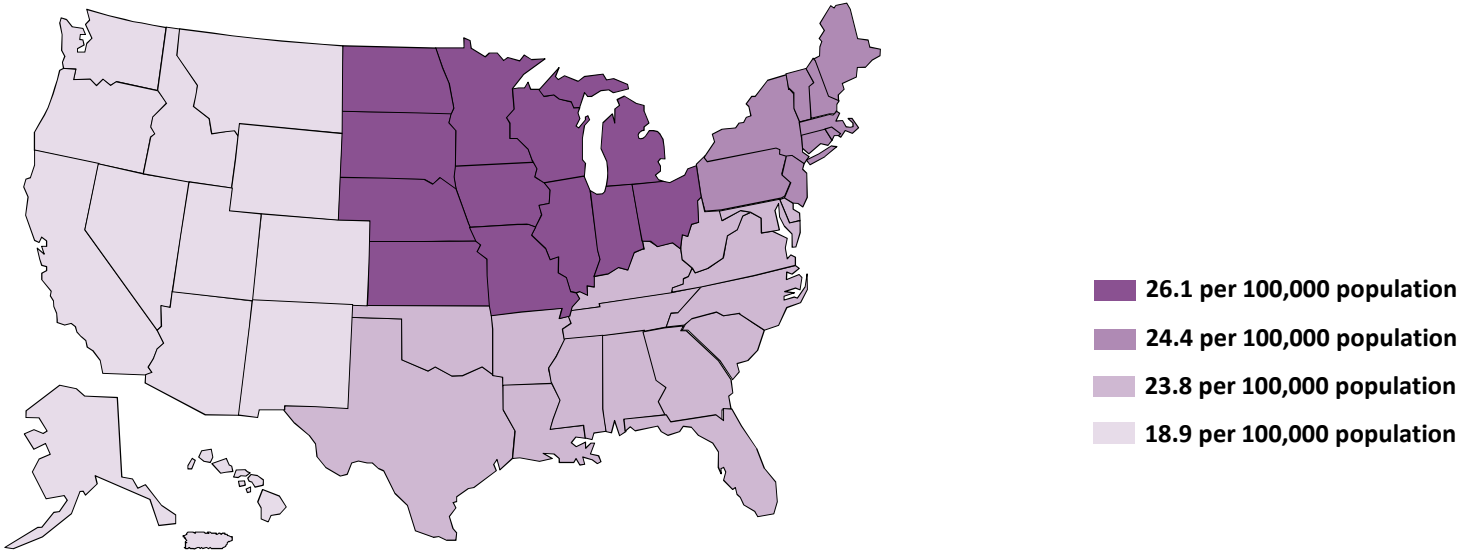


Source: Weighted national estimates from Healthcare Cost and Utilization Project Nationwide Inpatient Sample, 2015, Agency for Healthcare Research and Quality. Data are from 2015, when HCUP transitioned from using ICD-9-CM to ICD-10-CM/PCM diagnosis codes and should not be compared with other years. Results may have been affected by the transition; please see the Surveillance Report technical notes for a discussion of transition.

[a]In-hospital deaths and patients who transferred from another hospital were excluded. Visits with missing age and gender were excluded. Numbers subject to rounding error.

Nonfatal Overdose Hospitalizations and (ED) Visits

Age-adjusted rates of all opioid[a] poisoning-related hospitalizations[b] by region — United States, 2015



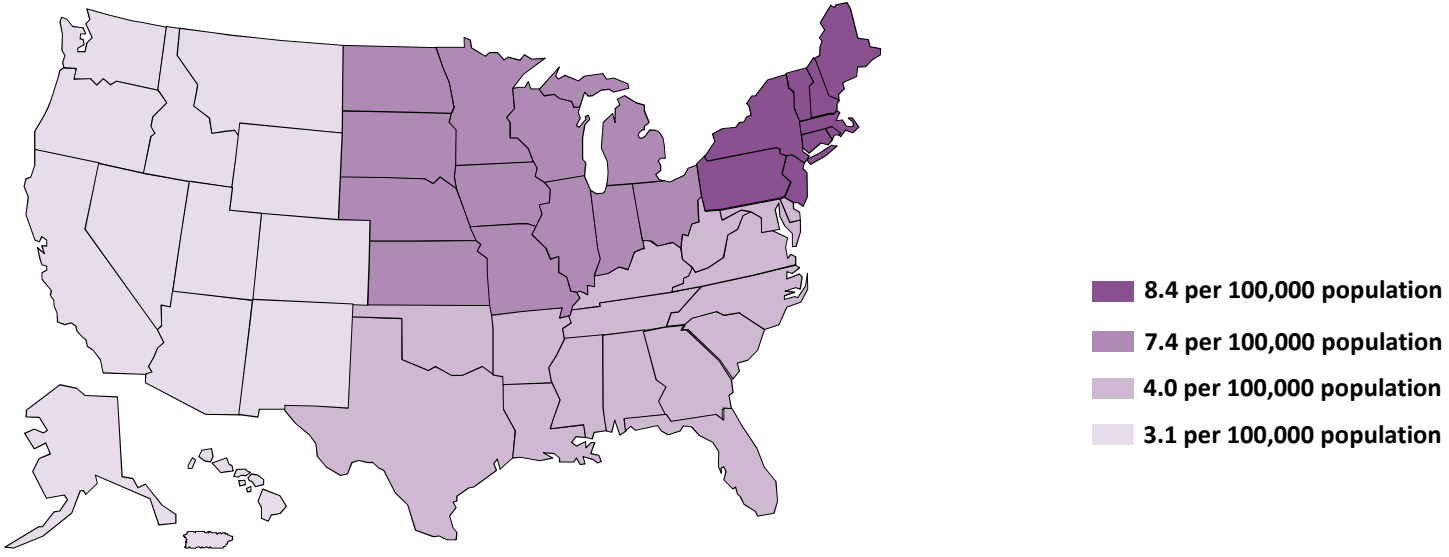
Source: Weighted national estimates from Healthcare Cost and Utilization Project Nationwide Inpatient Sample, 2015, Agency for Healthcare Research and Quality. Data are from 2015, when HCUP transitioned from using ICD-9-CM to ICD-10-CM/PCM diagnosis codes and should not be compared with other years. Results may have been affected by the transition; please see the Surveillance Report technical notes for a discussion of transition.

[a]For the first three quarters of 2015, includes ICD-9-CM principal diagnosis code of 965.00, 965.01, 965.02, 965.09 or external cause of injury E850.0, E850.1, E850.2; for the fourth quarter of 2015, includes ICD-10-CM/PCS contributing causes T40.0, T40.1, T40.2, T40.3, T40.6, T40.69.

[b]In-hospital deaths and patients who transferred from another hospital were excluded. Visits with missing age and gender were excluded. Numbers subject to rounding error.

Nonfatal Overdose Hospitalizations and (ED) Visits

Age-adjusted rates of heroin poisoning-related hospitalizations[a] by region — United States, 2015

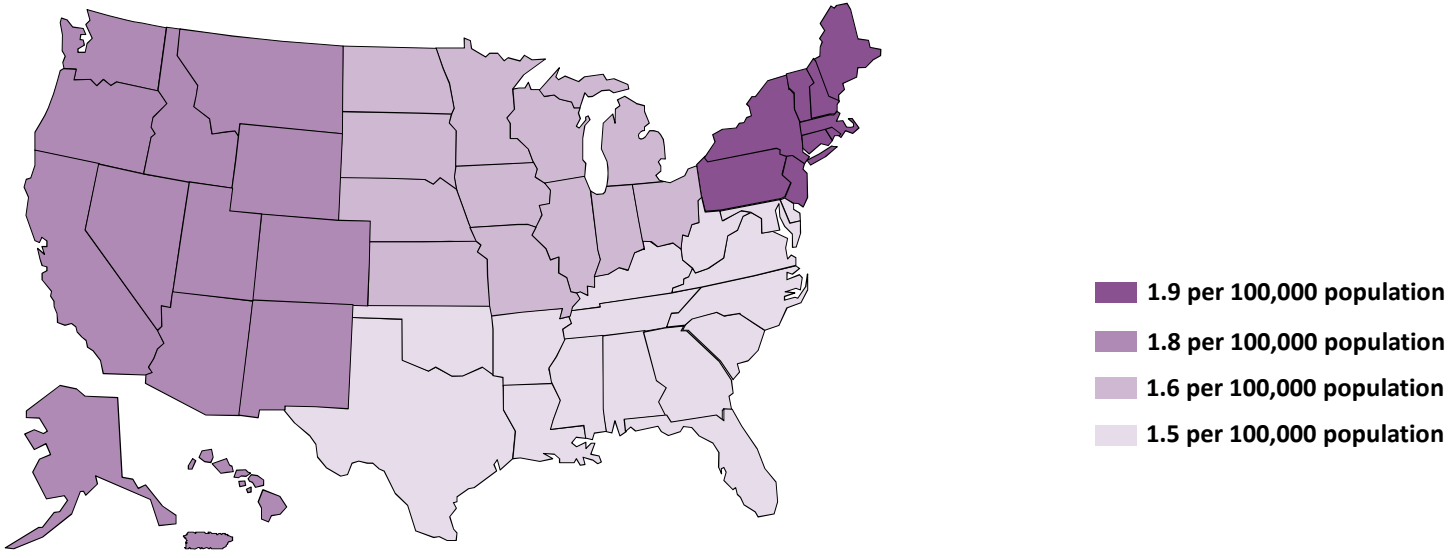


Source: Weighted national estimates from Healthcare Cost and Utilization Project Nationwide Inpatient Sample, 2015, Agency for Healthcare Research and Quality. Data are from 2015, when HCUP transitioned from using ICD-9-CM to ICD-10-CM/PCM diagnosis codes and should not be compared with other years. Results may have been affected by the transition; please see the Surveillance Report technical notes for a discussion of transition.

