Opioid Use Disorder
Diagnostic Criteria

A problematic pattern of opioid use leading to clinically significant impairment or distress, as manifested by at least two of the following, occurring within a 12-month period:

1. Opioids are often taken in larger amounts or over a longer period than was intended.
2. There is a persistent desire or unsuccessful efforts to cut down or control opioid use.
3. A great deal of time is spent in activities necessary to obtain the opioid, use the opioid, or recover from its effects.
4. Craving, or a strong desire or urge to use opioids.
5. Recurrent opioid use resulting in a failure to fulfill major role obligations at work, school, or home.
6. Continued opioid use despite having persistent or recurrent social or interpersonal problems caused or exacerbated by the effects of opioids.
7. Important social, occupational, or recreational activities are given up or reduced because of opioid use.
8. Recurrent opioid use in situations in which it is physically hazardous.
9. Continued opioid use despite knowledge of having a persistent or recurrent physical or psychological problem that is likely to have been caused or exacerbated by the substance.
10. Tolerance, as defined by either of the following:
    a. A need for markedly increased amounts of opioids to achieve intoxication or desired effect.
    b. A markedly diminished effect with continued use of the same amount of an opioid.

    Note: This criterion is not considered to be met for those taking opioids solely under appropriate medical supervision.
11. Withdrawal, as manifested by either of the following:
    a. The characteristic opioid withdrawal syndrome (refer to Criteria A and B of the criteria set for opioid withdrawal).
    b. Opioids (or a closely related substance) are taken to relieve or avoid withdrawal symptoms.

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Note: This criterion is not considered to be met for those individuals taking opioids solely under appropriate medical supervision.

Specify if:

- **In early remission:** After full criteria for opioid use disorder were previously met, none of the criteria for opioid use disorder have been met for at least 3 months but for less than 12 months (with the exception that Criterion A4, "Craving, or a strong desire or urge to use opioids," may be met).
- **In sustained remission:** After full criteria for opioid use disorder were previously met, none of the criteria for opioid use disorder have been met at any time during a period of 12 months or longer (with the exception that Criterion A4, "Craving, or a strong desire or urge to use opioids," may be met).

Specify if:

- **On maintenance therapy:** This additional specifier is used if the individual is taking a prescribed agonist medication such as methadone or buprenorphine and none of the criteria for opioid use disorder have been met for that class of medication (except tolerance to, or withdrawal from, the agonist). This category also applies to those individuals being maintained on a partial agonist, an agonist/antagonist, or a full antagonist such as oral naltrexone or depot naltrexone.
- **In a controlled environment:** This additional specifier is used if the individual is in an environment where access to opioids is restricted.

Coding based on current severity: Note for ICD-10-CM codes: If an opioid intoxication, opioid withdrawal, or another opioid-induced mental disorder is also present, do not use the codes below for opioid use disorder. Instead, the comorbid opioid use disorder is indicated in the 4th character of the opioid-induced disorder code (see the coding note for opioid intoxication, opioid withdrawal, or a specific opioid-induced mental disorder). For example, if there is comorbid opioid-induced depressive disorder and opioid use disorder, only the opioid-induced depressive disorder code is given, with the 4th character indicating whether the comorbid opioid use disorder is mild, moderate, or severe: F11.14 for mild opioid use disorder with opioid-induced depressive disorder or F11.24 for a moderate or severe opioid use disorder with opioid-induced depressive disorder.

Specify current severity:

- **305.50 (F11.10) Mild:** Presence of 2–3 symptoms.
- **304.00 (F11.20) Moderate:** Presence of 4–5 symptoms.

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- **304.00 (F11.20) Severe:** Presence of 6 or more symptoms.

Specifiers

The "on maintenance therapy" specifier applies as a further specifier of remission if the individual is both in remission and receiving maintenance therapy. "In a controlled environment" applies as a further specifier of remission if the individual is both in remission and in a controlled environment (i.e., in early remission in a controlled environment or in sustained remission in a controlled environment). Examples of these environments are closely supervised and substance-free jails, therapeutic communities, and locked hospital units.

Changing severity across time in an individual is also reflected by reductions in the frequency (e.g., days of use per month) and/or dose (e.g., injections or number of pills) of an opioid, as assessed by the individual's self-report, report of knowledgeable others, clinician's observations, and biological testing.

