



# Health Center Visits by Adults With Opioid Use Disorder: United States, 2023

Loredana Santo, M.D., Lello Guluma, M.P.H., Zachary J. Peters, M.P.H., and Rihem Badwe, Pharm.D.

## Key findings

Data from the National Ambulatory Medical Care Survey Health Center Component

- The health center visit rate for adults with a diagnosed opioid use disorder was 4.8 visits per 1,000 adults in 2023. Visit rates were highest among adults ages 25–49 (7.7) and lowest among adults ages 18–24 (0.8).
- An estimated 29.0% of health center visits by adults with opioid use disorder also included a diagnosis of nicotine use disorder, 16.4% included a diagnosis of cocaine and other stimulants use disorder, and 11.2% included a diagnosis of alcohol use disorder.
- Among health center visits by adults with opioid use disorder, the two most frequently observed mental health disorders were mood disorder and anxiety disorder.
- An estimated 49.6% of health center visits by adults with opioid use disorder had a documented prescription for buprenorphine.

## Introduction

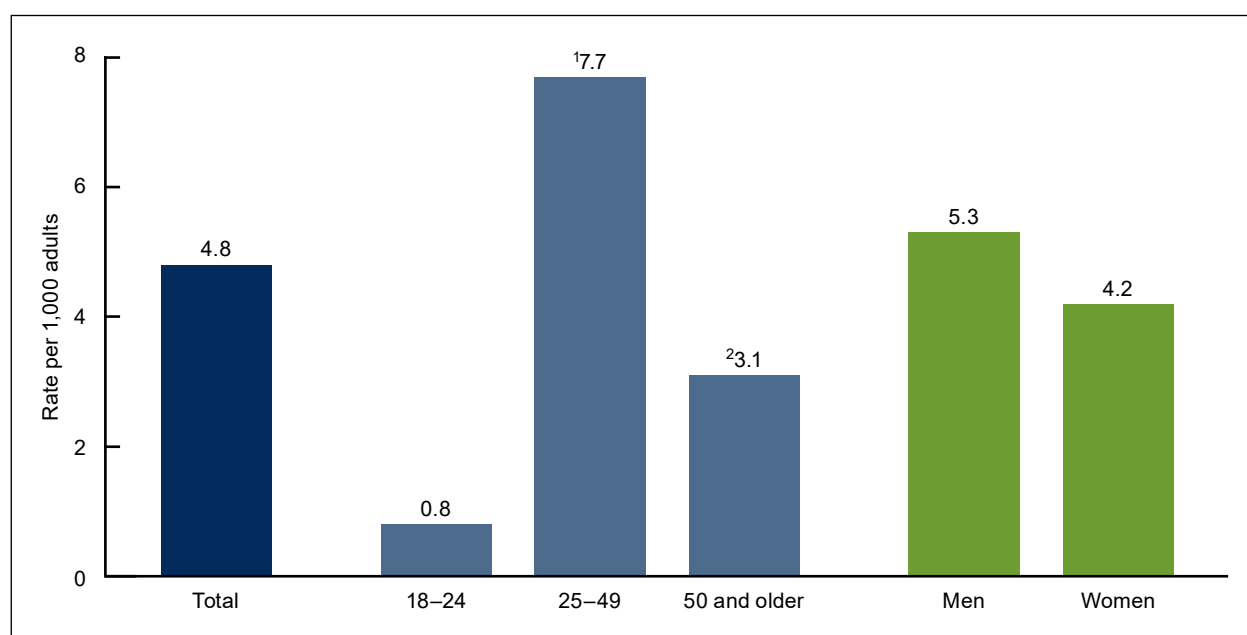
In 2023, about 5 million adults reported having an opioid use disorder (OUD), a problematic pattern of opioid use that can result in impairment or distress, in the past year (1). Among people with OUD, the coexistence of other substance use disorders or mental health disorders is common (2,3). Buprenorphine, methadone, and naltrexone are the only approved and effective medications used to treat OUD, but access to treatment can be limited (4,5). Health centers are local, community-based clinics that provide care for those who often encounter issues accessing health care (6). This report describes the rate and characteristics of health center visits by adults with OUD using data from the 2023 National Ambulatory Medical Care Survey Health Center (NAMCS HC) Component (7).