[a]In-hospital deaths and patients who transferred from another hospital were excluded. Visits with missing age and gender were excluded. Numbers subject to rounding error.

Nonfatal Overdose Hospitalizations and (ED) Visits

Age-adjusted rates of methadone poisoning-related hospitalizations[a] by region — United States, 2015

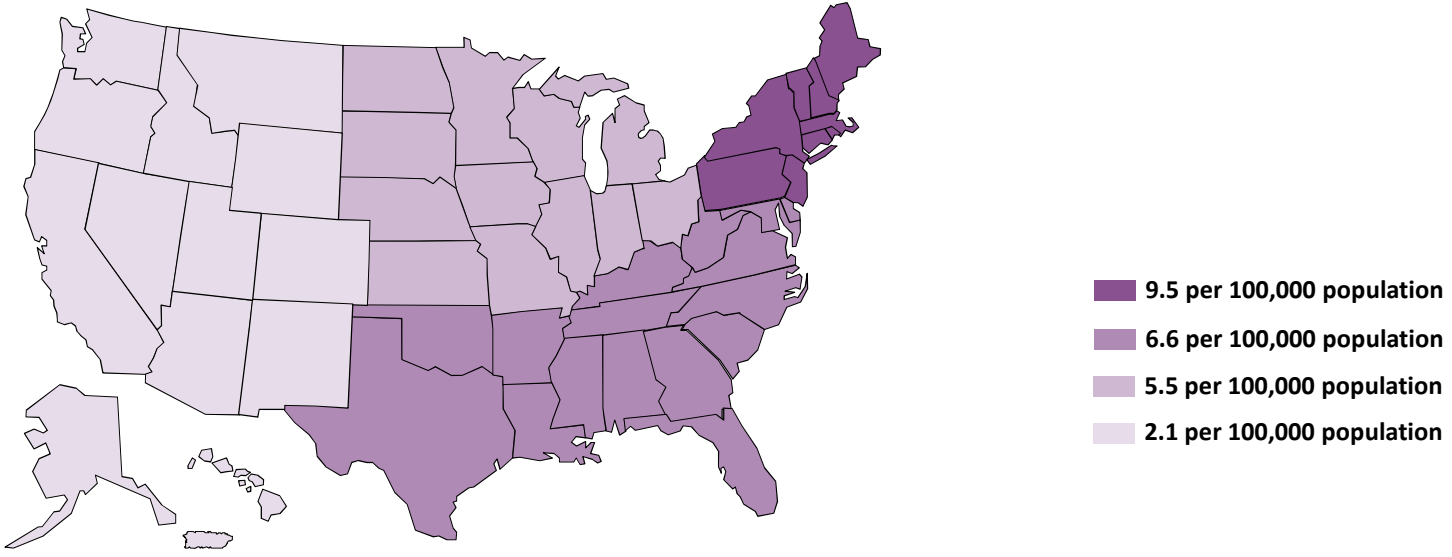


Source: Weighted national estimates from Healthcare Cost and Utilization Project Nationwide Inpatient Sample, 2015, Agency for Healthcare Research and Quality. Data are from 2015, when HCUP transitioned from using ICD-9-CM to ICD-10-CM/PCM diagnosis codes and should not be compared with other years. Results may have been affected by the transition; please see the Surveillance Report technical notes for a discussion of transition.

[a]In-hospital deaths and patients who transferred from another hospital were excluded. Visits with missing age and gender were excluded. Numbers subject to rounding error.

Nonfatal Overdose Hospitalizations and (ED) Visits

Age-adjusted rates of cocaine poisoning-related hospitalizations[a] by region — United States, 2015

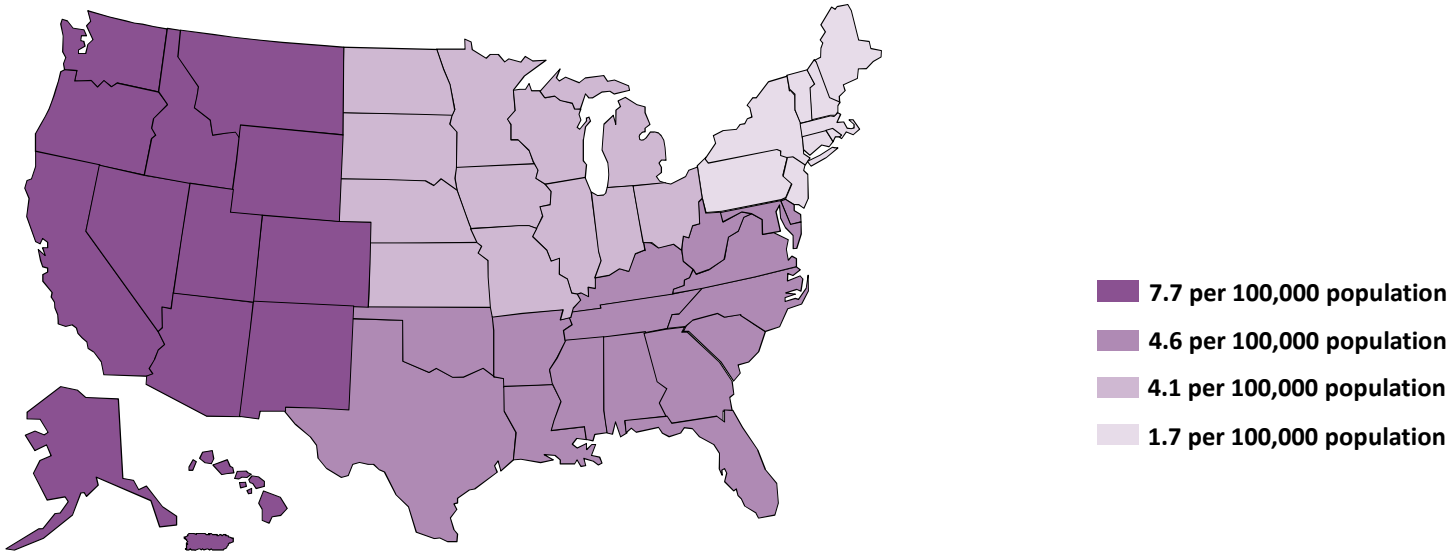


Source: Weighted national estimates from Healthcare Cost and Utilization Project Nationwide Inpatient Sample, 2015, Agency for Healthcare Research and Quality. Data are from 2015, when HCUP transitioned from using ICD-9-CM to ICD-10-CM/PCM diagnosis codes and should not be compared with other years. Results may have been affected by the transition; please see the Surveillance Report technical notes for a discussion of transition.

[a]In-hospital deaths and patients who transferred from another hospital were excluded. Visits with missing age and gender were excluded. Numbers subject to rounding error.

Nonfatal Overdose Hospitalizations and (ED) Visits

Age-adjusted rates of methamphetamine poisoning-related hospitalizations[a] by region — United States, 2015

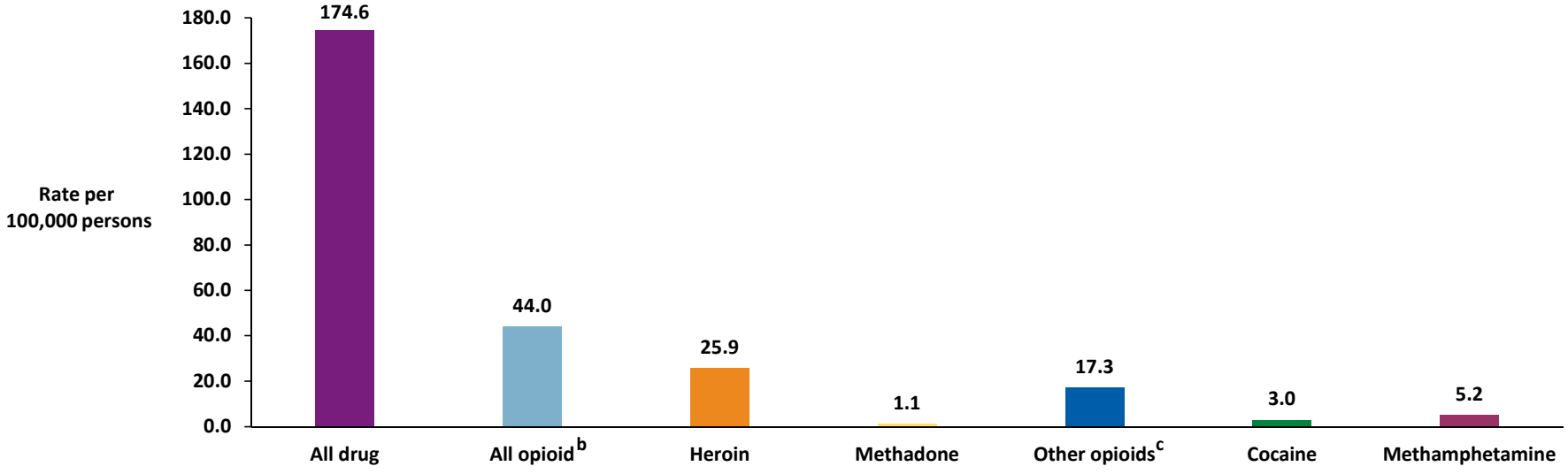


Source: Weighted national estimates from Healthcare Cost and Utilization Project Nationwide Inpatient Sample, 2015, Agency for Healthcare Research and Quality. Data are from 2015, when HCUP transitioned from using ICD-9-CM to ICD-10-CM/PCM diagnosis codes and should not be compared with other years. Results may have been affected by the transition; please see the Surveillance Report technical notes for a discussion of transition.

