ular substance involved should be named (e.g., "toluene use disorder"). However, most compounds that are inhaled are a mixture of several substances that can produce psychoactive effects, and it is often difficult to ascertain the exact substance responsible for the disorder. Unless there is clear evidence that a single, unmixed substance has been used, the general term *inhalant* should be used in recording the diagnosis. Disorders arising from inhalation of nitrous oxide or of amyl-, butyl-, or isobutylnitrite are considered as other (or unknown) substance use disorder.

Features of inhalant use disorder include repeated use of an inhalant substance despite the individual's knowing that the substance is causing serious problems for the individual (Criterion A9). Those problems are reflected in the diagnostic criteria.

Missing work or school or inability to perform typical responsibilities at work or school (Criterion A5), and continued use of the inhalant substance even though it causes arguments with family or friends, fights, and other social or interpersonal problems (Criterion A6), may be seen in inhalant use disorder. Limiting family contact, work or school obligations, or recreational activities (e.g., sports, games, hobbies) may also occur (Criterion A7). Use of inhalants when driving or operating dangerous equipment (Criterion A8) is also seen.

Tolerance (Criterion A10) is reported by about 10% of individuals who use inhalants. Because a clinically significant withdrawal syndrome has not been established with inhalant use, neither a diagnosis of inhalant withdrawal nor a corresponding diagnostic criterion for withdrawal complaints for inhalant use disorder is included. However, withdrawal symptoms may occur among inhalant users and individuals with moderate to severe inhalant use disorder, and these symptoms appear to be similar in frequency to withdrawal symptoms among those with moderate to severe cocaine use disorder.

Associated Features

A diagnosis of inhalant use disorder is supported by recurring episodes of intoxication with negative results in standard drug screens (which do not detect inhalants); possession, or lingering odors, of inhalant substances; peri-oral or peri-nasal "glue-sniffer's rash"; association with other individuals known to use inhalants; membership in groups with prevalent inhalant use (e.g., some native or aboriginal communities, homeless children in street gangs); easy access to certain inhalant substances; paraphernalia possession; presence of the disorder's characteristic medical complications (e.g., brain white matter pathology, rhabdomyolysis); and the presence of multiple other substance use disorders. Individuals with inhalant use disorder may present with symptoms of pernicious anemia, subacute combined degeneration of the spinal cord, major or mild neurocognitive disorder, brain atrophy, leukoencephalopathy, and many other nervous system disorders.

Prevalence

About 2.3% of American youth ages 12–17 years have used inhalants in the past 12 months, with 0.1% having a pattern of use that meets criteria for inhalant use disorder. Among U.S. adults, age 18 years and older, past 12-month prevalence of inhalant use is about 0.21%, with 0.04% having a pattern of use that meets criteria for an inhalant use disorder. Among youth, the prevalence of past 12-month inhalant use is highest among non-Hispanic Whites and individuals reporting more than one racialized identity and lowest among American Indians/Alaska Natives. Twelve-month prevalence rates of inhalant use and inhalant use disorder among adults are highest among non-Hispanic Whites and lowest among non-Hispanic Blacks and American Indians/Alaska Natives.

Development and Course

The declining prevalence in the United States of inhalant use and inhalant use disorder after adolescence (from 2.3% during adolescence to 0.1% in early adulthood for inhalant use and from 0.1% to 0.04% for inhalant use disorder) indicates that the disorder usually re-

mits in early adulthood. Inhalant use disorder is rare in prepubertal children, most common in adolescents and young adults, and uncommon in older persons. Calls to poison-control centers for "intentional abuse" of inhalants peak with calls involving individuals at age 14 years. Those with inhalant use disorder extending into adulthood demonstrate earlier onset of inhalant use, use of multiple inhalants, and more frequent inhalant use.

Risk and Prognostic Factors

Temperamental. Predictors of inhalant use disorder include sensation seeking and impulsivity.

Environmental. Inhalant gases are widely and legally available, increasing the risk of misuse. Childhood maltreatment or trauma also is associated with youthful progression from inhalant non-use to inhalant use disorder.