Diagnostic Features

Opioid use disorder includes signs and symptoms that reflect compulsive, prolonged self-administration of opioid substances that are used for no legitimate medical purpose or, if another medical condition is present that requires opioid treatment, that are used in doses greatly in excess of the amount needed for that medical condition. (For example, an individual prescribed analgesic opioids for pain relief at adequate dosing will use significantly more than prescribed and not only because of persistent pain.) Individuals with opioid use disorder tend to develop such regular patterns of compulsive drug use that daily activities are planned around obtaining and administering opioids. Opioids are usually purchased on the illegal market but may also be obtained from physicians by falsifying or exaggerating general medical problems or by receiving simultaneous prescriptions from several physicians. Health care professionals with opioid use disorder will often obtain opioids by writing prescriptions for themselves or by diverting opioids that have been prescribed for patients or from pharmacy supplies. Most individuals with opioid use disorder have significant levels of tolerance and will experience withdrawal on abrupt discontinuation of opioid substances. Individuals with opioid use disorder often develop conditioned responses to drug-related stimuli (e.g., craving on seeing any heroin powder–like substance)—a phenomenon that occurs with most drugs that cause intense psychological changes. These responses probably contribute to relapse, are difficult to extinguish, and typically persist long after detoxification is completed (Fatseas et al. 2011b).

Associated Features Supporting Diagnosis

Opioid use disorder can be associated with a history of drug-related crimes (e.g., possession or distribution of drugs, forgery, burglary, robbery, larceny, receiving stolen goods). Among health care professionals and individuals who have ready access to controlled substances, there is often a different pattern of illegal activities involving problems with state licensing boards, professional staffs of hospitals, or other

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administrative agencies. Marital difficulties (including divorce), unemployment, and irregular employment are often associated with opioid use disorder at all socioeconomic levels.

Prevalence

The 12-month prevalence of opioid use disorder is approximately 0.37% among adults age 18 years and older in the community population (Compton et al. 2007). This may be an underestimate because of the large number of incarcerated individuals with opioid use disorders (Compton et al. 2010). Rates are higher in males than in females (0.49% vs. 0.26%), with the male-to-female ratio typically being 1.5:1 for opioids other than heroin (i.e., available by prescription) and 3:1 for heroin. Female adolescents may have a higher likelihood of developing opioid use disorders (Wu et al. 2009). The prevalence decreases with age, with the prevalence highest (0.82%) among adults age 29 years or younger, and decreasing to 0.09% among adults age 65 years and older. Among adults, the prevalence of opioid use disorder is lower among African Americans at 0.18% and overrepresented among Native Americans at 1.25%. It is close to average among whites (0.38%), Asian or Pacific Islanders (0.35%), and Hispanics (0.39%) (Wu et al. 2009).

Among individuals in the United States ages 12–17 years, the overall 12-month prevalence of opioid use disorder in the community population is approximately 1.0%, but the prevalence of heroin use disorder is less than 0.1%. By contrast, analgesic use disorder is prevalent in about 1.0% of those ages 12–17 years, speaking to the importance of opioid analgesics as a group of substances with significant health consequences (Substance Abuse and Mental Health Services Administration 2011).

The 12-month prevalence of problem opioid use in European countries in the community population ages 15–64 years is between 0.1% and 0.8%. The average prevalence of problem opioid use in the European Union and Norway is between 0.36% and 0.44% (European Monitoring Centre for Drugs and Drug Addiction 2010).

Development and Course

Opioid use disorder can begin at any age, but problems associated with opioid use are most commonly first observed in the late teens or early 20s. Once opioid use disorder develops, it usually continues over a period of many years, even though brief periods of abstinence are frequent. In treated populations, relapse following abstinence is common. Even though relapses do occur, and while some long-term mortality rates may be as high as 2% per year, about 20%–30% of individuals with opioid use disorder achieve long-term abstinence. An exception concerns that of military service personnel who became dependent on opioids in Vietnam; over 90% of this population who had been dependent on opioids during deployment in Vietnam achieved abstinence after they returned, but they experienced increased rates of alcohol or amphetamine use disorder as well as increased suicidality (Price et al. 2001).

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Increasing age is associated with a decrease in prevalence as a result of early mortality and the remission of symptoms after age 40 years (i.e., "maturing out"). However, many individuals continue have presentations that meet opioid use disorder criteria for decades (Hser et al. 2007).