[a]In-hospital deaths and patients who transferred from another hospital were excluded. Visits with missing age and gender were excluded. Numbers subject to rounding error.

Nonfatal Overdose Hospitalizations and (ED) Visits

Age-adjusted rates of drug poisoning-related emergency department visits[a] by selected substances — United States, 2015



Source: Weighted national estimates from Healthcare Cost and Utilization Project Nationwide Inpatient Sample, 2015, Agency for Healthcare Research and Quality. Data are from 2015, when HCUP transitioned from using ICD-9-CM to ICD-10-CM/PCM diagnosis codes and should not be compared with other years. Results may have been affected by the transition; please see the Surveillance Report technical notes for a discussion of transition.

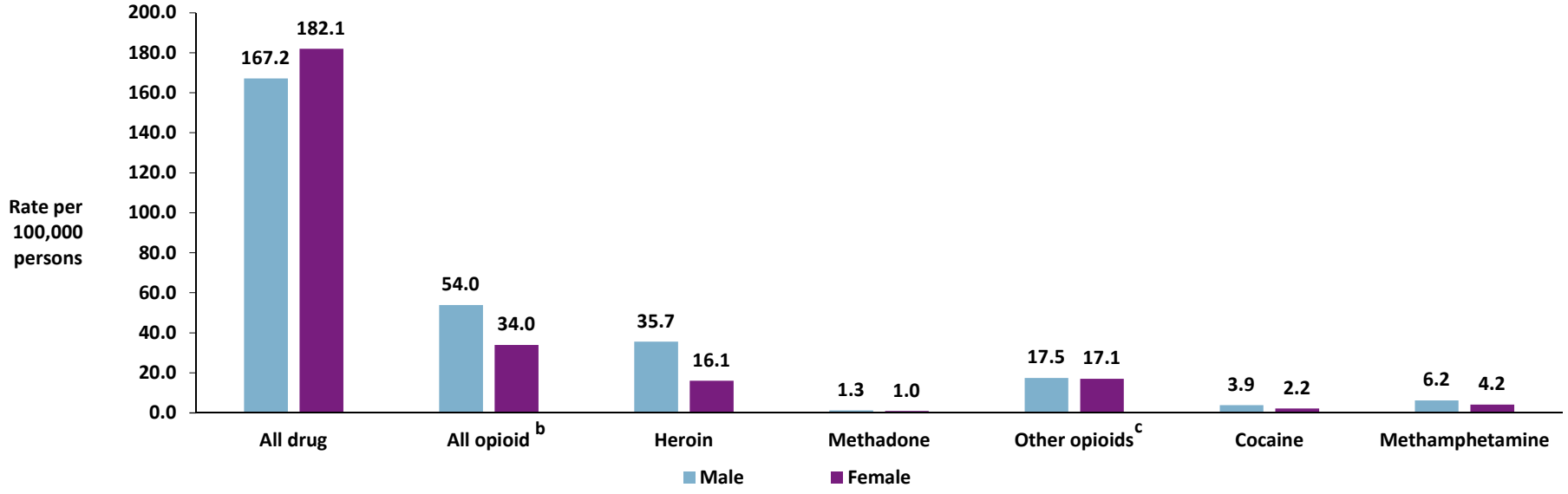
[a]Persons who were hospitalized, died, or transferred to another facility were excluded. Visits with missing age and gender were excluded. Numbers subject to rounding error.

[b]For the first three quarters of 2015, includes ICD-9-CM principal diagnosis code of 965.00, 965.01, 965.02, 965.09 or external cause of injury E850.0, E850.1, E850.2; for the fourth quarter of 2015, includes ICD-10-CM/PCS contributing causes T40.0, T40.1, T40.2, T40.3, T40.6, T40.69.

[c]For the first three quarters of 2015, includes ICD-9-CM principal diagnosis code of 965.00, 965.09 or external cause of injury E850.2; for the fourth quarter of 2015, includes ICD-10-CM/PCS contributing causes T40.0, T40.2, T40.4, T40.6, T40.69.

Nonfatal Overdose Hospitalizations and (ED) Visits

Age-adjusted rates of drug poisoning-related emergency department visits[a] by selected substances and sex — United States, 2015



Source: Weighted national estimates from Healthcare Cost and Utilization Project Nationwide Inpatient Sample, 2015, Agency for Healthcare Research and Quality. Data are from 2015, when HCUP transitioned from using ICD-9-CM to ICD-10-CM/PCM diagnosis codes and should not be compared with other years. Results may have been affected by the transition; please see the Surveillance Report technical notes for a discussion of transition.

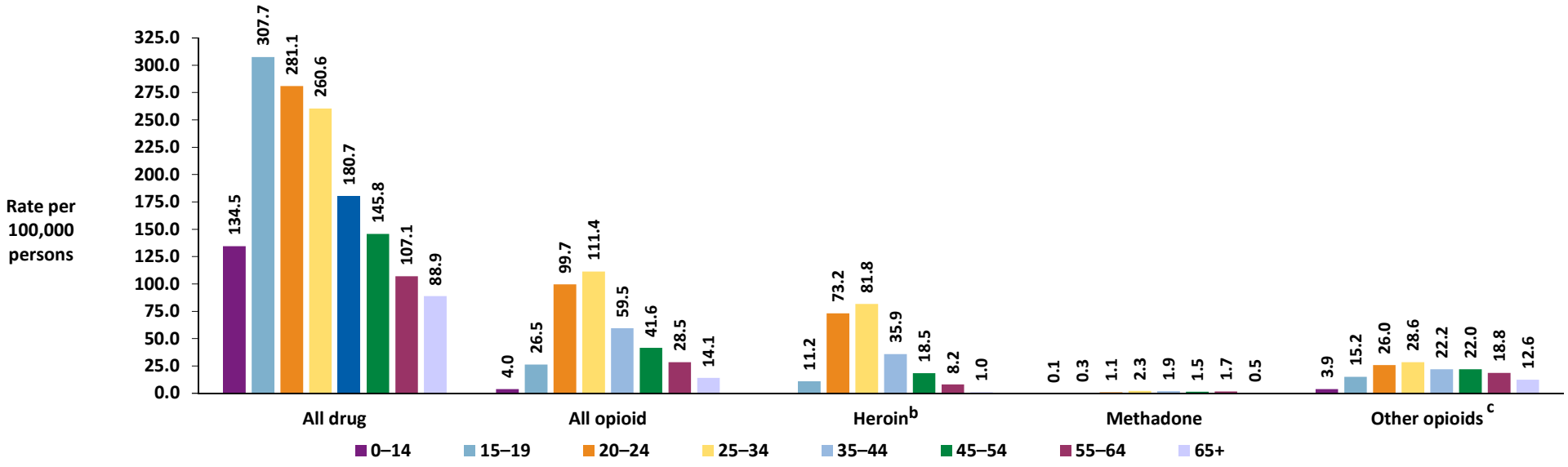
[a]Persons who were hospitalized, died, or transferred to another facility were excluded. Visits with missing age and gender were excluded. Numbers subject to rounding error.

[b]For the first three quarters of 2015, includes ICD-9-CM principal diagnosis code of 965.00, 965.01, 965.02, 965.09 or external cause of injury E850.0, E850.1, E850.2; for the fourth quarter of 2015, includes ICD-10-CM/PCS contributing causes T40.0, T40.1, T40.2, T40.3, T40.6, T40.69.

[c]For the first three quarters of 2015, includes ICD-9-CM principal diagnosis code of 965.00, 965.09 or external cause of injury E850.2; for the fourth quarter of 2015, includes ICD-10-CM/PCS contributing causes T40.0, T40.2, T40.4, T40.6, T40.69.

Nonfatal Overdose Hospitalizations and (ED) Visits

Age-adjusted rates of drug poisoning-related emergency department visits[a] by selected substances and age group — United States, 2015



Source: Weighted national estimates from Healthcare Cost and Utilization Project Nationwide Inpatient Sample, 2015, Agency for Healthcare Research and Quality. Data are from 2015, when HCUP transitioned from using ICD-9-CM to ICD-10-CM/PCM diagnosis codes and should not be compared with other years. Results may have been affected by the transition; please see the Surveillance Report technical notes for a discussion of transition.