## Visit rates by age and sex

- The health center visit rate for adults with OUD was 4.8 visits per 1,000 adults in 2023 (Figure 1, Table 1).
- Adults ages 25–49 with OUD had the highest visit rates (7.7), followed by adults age 50 and older (3.1), and adults ages 18–24 (0.8).
- No significant difference was seen between women (4.2) and men (5.3) for health center visit rates for adults with OUD.

**Figure 1. Health center visit rates for adults with opioid use disorder, by age and sex: United States, 2023**



<sup>1</sup>Significantly higher than age groups 18–24 and 50 and older.

<sup>2</sup>Significantly higher than age group 18–24.

NOTES: In 2023, there were 95,716 visits made by adults age 18 and older with a diagnosis of opioid use disorder (OUD). For this figure, health centers (HCs) at which all diagnoses were missing for all visits ( $n = 4$ ) were excluded and visit weights for the remaining HCs were normalized to account for excluded ones, representing about 1.2 million HC visits (1.3% of all visits by adults). Visits with OUD are defined as visits with *International Classification of Diseases, 10th Revision, Clinical Modification* (ICD–10–CM) codes F11.1–F11.29. Visit rates are based on estimates of the U.S. civilian noninstitutionalized population, as developed by the U.S. Census Bureau, and reflect the population as of July 1, 2023.

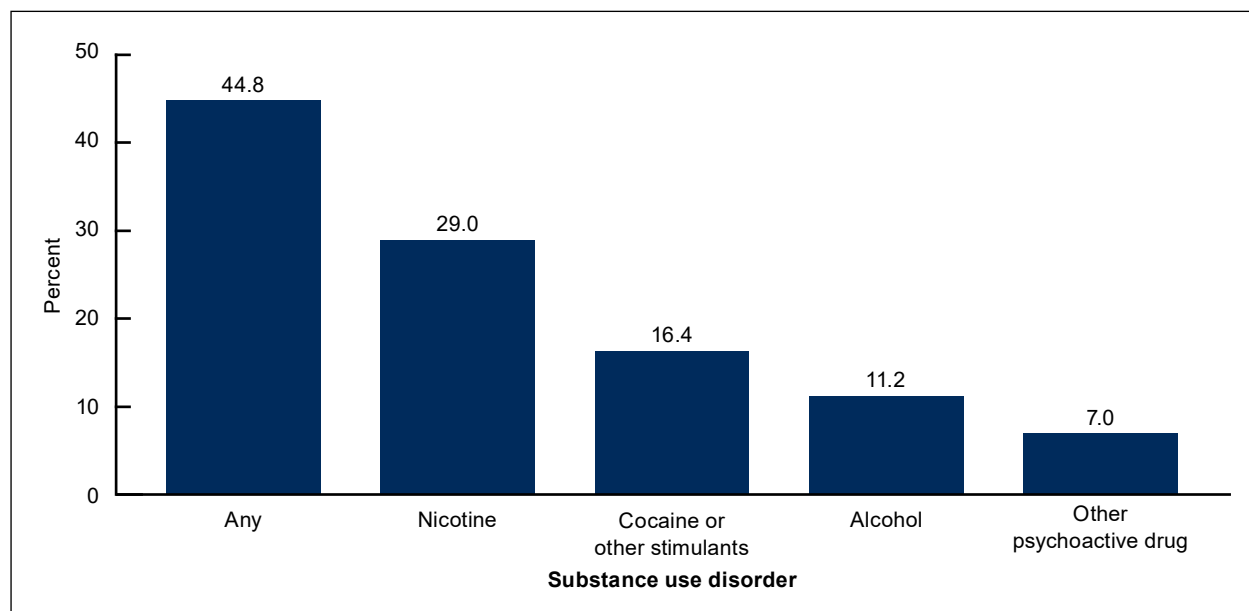
SOURCE: National Center for Health Statistics, National Ambulatory Medical Care Survey Health Center Component, 2023.