Genetic and physiological. *Behavioral disinhibition* is a highly heritable general propensity to not constrain behavior in socially acceptable ways, to break social norms and rules, and to take dangerous risks, pursuing rewards excessively despite dangers of adverse consequences. Youths with strong behavioral disinhibition show risk factors for inhalant use disorder: early-onset substance use disorder, multiple substance involvement, and early conduct problems. Because behavioral disinhibition is under strong genetic influence, youths in families with substance use and antisocial behaviors are at elevated risk for inhalant use disorder.

Culture-Related Diagnostic Issues

Internationally, certain isolated Indigenous communities have experienced a high prevalence of inhalant problems. Also, in some low- and middle-income countries, groups of homeless children living on the streets have extensive inhalant use problems because of the effects of poverty and the availability and affordability of the substances, and as a way to cope with homelessness.

Sex- and Gender-Related Diagnostic Issues

Although the past 12-month prevalence of inhalant use disorder in the United States is almost identical among adolescent boys and girls, the disorder is very rare among adult women.

Diagnostic Markers

Urine, breath, or saliva tests may be valuable for assessing concurrent use of non-inhalant substances by individuals with inhalant use disorder. However, technical problems and the considerable expense of analyses make frequent biological testing for inhalants themselves impractical.

Association With Suicidal Thoughts or Behavior

In the United States, adolescent and adult inhalant use and inhalant use disorder are associated with suicidal thoughts and behavior, especially among individuals reporting symptoms of anxiety and depression and histories of trauma.

Functional Consequences of Inhalant Use Disorder

Because of inherent toxicity, use of inhalants can be fatal. Death can occur from anoxia, cardiac dysfunction, extreme allergic reaction, severe injury to the lungs, vomiting, accidents or injury, or central nervous system depression. Moreover, any inhaled volatile hydrocarbons may produce "sudden sniffing death" from cardiac arrhythmia. Inhalant use impairs neurobehavioral function and causes various neurological, gastrointestinal, cardiovascular, and pulmonary problems.

Long-term inhalant users are at increased risk for tuberculosis, HIV/AIDS, sexually transmitted diseases, depression, anxiety, bronchitis, asthma, and sinusitis.

Differential Diagnosis

Inhalant exposure (unintentional) from industrial or other accidents. A diagnosis of inhalant use disorder only applies if the inhalant exposure is intentional.

Inhalant intoxication, without meeting criteria for inhalant use disorder. Inhalant intoxication occurs frequently during inhalant use disorder but also may occur among individuals whose use does not meet criteria for inhalant use disorder.

Inhalant intoxication meeting criteria for inhalant use disorder, and inhalant-induced mental disorders. Inhalant use disorder is differentiated from inhalant intoxication and inhalant-induced mental disorders (e.g., inhalant-induced depressive disorder) in that inhalant use disorder describes a problematic pattern of inhalant use that involves impaired control over inhalant use, social impairment attributable to inhalant use, risky inhalant use (e.g., inhalant use despite medical complications), and pharmacological symptoms (the development of tolerance), whereas inhalant intoxication and inhalant-induced mental disorders describe psychiatric syndromes that develop in the context of heavy use. Inhalant intoxication and inhalant-induced mental disorders occur frequently in individuals with inhalant use disorder. In such cases, a diagnosis of inhalant intoxication or an inhalant-induced mental disorder should be given in addition to a diagnosis of inhalant use disorder, the presence of which is indicated in the diagnostic code.

Other substance use disorders, especially those involving sedating substances (e.g., alcohol, benzodiazepines, barbiturates). Inhalant use disorder commonly co-occurs with other substance use disorders, and the symptoms of the disorders may be similar and overlapping. To disentangle symptom patterns, it is helpful to inquire about which symptoms persisted during periods when some of the substances were not being used.