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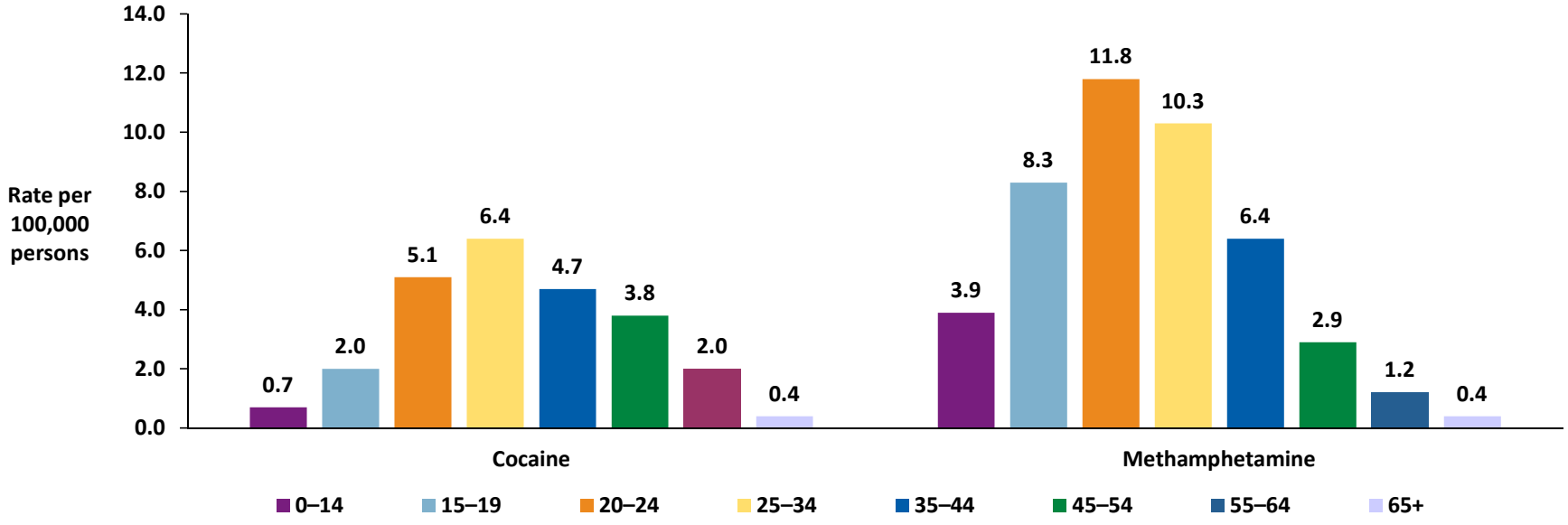
[b]For the first three quarters of 2015, includes ICD-9-CM principal diagnosis code of 965.00, 965.01, 965.02, 965.09 or external cause of injury E850.0, E850.1, E850.2; for the fourth quarter of 2015, includes ICD-10-CM/PCS contributing causes T40.0, T40.1, T40.2, T40.3, T40.6, T40.69.

[c]For the first three quarters of 2015, includes ICD-9-CM principal diagnosis code of 965.00, 965.09 or external cause of injury E850.2; for the fourth quarter of 2015, includes ICD-10-CM/PCS contributing causes T40.0, T40.2, T40.4, T40.6, T40.69.

Nonfatal Overdose Hospitalizations and (ED) Visits

Age-adjusted rates of drug poisoning-related emergency department visits[a] by selected substances and age group — United States, 2015

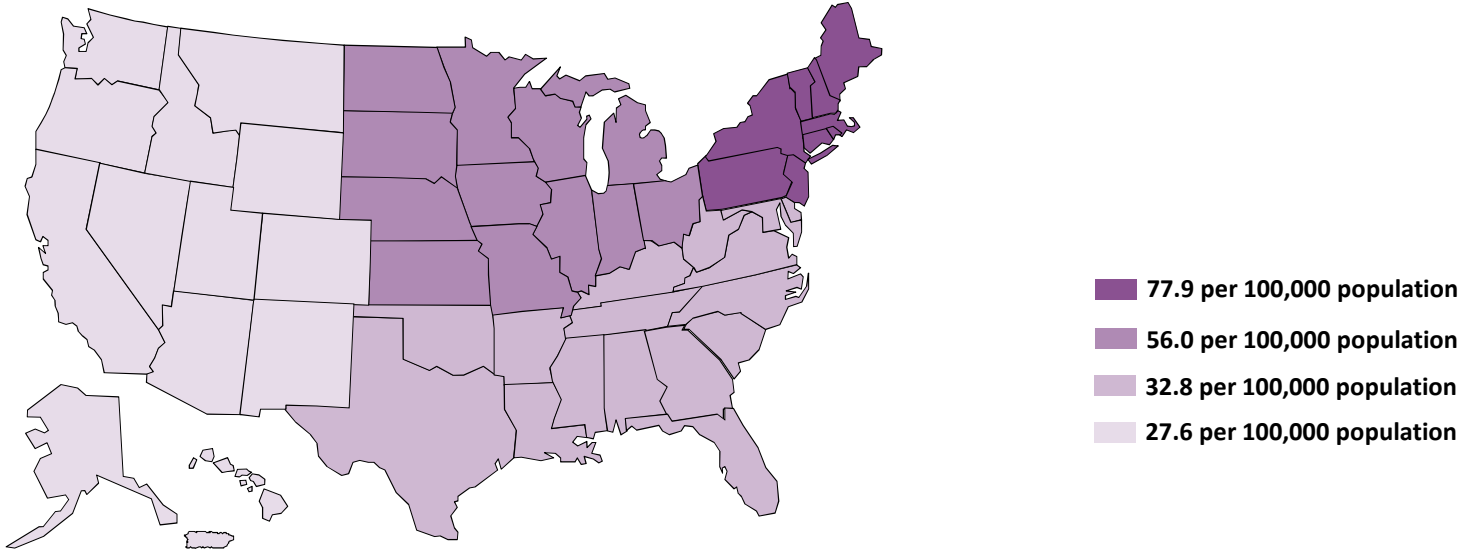


Source: Weighted national estimates from Healthcare Cost and Utilization Project Nationwide Inpatient Sample, 2015, Agency for Healthcare Research and Quality. Data are from 2015, when HCUP transitioned from using ICD-9-CM to ICD-10-CM/PCM diagnosis codes and should not be compared with other years. Results may have been affected by the transition; please see the Surveillance Report technical notes for a discussion of transition.

[a]Persons who were hospitalized, died, or transferred to another facility were excluded. Visits with missing age and gender were excluded. Numbers subject to rounding error.

Nonfatal Overdose Hospitalizations and (ED) Visits

Age-adjusted rates of all opioid[a] poisoning-related emergency department visits[b] by region — United States, 2015



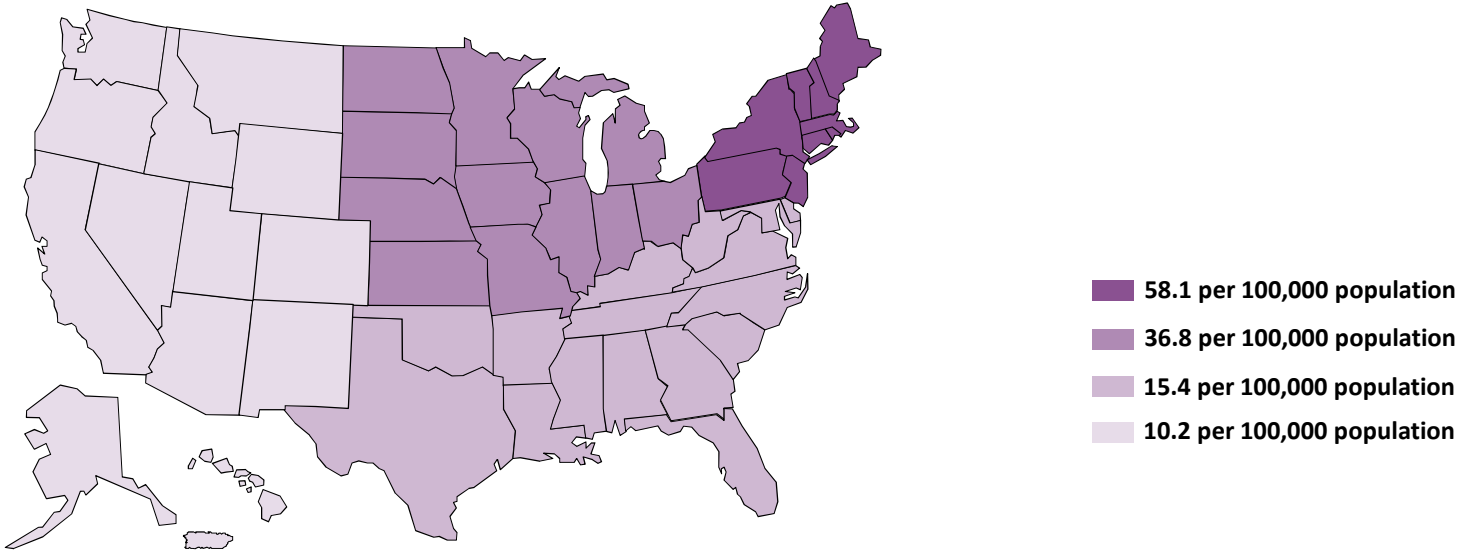
Source: Weighted national estimates from Healthcare Cost and Utilization Project Nationwide Inpatient Sample, 2015, Agency for Healthcare Research and Quality. Data are from 2015, when HCUP transitioned from using ICD-9-CM to ICD-10-CM/PCM diagnosis codes and should not be compared with other years. Results may have been affected by the transition; please see the Surveillance Report technical notes for a discussion of transition.