## Co-diagnosis of substance use disorders

- Among health center visits by adults with OUD, an estimated 44.8% included at least one co-occurring substance use disorder (Figure 2, Table 2).
- Among health center visits by adults with OUD, nicotine use disorder (29.0%) and cocaine or other stimulants use disorder (16.4%) were frequently observed co-diagnoses,

followed by alcohol use disorder (11.2%) and other psychoactive substance use disorder (7.0%).

**Figure 2. Co-diagnosis of substance use disorders at health center visits by adults with opioid use disorder: United States, 2023**



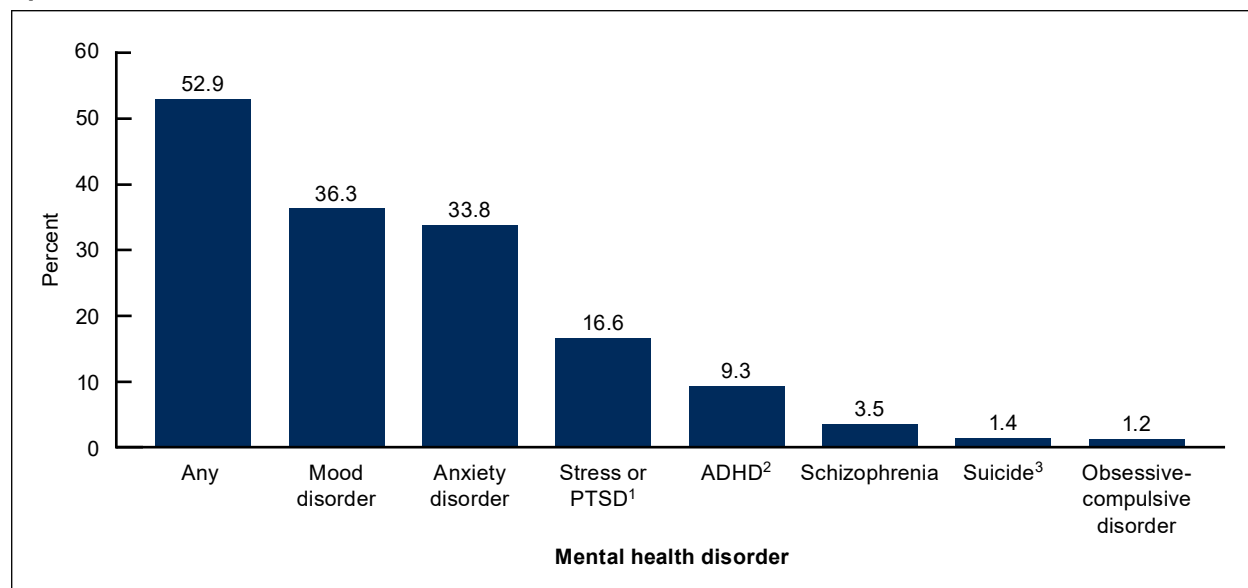
NOTES: In 2023, there were 95,716 visits made by adults age 18 and older with a diagnosis of opioid use disorder (OUD). For this figure, health centers (HCs) at which all diagnoses were missing for all visits ( $n = 4$ ) were excluded and visit weights for the remaining HCs were normalized to account for excluded ones, representing about 1.2 million HC visits (1.3% of all visits by adults). Visits with OUD are defined as visits with *International Classification of Diseases, 10th Revision, Clinical Modification* (ICD-10-CM) codes F11.1–F11.29. Sedative and cannabis use disorders are not shown in the figure due to unreliable estimates; hallucinogen and inhaler use disorders represent 0.3% of visits and are not shown in the figure. The category “any” includes all substance use disorder categories shown in the figure plus sedative, cannabis, hallucinogen, and inhaler use disorders. The full list of ICD-10-CM codes included for each substance use disorder category can be found at: <https://www.cdc.gov/nchs/data/nhcs/FY19-RDC-2021-06-01-508.pdf>. OUD is not included in any other substance use disorder definition for this analysis. Categories are not mutually exclusive; the same visit may be included in more than one substance use disorder category.