Comorbidity

Individuals with inhalant use disorder receiving clinical care often have numerous other substance use, mood, anxiety, and personality disorders. Inhalant use disorder commonly co-occurs with conduct disorder in adolescents and with antisocial personality disorder. Individuals with inhalant use disorder may have comorbid symptoms of hepatic or renal damage, rhabdomyolysis, methemoglobinemia, or symptoms of other gastrointestinal, cardiovascular, or pulmonary diseases.

Inhalant Intoxication

Diagnostic Criteria

A. Recent intended or unintended short-term, high-dose exposure to inhalant substances, including volatile hydrocarbons such as toluene or gasoline.
B. Clinically significant problematic behavioral or psychological changes (e.g., belligerence, assaultiveness, apathy, impaired judgment) that developed during, or shortly after, exposure to inhalants.
C. Two (or more) of the following signs or symptoms developing during, or shortly after, inhalant use or exposure:
    1. Dizziness.
    2. Nystagmus.
    3. Incoordination.

4. Slurred speech.
5. Unsteady gait.
6. Lethargy.
7. Depressed reflexes.
8. Psychomotor retardation.
9. Tremor.
10. Generalized muscle weakness.
11. Blurred vision or diplopia.
12. Stupor or coma.
13. Euphoria.

D. The signs or symptoms are not attributable to another medical condition and are not better explained by another mental disorder, including intoxication with another substance.

Coding note: The ICD-10-CM code depends on whether there is a comorbid inhalant use disorder. If a mild inhalant use disorder is comorbid, the ICD-10-CM code is **F18.120,** and if a moderate or severe inhalant use disorder is comorbid, the ICD-10-CM code is **F18.220.** If there is no comorbid inhalant use disorder, then the ICD-10-CM code is **F18.920.**

Note: For information on Development and Course, Risk and Prognostic Factors, Culture-Related Diagnostic Issues, and Diagnostic Markers, see the corresponding sections in Inhalant Use Disorder.

Diagnostic Features

The essential feature of inhalant intoxication is the presence of clinically significant problematic behavioral or psychological changes that develop during, or immediately after, intended or unintended inhalation of a volatile hydrocarbon substance. When possible, the particular substance involved should be named (e.g., toluene intoxication). Intoxication clears within a few minutes to a few hours after the exposure ends. Thus, inhalant intoxication usually occurs in brief episodes that may recur with further inhalant use.

Associated Features

Inhalant intoxication may be indicated by evidence of possession, or lingering odors, of inhalant substances (e.g., glue, paint thinner, gasoline, butane lighters); other features may include euphoria, relaxation, headache, rapid heartbeat, confusion, talkativeness, blurred vision, amnesia, slurred speech, irritability, nausea, fatigue, burning in eyes or throat, grandiosity, chest pain, auditory or visual hallucinations, and dissociation.

Prevalence

The prevalence of actual episodes of inhalant intoxication in the general population is unknown, but it is probable that a majority of inhalant users would at some time exhibit behavioral or psychological changes and symptoms that would meet criteria for inhalant intoxication. Therefore, the prevalence of inhalant use and the prevalence of inhalant intoxication are likely similar. In 2017, inhalant use in the past year was reported by 0.6% of all Americans older than 12 years; the prevalence was highest in younger age groups (2.3% for individuals ages 12 –17 years, 1.6% for individuals ages 18–25 years, and 0.3% for individuals age 26 and older).

Sex- and Gender-Related Diagnostic Issues

Gender differences in the prevalence of inhalant intoxication in the general population are unknown. Regarding gender differences in the prevalence of inhalant use in the United

States, 0.8% of boys/men older than 12 years and 0.5% of girls/women older than 12 years have used inhalants in the previous year, but in the younger age groups differences are minimal or girls may have slightly higher prevalence (e.g., among adolescents ages 12–17 years, 2.4% of girls and 2.2% of boys have used inhalants in the past year).