Risk and Prognostic Factors

Genetic and physiological

The risk for opiate use disorder can be related to individual, family, peer, and social environmental factors (Kendler et al. 2003; Tsuang et al. 1998), but within these domains, genetic factors play a particularly important role both directly and indirectly. For instance, impulsivity and novelty seeking are individual temperaments that relate to the propensity to develop a substance use disorder but may themselves be genetically determined. Peer factors may relate to genetic predisposition in terms of how an individual selects his or her environment.

Culture-Related Diagnostic Issues

Despite small variations regarding individual criterion items, opioid use disorder diagnostic criteria perform equally well across most race/ethnicity groups. Individuals from ethnic minority populations living in economically deprived areas have been overrepresented among individuals with opioid use disorder. However, over time, opioid use disorder is seen more often among white middle-class individuals, especially females, suggesting that differences in use reflect the availability of opioid drugs and that other social factors may impact prevalence. Medical personnel who have ready access to opioids may be at increased risk for opioid use disorder.

Diagnostic Markers

Routine urine toxicology test results are often positive for opioid drugs in individuals with opioid use disorder. Urine test results remain positive for most opioids (e.g., heroin, morphine, codeine, oxycodone, propoxyphene) for 12–36 hours after administration. Fentanyl is not detected by standard urine tests but can be identified by more specialized procedures for several days. Methadone, buprenorphine (or buprenorphine/naloxone combination), and LAAM (L-alpha-acetylmethadol) have to be specifically tested for and will not cause a positive result on routine tests for opiates. They can be detected for several days up to more than 1 week. Laboratory evidence of the presence of other substances (e.g., cocaine, marijuana, alcohol, amphetamines, benzodiazepines) is common. Screening test results for hepatitis A, B, and C virus are positive in as many as 80%–90% of injection opioid users, either for hepatitis antigen (signifying active infection) or for hepatitis antibody (signifying past infection). HIV is prevalent in injection opioid users as well. Mildly elevated liver function test results are common, either as a result of resolving hepatitis or from toxic injury to the liver due to contaminants that have been mixed with the injected opioid. Subtle changes

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in cortisol secretion patterns and body temperature regulation have been observed for up to 6 months following opioid detoxification.

Suicide Risk

Similar to the risk generally observed for all substance use disorders, opioid use disorder is associated with a heightened risk for suicide attempts and completed suicides. Particularly notable are both accidental and deliberate opioid overdoses. Some suicide risk factors overlap with risk factors for an opioid use disorder. In addition, repeated opioid intoxication or withdrawal may be associated with severe depressions that, although temporary, can be intense enough to lead to suicide attempts and completed suicides. Available data suggest that nonfatal accidental opioid overdose (which is common) and attempted suicide are distinct clinically significant problems that should not be mistaken for each other.

Functional Consequences of Opioid Use Disorder

Opioid use is associated with a lack of mucous membrane secretions, causing dry mouth and nose. Slowing of gastrointestinal activity and a decrease in gut motility can produce severe constipation. Visual acuity may be impaired as a result of pupillary constriction with acute administration. In individuals who inject opioids, sclerosed veins ("tracks") and puncture marks on the lower portions of the upper extremities are common. Veins sometimes become so severely sclerosed that peripheral edema develops, and individuals switch to injecting in veins in the legs, neck, or groin. When these veins become unusable, individuals often inject directly into their subcutaneous tissue ("skin-popping"), resulting in cellulitis, abscesses, and circular-appearing scars from healed skin lesions. Tetanus and *Clostridium botulinum* infections are relatively rare but extremely serious consequences of injecting opioids, especially with contaminated needles. Infections may also occur in other organs and include bacterial endocarditis, hepatitis, and HIV infection. Hepatitis C infections, for example, may occur in up to 90% of persons who inject opioids. In addition, the prevalence of HIV infection can be high among individuals who inject drugs, a large proportion of whom are individuals with opioid use disorder. HIV infection rates have been reported to be as high as 60% among heroin users with opioid use disorder in some areas of the United States or the Russian Federation. However, the incidence may also be 10% or less in other areas, especially those where access to clean injection material and paraphernalia is facilitated (Fatseas et al. 2011a).