SOURCE: National Center for Health Statistics, National Ambulatory Medical Care Survey Health Center Component, 2023.

## Co-diagnosis of mental health disorders

- Among health center visits by adults with OUD, an estimated 52.9% included a co-diagnosis of a mental health disorder (Figure 3, Table 3).
- Among health center visits by adults with OUD, an estimated 36.3% included a co-diagnosis of mood disorder and 33.8% had a co-diagnosis of anxiety disorder.
- Among health center visits by adults with OUD, 16.6% included a co-diagnosis of severe stress or post-traumatic stress disorder; 9.3% had attention-deficit/hyperactivity disorder; 3.5% had schizophrenia; 1.4% had suicidal ideation, attempt, or personal history of self-harm (referred to as suicide); and 1.2% had obsessive-compulsive disorder.

**Figure 3. Co-diagnosis of selected mental health disorders at health center visits by adults with opioid use disorder: United States, 2023**



<sup>1</sup>Reaction to severe stress or post-traumatic stress disorder.

<sup>2</sup>Attention-deficit/hyperactivity disorder.

<sup>3</sup>Includes suicidal ideation, suicide attempt, and personal history of self-harm.

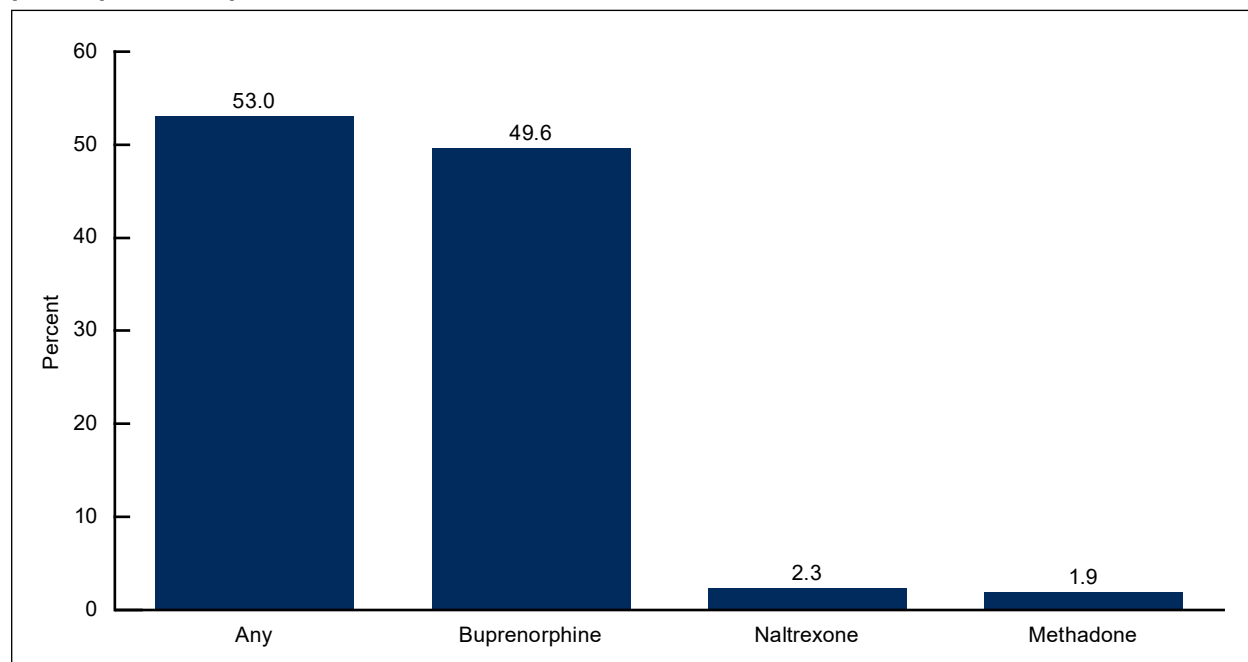
NOTES: In 2023, there were 95,716 visits made by adults age 18 and older with a diagnosis of opioid use disorder (OUD). For this figure, health centers (HCs) at which all diagnoses were missing for all visits ( $n = 4$ ) were excluded and visit weights for the remaining HCs were normalized to account for excluded ones, representing about 1.2 million HC visits (1.3% of all visits by adults). Visits with OUD are defined as visits with *International Classification of Diseases, 10th Revision, Clinical Modification* (ICD-10-CM) codes F11.1–F11.29. The category “any” includes all mental health disorder categories shown in the figure. The full list of ICD-10-CM codes included for each mental health disorder type can be found at: <https://www.cdc.gov/nchs/data/nhcs/FY19-RDC-2021-06-01-508.pdf>. Categories are not mutually exclusive; the same visit may be included in more than one mental health disorder category.