[a]For the first three quarters of 2015, includes ICD-9-CM principal diagnosis code of 965.00, 965.01, 965.02, 965.09 or external cause of injury E850.0, E850.1, E850.2; for the fourth quarter of 2015, includes ICD-10-CM/PCS contributing causes T40.0, T40.1, T40.2, T40.3, T40.6, T40.69.

[b]Persons who were hospitalized, died, or transferred to another facility were excluded. Visits with missing age and gender were excluded. Numbers subject to rounding error.

Nonfatal Overdose Hospitalizations and (ED) Visits

Age-adjusted rates of heroin poisoning-related emergency department visits[a] by region — United States, 2015

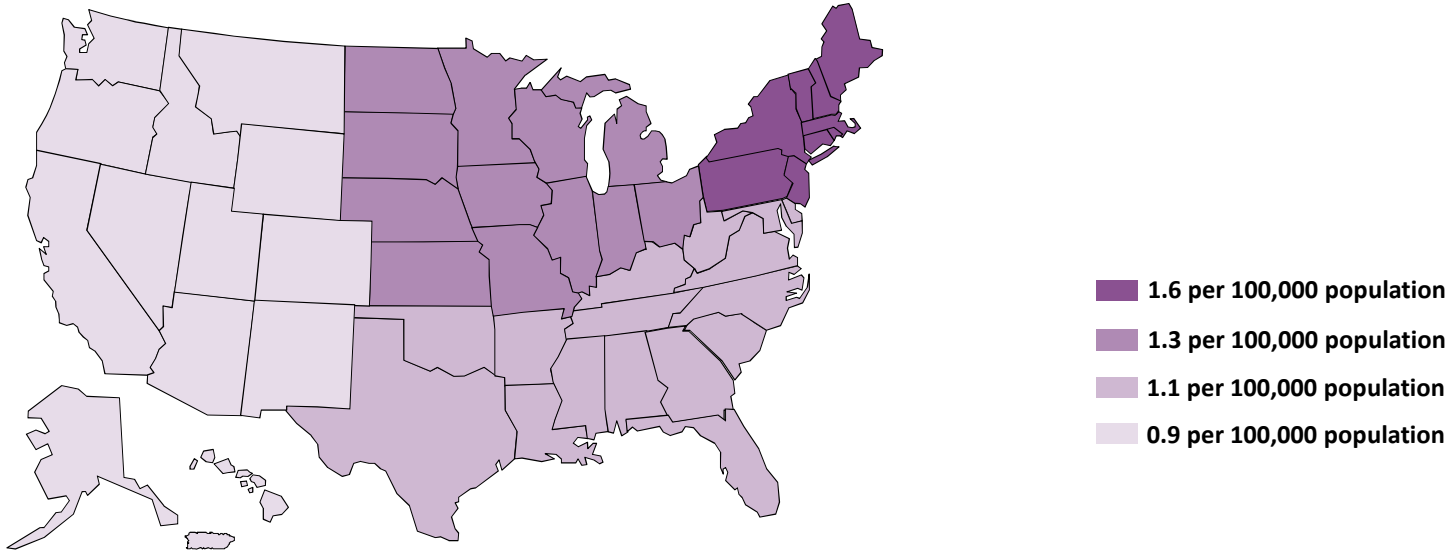


Source: Weighted national estimates from Healthcare Cost and Utilization Project Nationwide Inpatient Sample, 2015, Agency for Healthcare Research and Quality. Data are from 2015, when HCUP transitioned from using ICD-9-CM to ICD-10-CM/PCM diagnosis codes and should not be compared with other years. Results may have been affected by the transition; please see the Surveillance Report technical notes for a discussion of transition.

[a]Persons who were hospitalized, died, or transferred to another facility were excluded. Visits with missing age and gender were excluded. Numbers subject to rounding error.

Nonfatal Overdose Hospitalizations and (ED) Visits

Age-adjusted rates of methadone poisoning-related emergency department visits[a] by region — United States, 2015

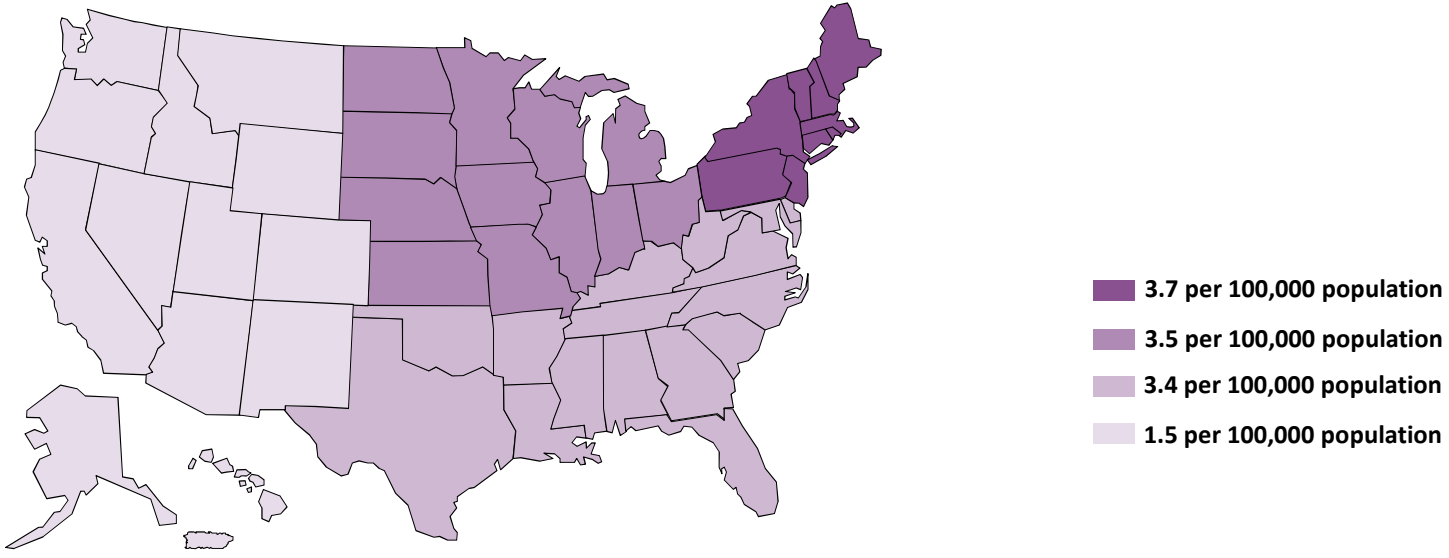


Source: Weighted national estimates from Healthcare Cost and Utilization Project Nationwide Inpatient Sample, 2015, Agency for Healthcare Research and Quality. Data are from 2015, when HCUP transitioned from using ICD-9-CM to ICD-10-CM/PCM diagnosis codes and should not be compared with other years. Results may have been affected by the transition; please see the Surveillance Report technical notes for a discussion of transition.

[a]Persons who were hospitalized, died, or transferred to another facility were excluded. Visits with missing age and gender were excluded. Numbers subject to rounding error.

Nonfatal Overdose Hospitalizations and (ED) Visits

Age-adjusted rates of cocaine poisoning-related emergency department visits[a] by region — United States, 2015