Functional Consequences of Inhalant Intoxication

Use of inhaled substances in a closed container, such as a plastic bag over the head, may lead to unconsciousness, anoxia, and death. Separately, "sudden sniffing death," likely from cardiac arrhythmia or arrest, may occur with various volatile inhalants. The enhanced toxicity of certain volatile inhalants, such as butane or propane, also causes fatalities. Although inhalant intoxication itself is of short duration, it may produce persisting medical and neurological problems, especially if the intoxications are frequent. Clinically significant correlates of inhalant intoxication include reckless behaviors (e.g., taking foolish risks, getting into fights, having unprotected sex), antisocial behaviors (cruelty, damaging property, arrests), and having serious accidents.

Differential Diagnosis

Intoxication from other substances, especially from sedating substances (e.g., alcohol, benzodiazepines, barbiturates). These disorders may have similar signs and symptoms, but intoxication attributable to other intoxicants may be identified via a toxicology screen. Differentiating the source of the intoxication may involve discerning evidence of inhalant exposure as described for inhalant use disorder. A diagnosis of inhalant intoxication may be suggested by possession or lingering odors of inhalant substances (e.g., glue, paint thinner, gasoline, butane lighters); paraphernalia possession (e.g., rags or bags for concentrating glue fumes); perioral or perinasal "glue-sniffer's rash"; reports from family or friends that the intoxicated individual possesses or uses inhalants; or apparent intoxication despite negative results on standard drug screens (which usually fail to identify inhalants).

Inhalant-induced mental disorders. Inhalant intoxication is distinguished from inhalant-induced mental disorders (e.g., inhalant-induced anxiety disorder, with onset during intoxication) because the symptoms (e.g., anxiety) in these latter disorders are in excess of those usually associated with inhalant intoxication, predominate in the clinical presentation, and are severe enough to warrant independent clinical attention.

Other toxic, metabolic, traumatic, neoplastic, or infectious disorders that impair brain function and cognition. Numerous neurological and other medical conditions may produce the clinically significant behavioral or psychological changes (e.g., belligerence, assaultiveness, apathy, impaired judgment) that also characterize inhalant intoxication.

Comorbidity

Given the typical overlap of inhalant intoxication with inhalant use disorder, see "Comorbidity" under Inhalant Use Disorder for more details about co-occurring conditions that are likely to be encountered.

Inhalant-Induced Mental Disorders

The following inhalant-induced mental disorders are described in other chapters of the manual with disorders with which they share phenomenology (see the substance/medication-induced mental disorders in these chapters): inhalant-induced psychotic disorder ("Schizophrenia Spectrum and Other Psychotic Disorders"); inhalant-induced depressive

disorder ("Depressive Disorders"); inhalant-induced anxiety disorder ("Anxiety Disorders"); and inhalant-induced major or mild neurocognitive disorder ("Neurocognitive Disorders"). For inhalant intoxication delirium, see the criteria and discussion of delirium in the chapter "Neurocognitive Disorders." These inhalant-induced mental disorders are diagnosed instead of inhalant intoxication only when symptoms are sufficiently severe to warrant independent clinical attention.

Unspecified Inhalant-Related Disorder

F18.99

This category applies to presentations in which symptoms characteristic of an inhalant-related disorder that cause clinically significant distress or impairment in social, occupational, or other important areas of functioning predominate but do not meet the full criteria for any specific inhalant-related disorder or any of the disorders in the substance-related and addictive disorders diagnostic class.

Opioid-Related Disorders

Opioid Use Disorder
Opioid Intoxication
Opioid Withdrawal
Opioid-Induced Mental Disorders
Unspecified Opioid-Related Disorder

Opioid Use Disorder

Diagnostic Criteria

A. 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.

    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.

Code based on current severity/remission: 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/remission:

F11.10 Mild: Presence of 2–3 symptoms.