SOURCE: National Center for Health Statistics, National Ambulatory Medical Care Survey Health Center Component, 2023.

## Documented prescriptions

- At 53.0% of health center visits by adults with OUD, one or more prescriptions for buprenorphine, methadone, or naltrexone—the three most common medications for OUD—was documented in the electronic health record (EHR) (Figure 4, Table 4).
- Buprenorphine prescription was documented at 49.6% of health center visits by adults with OUD.
- Naltrexone and methadone prescriptions were documented at 2.3% and 1.9%, respectively, of health center visits by adults with OUD.

**Figure 4. Percentage of health center visits by adults with opioid use disorder with a documented prescription for opioid use disorder medication: United States, 2023**



NOTES: In 2023, there were 95,716 visits made by adults age 18 and older with a diagnosis of opioid use disorder (OUD). For this figure, health centers (HCs) at which all diagnoses and medications were missing for all visits ( $n = 20$ ) were excluded and visit weights for the remaining HCs were normalized to account for excluded ones, representing about 1.2 million HC visits (1.2% of all visits by adults). Visits with OUD are defined as visits with *International Classification of Diseases, 10th Revision, Clinical Modification* (ICD-10-CM) codes F11.1–F11.29. Buprenorphine includes buprenorphine alone and buprenorphine and naloxone combined. The category “any” includes all medication categories shown. Categories are not mutually exclusive; the same visit may be included in more than one medication category.  
SOURCE: National Center for Health Statistics, National Ambulatory Medical Care Survey Health Center Component, 2023.

## Summary

In 2023, the overall rate of health center visits among adults with a diagnosis of OUD was 4.8 visits per 1,000 adults. The health center visit rate for adults with OUD was highest among adults ages 25–49. Almost 30% of the visits by adults with OUD had a diagnosis of nicotine use disorder, and more than 30% had a diagnosed mood disorder or anxiety disorder. A buprenorphine prescription was documented at nearly one-half of visits by adults with OUD.

## Definitions

**Opioid use disorder (OUD) visit:** OUD is defined as the chronic use of opioids that can result in distress and impairment (1). An OUD visit was identified as any visit with an *International Classification of Diseases, 10th Revision, Clinical Modification* (ICD-10-CM) (8) code F11.1–F11.2. The full list of ICD-10-CM codes included can be found at: <https://www.cdc.gov/nchs/data/nhcs/FY19-RDC-2021-06-01-508.pdf>.