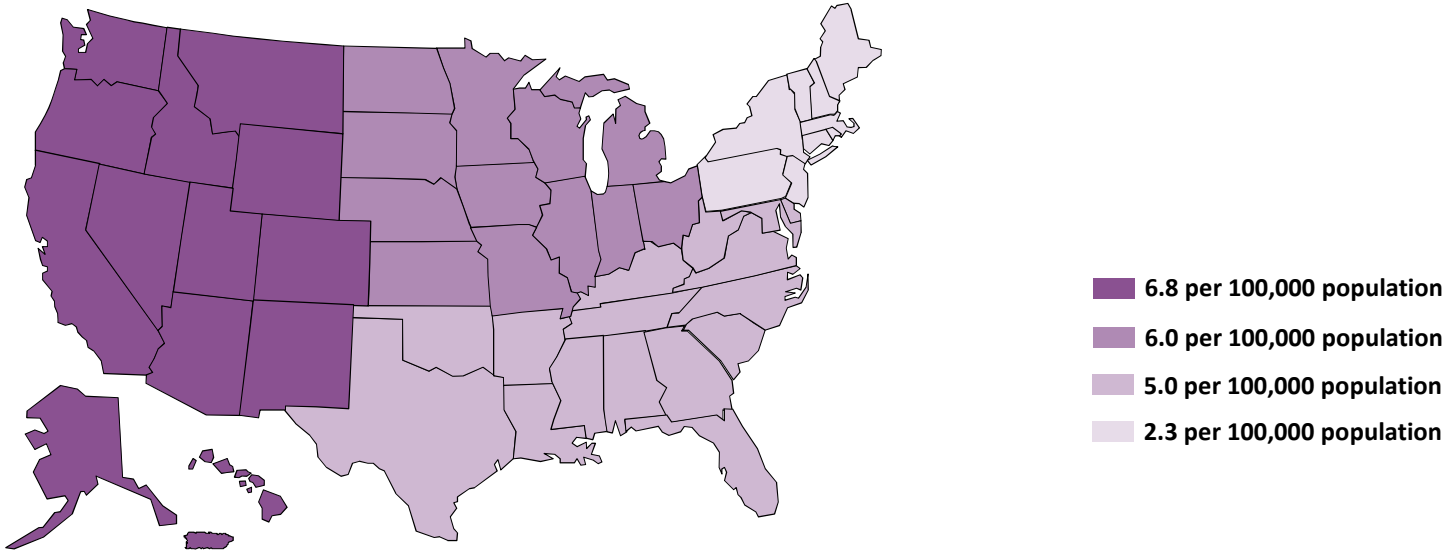


Source: Weighted national estimates from Healthcare Cost and Utilization Project Nationwide Inpatient Sample, 2015, Agency for Healthcare Research and Quality. Data are from 2015, when HCUP transitioned from using ICD-9-CM to ICD-10-CM/PCM diagnosis codes and should not be compared with other years. Results may have been affected by the transition; please see the Surveillance Report technical notes for a discussion of transition.

[a]Persons who were hospitalized, died, or transferred to another facility were excluded. Visits with missing age and gender were excluded. Numbers subject to rounding error.

Nonfatal Overdose Hospitalizations and (ED) Visits

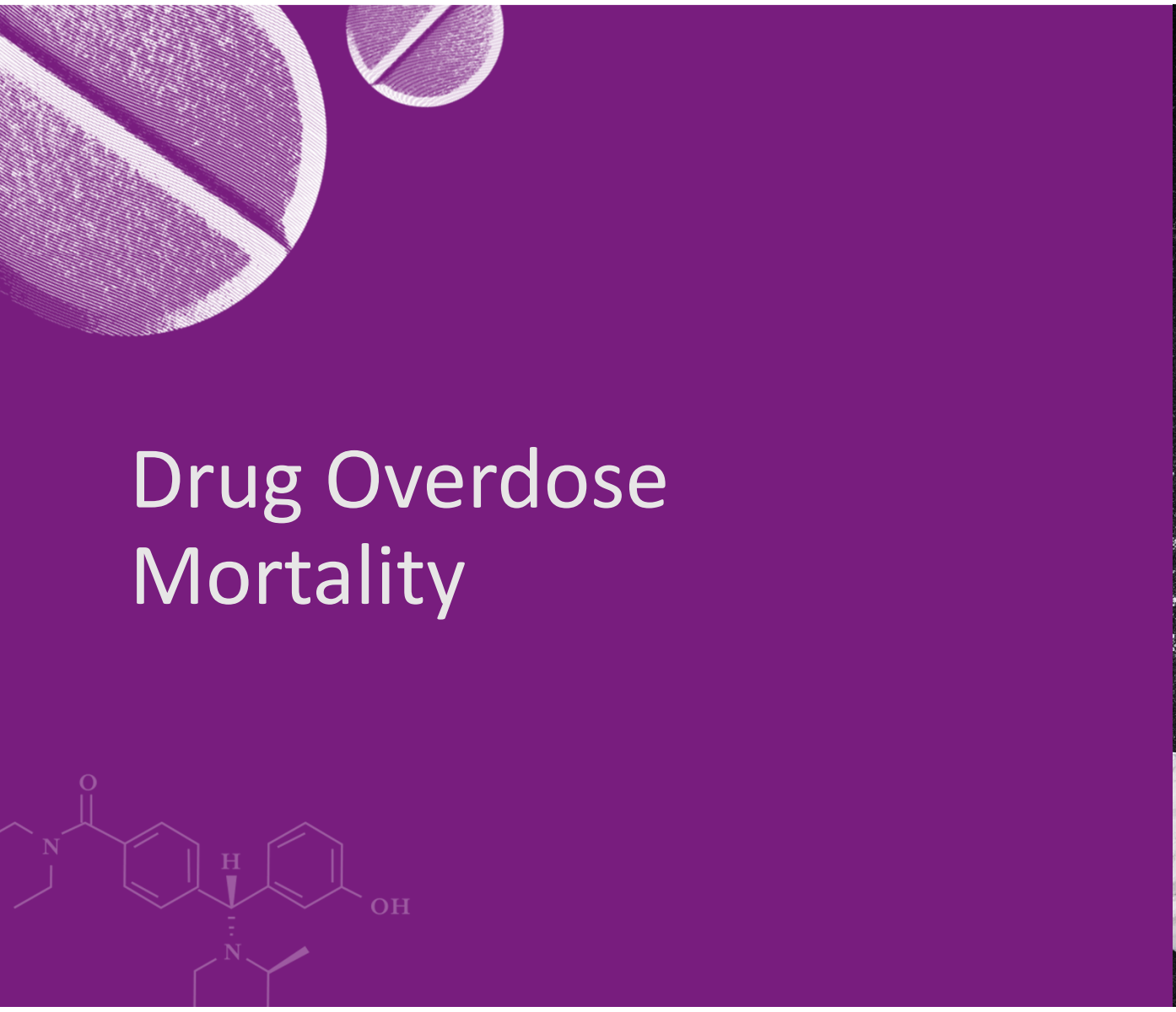
Age-adjusted rates of methamphetamine poisoning-related emergency department visits[a] by region — United States, 2015



Source: Weighted national estimates from Healthcare Cost and Utilization Project Nationwide Inpatient Sample, 2015, Agency for Healthcare Research and Quality. Data are from 2015, when HCUP transitioned from using ICD-9-CM to ICD-10-CM/PCM diagnosis codes and should not be compared with other years. Results may have been affected by the transition; please see the Surveillance Report technical notes for a discussion of transition.

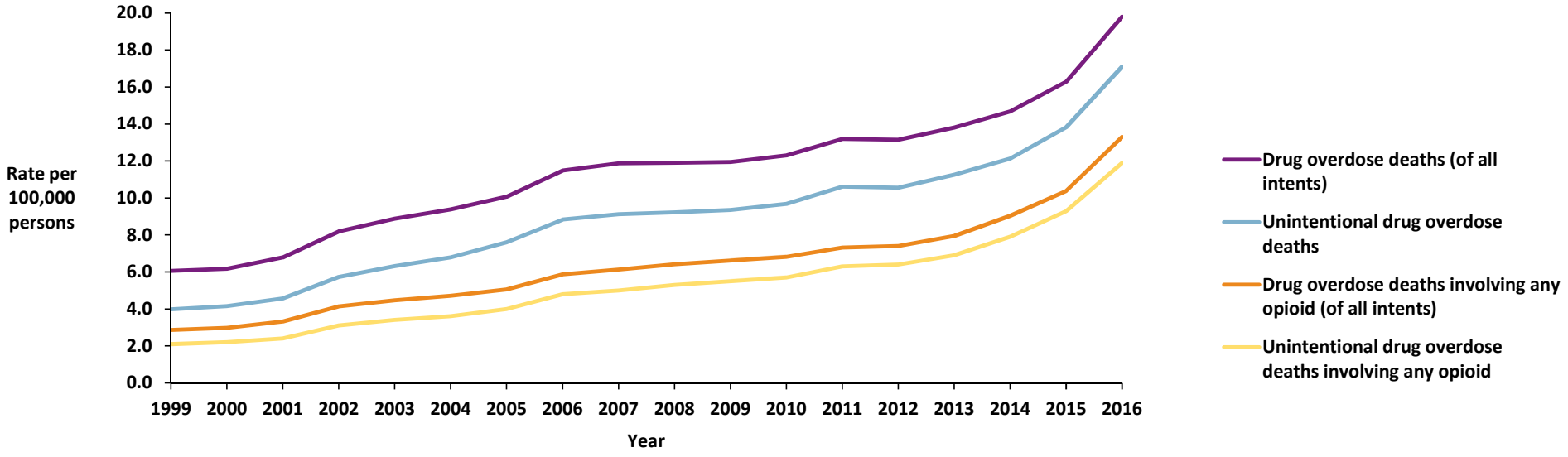
[a]Persons who were hospitalized, died, or transferred to another facility were excluded. Visits with missing age and gender were excluded. Numbers subject to rounding error.