F11.11 Mild, In early remission

F11.11 Mild, In sustained remission

F11.20 Moderate: Presence of 4–5 symptoms.
F11.21 Moderate, In early remission
F11.21 Moderate, In sustained remission
F11.20 Severe: Presence of 6 or more symptoms.
F11.21 Severe, In early remission
F11.21 Severe, In sustained remission

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

The opioids include natural opioids (e.g., morphine, codeine), semisynthetics (e.g., heroin, oxycodone, hydrocodone, hydromorphone, oxymorphone), and synthetics with morphine-like action (e.g., methadone, meperidine, tramadol, fentanyl, carfentanil). Medications such as pentazocine and buprenorphine that have both opiate agonist and antagonist effects are also included in this class because, especially at lower doses, their agonist properties produce similar physiological and behavioral effects as classic opioid agonists. Opioids are prescribed as analgesics, anesthetics, antidiarrheal agents, or cough suppressants. Heroin is one of the most commonly misused drugs of this class and is usually taken by injection, although it can be smoked or "snorted," especially when very pure heroin is available. Fentanyl is typically injected, both medically and nonmedically, and is used medically in transdermal and transmucosal formulations, whereas cough suppressants and antidiarrheal agents are taken orally. The other opioids are generally taken both by injection and orally.

Opioid use disorder can arise from prescription opioids or illicit opioids (e.g., heroin and, especially in recent years, fentanyl-related synthetic opioids). Opioid use disorder consists of signs and symptoms reflecting compulsive, prolonged self-administration of opioid substances either for a purpose other than a legitimate medical one or for use in a "non-medical" manner (i.e., greatly exceeding the amount prescribed for a medical condition). For example, an individual with adequate doses of prescribed analgesic opioid medication for pain relief who uses significantly more of the medication than prescribed, and not only because of persistent pain, is engaging in nonmedical opioid use and may have an opioid use disorder. Most individuals with opioid use disorder have tolerance and experience withdrawal on abrupt cessation or reduction in opioid use. Similar to processes that occur with other psychoactive substances, individuals with opioid use disorder often develop conditioned responses to drug-related stimuli (e.g., cue-reactive craving on seeing drug images or paraphernalia). These responses probably contribute to relapse, are difficult to extinguish, and typically persist long after withdrawal is completed.

Individuals with opioid use disorder tend to develop such regular patterns of compulsive drug use that daily activities are planned around obtaining and administering opi-

oids. Prescription opioids used nonmedically can be obtained from family or friends, from physicians by falsifying or exaggerating medical problems, by receiving simultaneous prescriptions from several physicians, or via purchase on the illegal market. Health care professionals with opioid use disorder can obtain opioids by writing prescriptions for themselves or by diverting opioids that have been prescribed for individuals or from pharmacy supplies.

Associated Features

An attempt to achieve opioid intoxication may result in fatal or nonfatal opioid overdose. Opioid overdose is characterized by unconsciousness, respiratory depression, and pinpoint pupils. However, opioid overdoses can also occur in the absence of intoxication-seeking drug use. Opioid overdoses have increased exponentially in the United States since 1999. Up to 2009, opioid overdoses were mainly due to prescribed opioids, but since 2010, overdoses due to heroin began a sharp rise, and additionally, since 2015, fatal overdoses due to synthetic opioids other than methadone (generally fentanyl) have outnumbered overdoses due to prescribed opioids.

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, a different pattern of illegal activities may involve problems with state licensing boards, professional staffs of hospitals, or other administrative agencies. Marital difficulties (including divorce), unemployment, and irregular employment can be associated with opioid use disorder at all socioeconomic levels.

Prevalence

The prevalence of nonmedical prescription opioid use among U.S. adults age 18 and older is 4.1%–4.7%, with rates of use higher in adults ages 18–25 than in those age 26 and older (5.5% vs. 3.4%, respectively). The prevalence of heroin use in the United States is 0.3%–0.4% and is higher among adults ages 18–25 (0.5%–0.7%) than in other age groups. In U.S. adolescents ages 12–17, 2.8%–3.9% use prescription opioids nonmedically, with higher rates in older adolescents than in younger adolescents. Heroin use in adolescents is quite low (<0.05%–0.1%).