**Substance use disorders:** The substance use disorder category includes any visits with at least one of these disorders:

- Nicotine use
- Cocaine or other stimulant use

- Alcohol use
- Other psychoactive substance use
- Sedative use
- Cannabis use
- Hallucinogen use
- Inhalant use

ODD is not included in any other substance use disorder definition for this analysis. Nicotine use disorder, which includes history of nicotine dependence, was defined as any visit with ICD–10–CM codes F17.2, O99.33, or Z87.891. Cocaine or other stimulant use disorder was defined as any visit with codes F14.1–F14.2 or F15.1–F15.2. Alcohol use disorder was defined as any visit with codes F10.1–F10.2, G62.1, G72.1, I42.6, K29.2, K70, or Z71.4. Other psychoactive substance use disorder was defined as any visit with codes F19.1–F19.2. The full list of codes included can be found at: <https://www.cdc.gov/nchs/data/nhcs/FY19-RDC-2021-06-01-508.pdf>.

**Mental health disorders:** Any mental health disorder category includes any visits with at least one of the following conditions:

- Mood disorder
- Anxiety disorder
- Severe stress or post-traumatic stress disorder
- Attention-deficit/hyperactivity disorder
- Suicide
- Obsessive-compulsive disorder

Mood disorder was defined as any visit with ICD–10–CM codes F30–F39. Anxiety disorder was defined as any visit with ICD–10–CM codes F40–F41. Severe stress or post-traumatic stress disorder was defined as any visit with ICD–10–CM code F43. Attention-deficit/hyperactivity disorder was defined as any visit with ICD–10–CM code F90. Schizophrenia was defined as any visit with ICD–10–CM codes F20–F29. Suicidal ideation, suicide attempt, and personal history of self-harm (referred to as suicide) was defined as any visits with ICD–10–CM codes R45.851, T14.91, or Z91.5. Obsessive-compulsive disorder was defined as any visit with ICD–10–CM code F42. The full list of ICD–10–CM codes included can be found at: <https://www.cdc.gov/nchs/data/nhcs/FY19-RDC-2021-06-01-508.pdf>.

**ODD medications:** Buprenorphine, methadone, and naltrexone, which are the three medications approved by the Food and Drug Administration for the treatment of ODD (4), were identified using RxNorm concept codes with an “active” or “completed” label in the EHR at each visit. Although the medication status of “active” or “completed” indicates that the patient had a prescription for that medication, the prescription could have been given at an earlier visit. The

list of RxNorm concept codes used to identify the medications of interest was obtained from: <https://www.nlm.nih.gov/research/umls/rxnorm/index.html>. Buprenorphine includes buprenorphine alone and buprenorphine combined with naloxone. Buprenorphine could have been prescribed for concurrent management of pain and OUD. Medications were documented in EHR data using two different coding systems: RxNorm and National Drug Code (NDC). Applying Natural Language Processing techniques, missing medication codes and medications coded in NDC were re-populated by matching the medication name when available, without dosage and route, with a standardized RxNorm code. This process impacted 5.7% of all medication records and resulted in an updated list of RxNorm medications. In this report, only the updated list of RxNorm codes was used to identify OUD medications. More information is detailed elsewhere (7).

**Visit rates:** Calculated by dividing the estimates of visits by the number of the U.S. civilian noninstitutionalized population (9) for selected characteristics, including age group and sex.

## Data source and methods

Data for this report are from the 2023 NAMCS HC Component, a nationally representative survey of federally qualified health centers that receive federal funding from the Health Resources and Services Administration (HRSA), and health center program look-alikes, which meet HRSA requirements but do not receive HRSA funding (10). In the 2023 NAMCS HC Component, 95 health centers participated out of the 315 health centers that were contacted to participate, resulting in a response rate of 30.2% (unweighted). In 2023, 64 health centers were newly recruited, of which 27 responded (42.2%). Additionally, of the 64 health centers that previously participated in 2022, 63 (or 98.4%) continued to participate in 2023. Participating health centers submitted data for all visits that occurred at their delivery sites in 2023, which consisted of more than 9 million visits (unweighted). Additional sampling design details for the NAMCS Health Center Component are described elsewhere (7,11,12).