Drug Overdose Mortality



Drug Overdose Mortality

Age-adjusted rates of drug overdose deaths[a] and drug overdose deaths involving any opioid[b] for all intents and for unintentional intent by year — United States, 1999–2016



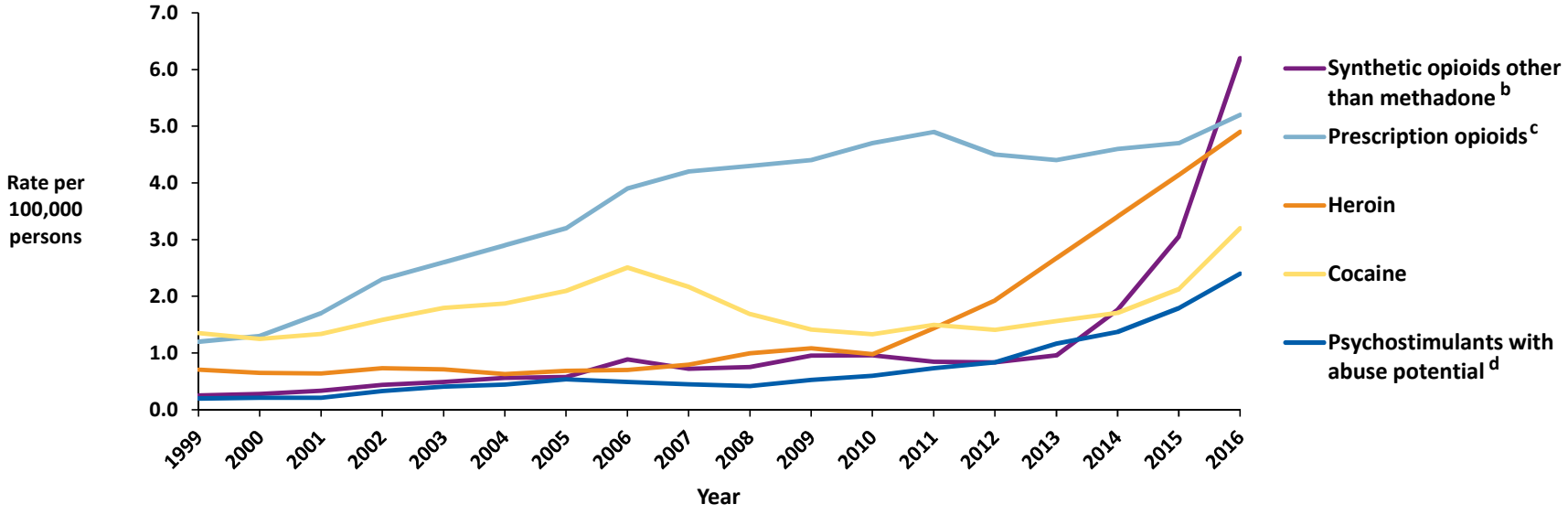
Source: National Vital Statistics System, Mortality File, CDC WONDER.

[a]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. Note that overall drug overdose deaths and opioid overdose deaths include deaths of any intent. In 2016, 5.7% of drug overdose deaths had undetermined intent; this is a decrease from 14.7% of drug overdose deaths that had an undetermined intent in 1999. Some of these deaths may be unintentional drug overdose deaths.

[b]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).

Drug Overdose Mortality

Age-adjusted rates[a] of drug overdose deaths by drug or drug class and year — United States, 1999–2016



Source: National Vital Statistics System, Mortality File, CDC WONDER.

[a]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 2016, 15% 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.

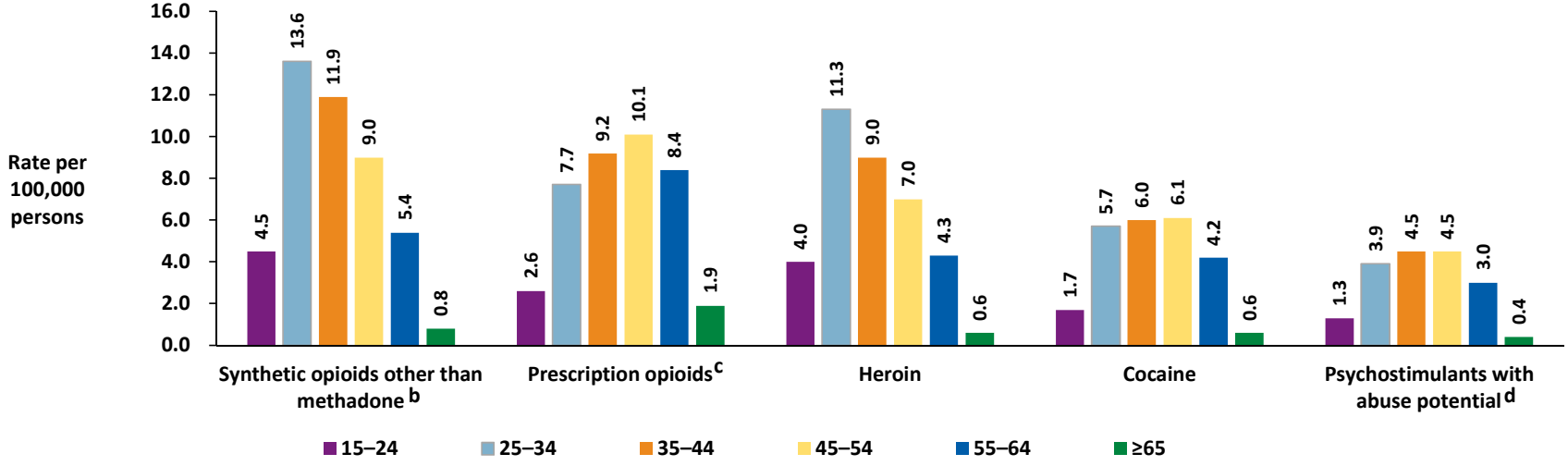
[b]Drug overdose deaths that involve synthetic opioids other than methadone (T40.4).

[c]Drug overdose deaths that involve natural and semi-synthetic opioids (T40.2) or methadone (T40.3).

[d]Drug overdose deaths that involve psychostimulants with abuse potential (T43.6).

Drug Overdose Mortality

Rates[a] of drug overdose deaths by drug or drug class and age group — United States, 2016



Source: National Vital Statistics System, Mortality File, CDC WONDER.

[a]Rate per 100,000 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 2016, 15% 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.

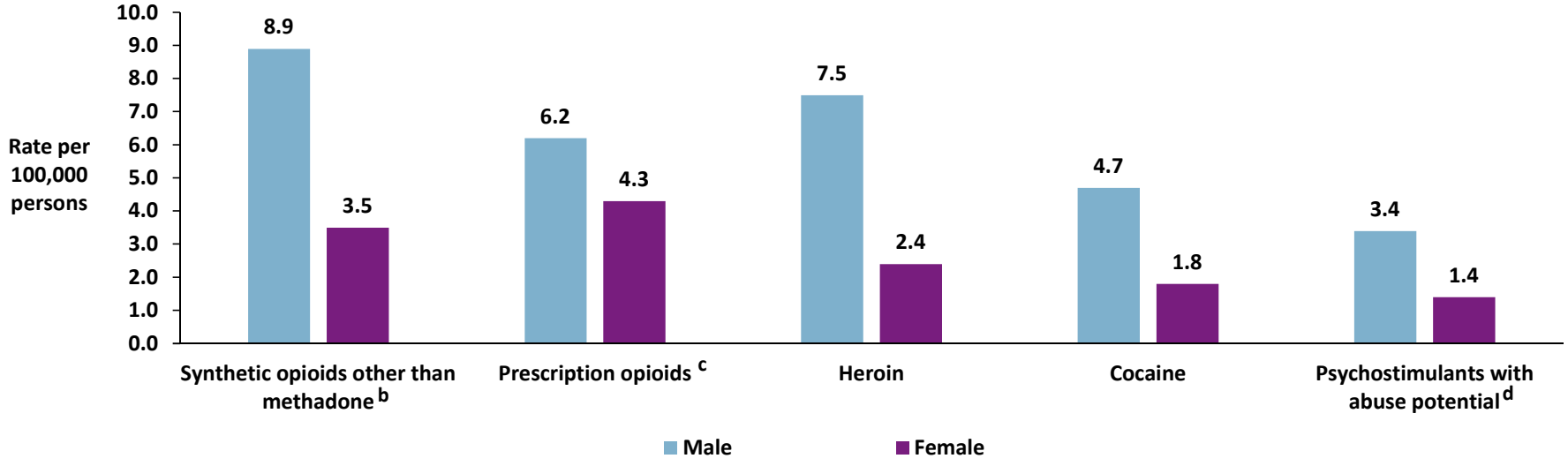
[b]Drug overdose deaths that involve synthetic opioids other than methadone (T40.4).

[c]Drug overdose deaths that involve natural and semi-synthetic opioids (T40.2) or methadone (T40.3).

[d]Drug overdose deaths that involve psychostimulants with abuse potential (T43.6).

Drug Overdose Mortality

Age-adjusted rates[a] of drug overdose deaths by sex — United States, 2016



Source: National Vital Statistics System, Mortality File, CDC WONDER.

[a]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 2016, 15% 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.