Tuberculosis is a particularly serious problem among individuals who use drugs intravenously, especially those who are dependent on heroin; infection is usually asymptomatic and evident only by the presence of a positive tuberculin skin test. However, many cases of active tuberculosis have been found, especially among those who are infected with HIV. These individuals often have a newly acquired infection but also are likely to experience reactivation of a prior infection because of impaired immune function.

Individuals who sniff heroin or other opioids into the nose ("snorting") often develop irritation of the nasal mucosa, sometimes accompanied by perforation of the nasal septum. Difficulties in sexual functioning are

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common. Males often experience erectile dysfunction during intoxication or chronic use. Females commonly have disturbances of reproductive function and irregular menses.

In relation to infections such as cellulitis, hepatitis, HIV infection, tuberculosis, and endocarditis, opioid use disorder is associated with a mortality rate as high as 1.5%–2% per year. Death most often results from overdose, accidents, injuries, AIDS, or other general medical complications. Accidents and injuries due to violence that is associated with buying or selling drugs are common. In some areas, violence accounts for more opioid-related deaths than overdose or HIV infection. Physiological dependence on opioids may occur in about half of the infants born to females with opioid use disorder; this can produce a severe withdrawal syndrome requiring medical treatment. Although low birth weight is also seen in children of mothers with opioid use disorder, it is usually not marked and is generally not associated with serious adverse consequences.

Differential Diagnosis

Opioid-induced mental disorders

Opioid-induced disorders occur frequently in individuals with opioid use disorder. Opioid-induced disorders may be characterized by symptoms (e.g., depressed mood) that resemble primary mental disorders (e.g., persistent depressive disorder [dysthymia] vs. opioid-induced depressive disorder, with depressive features, with onset during intoxication). Opioids are less likely to produce symptoms of mental disturbance than are most other drugs of abuse. Opioid intoxication and opioid withdrawal are distinguished from the other opioid-induced disorders (e.g., opioid-induced depressive disorder, with onset during intoxication) because the symptoms in these latter disorders predominate the clinical presentation and are severe enough to warrant independent clinical attention.

Other substance intoxication

Alcohol intoxication and sedative, hypnotic, or anxiolytic intoxication can cause a clinical picture that resembles that for opioid intoxication. A diagnosis of alcohol or sedative, hypnotic, or anxiolytic intoxication can usually be made based on the absence of pupillary constriction or the lack of a response to naloxone challenge. In some cases, intoxication may be due both to opioids and to alcohol or other sedatives. In these cases, the naloxone challenge will not reverse all of the sedative effects.

Other withdrawal disorders

The anxiety and restlessness associated with opioid withdrawal resemble symptoms seen in sedative-hypnotic withdrawal. However, opioid withdrawal is also accompanied by rhinorrhea, lacrimation, and pupillary dilation, which are not seen in sedative-type withdrawal. Dilated pupils are also seen in hallucinogen intoxication and stimulant intoxication. However, other signs or symptoms of opioid withdrawal, such as nausea, vomiting, diarrhea, abdominal cramps, rhinorrhea, or lacrimation, are not present.

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Comorbidity

The most common medical conditions associated with opioid use disorder are viral (e.g., HIV, hepatitis C virus) and bacterial infections, particularly among users of opioids by injection. These infections are less common in opioid use disorder with prescription opioids. Opioid use disorder is often associated with other substance use disorders, especially those involving tobacco, alcohol, cannabis, stimulants, and benzodiazepines, which are often taken to reduce symptoms of opioid withdrawal or craving for opioids, or to enhance the effects of administered opioids. Individuals with opioid use disorder are at risk for the development of mild to moderate depression that meets symptomatic and duration criteria for persistent depressive disorder (dysthymia) or, in some cases, for major depressive disorder (Compton et al. 2005). These symptoms may represent an opioid-induced depressive disorder or an exacerbation of a preexisting primary depressive disorder. Periods of depression are especially common during chronic intoxication or in association with physical or psychosocial stressors that are related to the opioid use disorder. Insomnia is common, especially during withdrawal. Antisocial personality disorder is much more common in individuals with opioid use disorder than in the general population (Compton et al. 2005). Posttraumatic stress disorder is also seen with increased frequency (Price et al. 2004). A history of conduct disorder in childhood or adolescence has been identified as a significant risk factor for substance-related disorders, especially opioid use disorder.

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