Analyses for this report were conducted using data from the NAMCS Health Center Component restricted-use data file. A public-use version of this file is available from:

<https://www.cdc.gov/nchs/namcs/documentation/about-the-data-2023.html>. Count estimates and measures of variance may differ between the restricted-use and public-use files.

Information on accessing the restricted-use data file is available from:

<https://www.cdc.gov/rdc/restricted-nchs-variables/namcs-nhamcs.html>. Data analyses were performed using the statistical packages SAS version 9.4 (SAS Institute, Cary, N.C.) and SAS-callable SUDAAN version 11.0 (RTI International, Research Triangle Park, N.C.). Two-tailed *t* tests with a significance level of  $p < 0.05$  were used to determine statistically significant differences.

Weighting was conducted to account for sampling probabilities and nonresponse, resulting in nationally representative estimates of health center visits to all 50 states and the District of Columbia (7). For diagnosis and medication variables, there were certain instances where these data were missing from all visits submitted by some of the participating health centers. In these instances, health centers with complete missingness for variables of interest were excluded

from analysis, and the visit weights were normalized to account for their exclusion (7,11). All estimates presented meet NCHS data presentation standards for proportions and rates (13,14).

## About the authors

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## Figure tables

**Data table for Figure 1. Health center visit rates for adults with opioid use disorder, by age and sex: United States, 2023**

Characteristic	Rate per 1,000 adults	95% confidence interval
Total	4.8	3.3–6.8
Age group		
18–24	0.8	0.5–1.2
25–49	<sup>1</sup> 7.7	5.3–11.1
50 and older	<sup>2</sup> 3.1	2.2–4.4
Sex		
Men	5.3	3.7–7.6
Women	4.2	3.0–6.0

<sup>1</sup>Significantly higher than age groups 18–24 and 50 and older.  
<sup>2</sup>Significantly higher than age group 18–24.

NOTES: In 2023, there were 95,716 visits made by adults age 18 and older with a diagnosis of opioid use disorder (OUD). For this figure, health centers (HCs) at which all diagnoses were missing for all visits ( $n = 4$ ) were excluded and visit weights for the remaining HCs were normalized to account for excluded ones, representing approximately 1.2 million HC visits (1.3% of all visits by adults). Visits with OUD are defined as visits with *International Classification of Diseases, 10th Revision, Clinical Modification* (ICD–10–CM) codes F11.1–F11.29. Visit rates are based on estimates of the U.S. civilian noninstitutionalized population, as developed by the U.S. Census Bureau, and reflect the population as of July 1, 2023.

SOURCE: National Center for Health Statistics, National Ambulatory Medical Care Survey Health Center Component, 2023.

**Data table for Figure 2. Co-diagnosis of substance use disorders at health center visits by adults with opioid use disorder: United States, 2023**

Substance use disorder	Percent	95% Confidence interval
Any	44.8	34.0–56.0
Nicotine	29.0	20.5–38.7
Cocaine or other stimulants	16.4	10.9–23.2
Alcohol	11.2	6.4–17.7
Other psychoactive drug	7.0	5.0–9.6