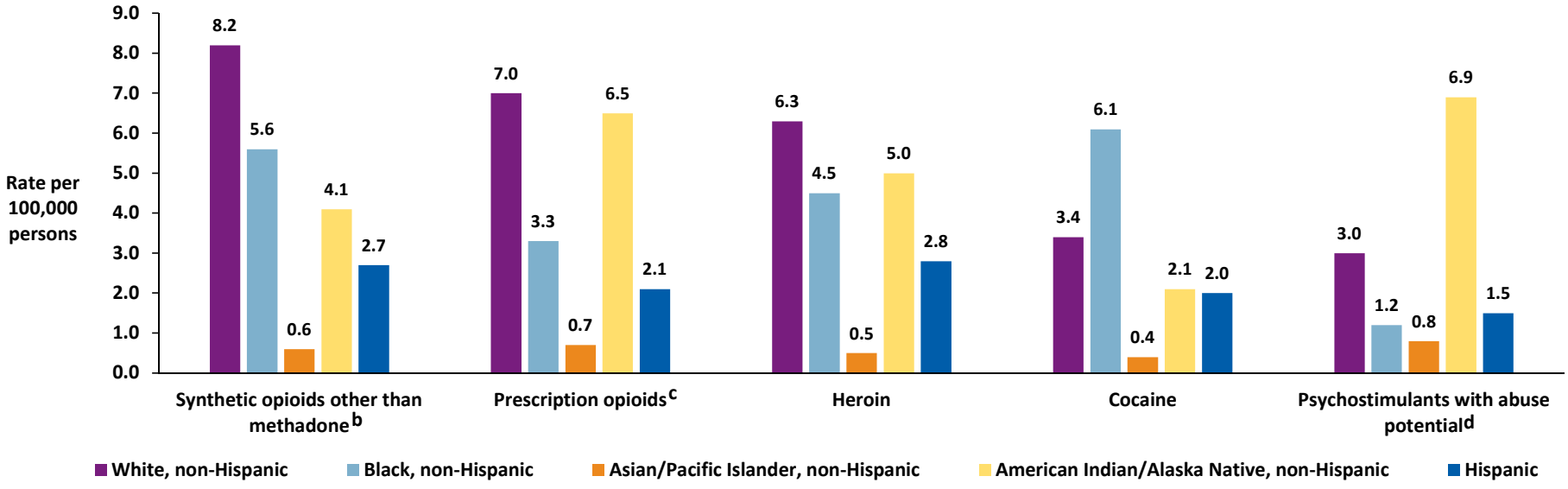
[b]Drug overdose deaths that involve synthetic opioids other than methadone (T40.4).

[c]Drug overdose deaths that involve natural and semi-synthetic opioids (T40.2) or methadone (T40.3).

[d]Drug overdose deaths that involve psychostimulants with abuse potential (T43.6).

Drug Overdose Mortality

Age-adjusted rates[a] of drug overdose deaths by race/ethnicity — United States, 2016



Source: National Vital Statistics System, Mortality File, CDC WONDER.

[a]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 2016, 15% 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.

[b]Drug overdose deaths that involve synthetic opioids other than methadone (T40.4).

[c]Drug overdose deaths that involve natural and semi-synthetic opioids (T40.2) or methadone (T40.3).

[d]Drug overdose deaths that involve psychostimulants with abuse potential (T43.6).

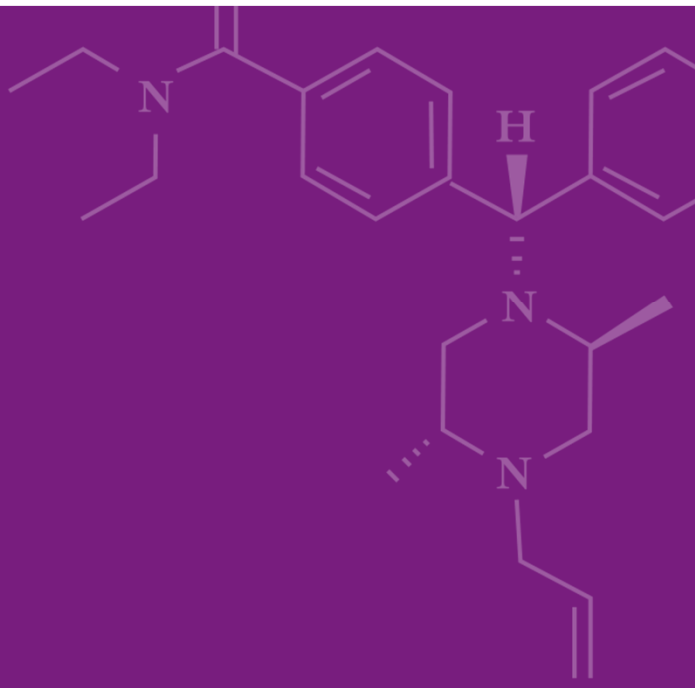
Limitations

- Since four distinct data sources were used, terminology and definitions were not standardized across all outcomes, and the most recent year of data varied by source.
  - Comparability of data across sections is limited.
- In the mortality section, involved drugs were not specified in approximately 20% of drug overdose deaths, potentially leading to an underestimate of rates by drug or drug class. However, drug specificity has improved over time; in 2016, 15% of deaths lacked drug specificity.
- Polysubstance use (i.e., the consumption of more than one drug over a defined period, simultaneously or at different times) was not examined.
- For a detailed description of the data sources, definitions, and limitations, please refer to the technical notes in the surveillance report.*
- www.cdc.gov/drugoverdose/pdf/pubs/2018-cdc-drug-surveillance-report.pdf

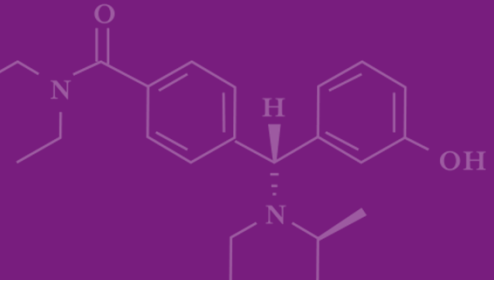
*Centers for Disease Control and Prevention. 2018 Annual Surveillance Report of Drug-Related Risks and Outcomes — United States. Surveillance Special Report. Centers for Disease Control and Prevention, U.S. Department of Health and Human Services. Published August 31, 2018.

Conclusions

1. Opioid prescribing and high-dose prescribing continued to decrease through 2017.
2. A low percentage of those needing treatment for substance abuse are able to access it. In addition to expanding treatment options and access, additional measures are needed to prevent illicit drug use and prescription drug misuse in a dynamic drug landscape.
3. Drug overdose deaths in 2016 reached a new record high.
4. Heroin, synthetic opioids other than methadone (mostly illicitly manufactured fentanyl), cocaine, and psychostimulants with abuse potential were driving increases in overdose deaths in 2016.



CDC's Opioid Overdose Prevention Efforts



CDC's Mission

Prevent opioid-related harms and overdose deaths by:

- Conducting surveillance and research to improve data quality and track trends;
- Building state, local, and tribal capacity by scaling up effective public health interventions;
- Supporting providers, health systems, and payers with tools, recommendations, and guidance to improve patient safety;
- Partnering with public safety to respond quicker and more effectively; and
- Empowering consumers to make safe choices.

Conducting surveillance and research

- **Enhanced State Opioid Overdose Surveillance (ESOOS)**
  - Funds 32 states and Washington, D.C., to increase timeliness and comprehensiveness of nonfatal and fatal opioid overdose reporting and dissemination of results to key stakeholders
  - Serves as an early warning system to detect sharp increases (i.e., potential outbreaks) or decreases (i.e., rapidly identify successful intervention efforts)
  - Uses the State Unintentional Drug Overdose Report System (SUDORS) to integrate data on opioid overdose deaths from death certificates and unique medical examiner and coroner investigations, including toxicology reports.
  - For more information: www.cdc.gov/drugoverdose/foa/state-opioid-mm.html

Building state, local, and tribal capacity

- **Prevention for States (PfS)**
  - Funds 29 states to enhance and maximize prescription drug monitoring programs, implement interventions, and evaluate the impact of state policies
  - For more information: www.cdc.gov/drugoverdose/states/state_prevention.html
- **Data-Driven Prevention Initiative (DDPI)**
  - Funds 13 states and Washington, D.C., to improve data collection and analysis around opioid misuse, abuse, and overdose, and develop comprehensive prevention programs
  - For more information: www.cdc.gov/drugoverdose/foa/ddpi.html

Supporting providers, health systems, and payers

- **CDC's *Guideline for Prescribing Opioids for Chronic Pain* —** released March 2016
  - Serves as a resource to providers treating chronic pain for adult patients in primary care settings outside of end-of-life, palliative, and active cancer care.
  - For more information: www.cdc.gov/drugoverdose/prescribing/resources.html

Partnering with public safety

- **Heroin Response Strategy**
  - A collaboration between CDC and the Office of the National Drug Control Policy and 10 High Intensity Drug Trafficking Areas (HIDTAs)
  - Coordinates data sharing across public health and public safety, develops and supports implementation of evidence-based strategies, and strengthens the engagement of local communities to create targeted responses

Empowering consumers

- ***Rx Awareness* campaign**
  - Raises awareness about the risks of opioid misuse and abuse in order to empower people to make safer choices
  - For more information: www.cdc.gov/rxawareness/index.html

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. 2018 Surveillance Report of Drug-Related Risks and Outcomes — United States. Surveillance Special Report. Centers for Disease Control and Prevention. U.S. Department of Health and Human Services. www.cdc.gov/drugoverdose/pdf/pubs/2018-cdc-drug-surveillance-report.pdf Published August 31, 2018.

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

For more information, contact CDC
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TTY: 1-888-232-6348 www.cdc.gov