The prevalence of prescription opioid use disorder among U.S. adults age 18 and older (DSM-IV or DSM-5 criteria) is 0.6%–0.9%, and the prevalence of heroin use disorder (DSM-IV or DSM-5 criteria) is 0.1%–0.3%. Among those ages 12–17, prevalence of prescription opioid use disorder is 0.4%, and heroin use disorder is rare (essentially 0%). In the United States, rates of opioid use disorder (prescription opioids and heroin) are higher among men than women, among young adults than older adults, and among those with lower income or education. Among U.S. adults in 2012–2013, the prevalence of nonmedical prescription opioid use disorder varied by ethnoracial group: 1.42% in Native Americans, 1.04% in African Americans, 0.96% in non-Latinx Whites, 0.70% in Latinx, and 0.16% in Asian Americans or Pacific Islanders. Rates based on household surveys may underestimate national prevalence by omitting individuals in institutions and jail or prison, whose rates are likely to be much higher.

Globally in 2016, there were 26.8 million cases of DSM-IV opioid dependence, with an age-standardized prevalence of 353.0 cases per 100,000 people; prevalence of opioid dependence across geographic regions ranged from 0.14% to 0.46%.

Development and Course

Opioid use disorder can begin at any age. In the United States, problems associated with opioid use are most commonly first observed in the late teens or early 20s, with a longer interval between first opioid use and onset of disorder for prescription opioids than for her-

oin. Early use can reflect a desire for relief from life stressors or psychological pain. Long-term studies show that once an opioid use disorder that requires treatment develops, it can continue over many years, with brief periods of abstinence in some individuals but long-term abstinence only in a minority. An exception occurred among U.S. soldiers who became dependent on opioids while serving in the Vietnam War; over 90% had long-term abstinence from opioids after returning to the United States, although many subsequently experienced problems with alcohol, amphetamines, or suicidal thoughts or behavior.

Risk and Prognostic Factors

In addition to an association with more frequent nonmedical prescription opioid use, adult prescription opioid use disorder is associated with most other substance use disorders. Opioid use disorder is highly associated with externalizing traits such as novelty-seeking, impulsivity, and disinhibition. Family, peer, and social environmental factors all increase the risk for opioid use disorder. Family and twin studies also indicate a strong genetic contribution to the risk for opioid use disorders, although identifying the specific genetic variants contributing to genetic risk has been slow. Peer factors may relate to genetic predisposition in terms of how individuals select their environments, including their peers.

Culture-Related Diagnostic Issues

Individuals from socially oppressed ethnoracial groups were historically overrepresented among individuals with opioid use disorder. However, over time, opioid use disorder has become more common among White individuals, suggesting that the widespread availability of opioids and other social factors (e.g., changes in rates of poverty and unemployment) have an impact on prevalence. Consistent with these factors, despite small variations between ethnoracial groups in the psychometric performance of opioid use disorder criterion items, the criteria for opioid use disorder perform equally well across ethnoracial groups.

Sex- and Gender-Related Diagnostic Issues

Women with opioid use disorder appear more likely than men to have initiated opioid use in response to sexual abuse and violence, and they are more likely than men to be introduced to the drug by a partner. There is substantial evidence of telescoping among women in that they progress to a use disorder more quickly than men after first use; women also appear to be more ill when entering treatment facilities than are men, as noted in a large sample of heroin users in Italy.

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. Some opioids, such as fentanyl and oxycodone, are not detected by standard urine tests (which test for morphine), but can be identified by more specialized procedures for several days after use. Similarly, methadone and buprenorphine (or buprenorphine/naloxone combinations) will not cause a positive result on routine tests for opiates; they require specific tests that can detect these substances for several days up to more than 1 week.

Although not specific markers of opioid use disorder, laboratory evidence of the presence of other substances (e.g., cocaine, marijuana, alcohol, amphetamines, benzodiazepines) is common in heroin users. In addition, screening test results for hepatitis A, B, and C virus are often positive in injection opioid users, either for hepatitis antigen (signifying active infection) or for hepatitis antibody (signifying past infection). Mildly elevated liver