NOTES: In 2023, there were 95,716 visits made by adults age 18 and older with a diagnosis of opioid use disorder (OUD). For this figure, health centers (HCs) at which all diagnoses were missing for all visits ( $n = 4$ ) were excluded and visit weights for the remaining HCs were normalized to account for excluded ones, representing approximately 1.2 million HC visits (1.3% of all visits by adults). Visits with OUD are defined as visits with *International Classification of Diseases, 10th Revision, Clinical Modification* (ICD–10–CM) codes F11.1–F11.29. Sedative and cannabis use disorders are not shown in the figure due to unreliable estimates; hallucinogen and inhaler use disorders represent 0.3% of visits and are not shown in the figure. The category “any” includes all substance use disorder categories shown in the figure plus sedative, cannabis, hallucinogen, and inhaler use disorders. The full list of ICD–10–CM codes included for each substance use disorder category can be found at: <https://www.cdc.gov/nchs/data/nhcs/FY19-RDC-2021-06-01-508.pdf>. OUD is not included in any other substance use disorder definition for this analysis. Categories are not mutually exclusive; the same visit may be included in more than one substance use disorder category.

SOURCE: National Center for Health Statistics, National Ambulatory Medical Care Survey Health Center Component, 2023.

**Data table for Figure 3. Co-diagnosis of selected mental health disorders at health center visits by adults with opioid use disorder: United States, 2023**

Mental health disorder	Percent	95% confidence interval
Any	52.9	41.9–63.6
Mood disorder	36.3	26.8–46.6
Anxiety disorder	33.8	26.5–41.7
Stress or PTSD <sup>1</sup>	16.6	9.3–26.2
ADHD <sup>2</sup>	9.3	5.1–15.3
Schizophrenia	3.5	2.3–5.1
Suicide <sup>3</sup>	1.4	0.5–3.0
Obsessive-compulsive disorder	1.2	0.5–2.3

<sup>1</sup>Reaction to severe stress and post-traumatic stress disorder.  
<sup>2</sup>Attention-deficit/hyperactivity disorder.  
<sup>3</sup>Includes suicidal ideation, suicide attempt, and personal history of self-harm.

NOTES: In 2023, there were 95,716 visits made by adults age 18 and older with a diagnosis of opioid use disorder (OUD). For this figure, health centers (HCs) at which all diagnoses were missing for all visits ( $n = 4$ ) were excluded and visit weights for the remaining HCs were normalized to account for excluded ones, representing approximately 1.2 million HC visits (1.3% of all visits by adults). Visits with OUD are defined as visits with *International Classification of Diseases, 10th Revision, Clinical Modification* (ICD–10–CM) codes F11.1–F11.29. The category “any” includes all mental health disorder categories shown in the figure. The full list of ICD–10–CM codes included for each mental health disorder type can be found at: <https://www.cdc.gov/nchs/data/nhcs/FY19-RDC-2021-06-01-508.pdf>. Categories are not mutually exclusive; the same visit may be included in more than one mental health disorder category.

SOURCE: National Center for Health Statistics, National Ambulatory Medical Care Survey Health Center Component, 2023.

**Data table for Figure 4. Percentage of health center visits by adults with an opioid use disorder with a documented prescription for an opioid use disorder medication: United States, 2023**

Medication	Percent	95% confidence interval
Any	53.0	40.4–65.4
Buprenorphine	49.6	37.7–61.4
Naltrexone	2.3	1.2–4.0
Methadone	1.9	1.2–2.9

NOTES: In 2023, there were 95,716 visits made by adults age 18 and older with a diagnosis of opioid use disorder (OUD). For this figure, health centers (HCs) at which all diagnoses and medications were missing for all visits ( $n = 20$ ) were excluded and visit weights for the remaining HCs were normalized to account for excluded ones, representing approximately 1.2 million HC visits (1.2% of all visits by adults). Visits with OUD are defined as visits with *International Classification of Diseases, 10th Revision, Clinical Modification* (ICD–10–CM) codes F11.1–F11.29. Buprenorphine includes buprenorphine alone and buprenorphine and naloxone combined. The category “any” includes all medication categories shown. Categories are not mutually exclusive; the same visit may be included in more than one medication category.

SOURCE: National Center for Health Statistics, National Ambulatory Medical Care Survey Health Center Component, 2023.

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