

This *Surgeon General's Report* has been created because of the important health and social problems associated with alcohol and drug misuse in America. As described in this *Report*, a comprehensive approach is needed to address substance use problems in the United States that includes several key components:

- Enhanced public education to improve awareness about substance use problems and demand for more effective policies and practices to address them;
- Widespread implementation of evidence-based prevention policies and programs to prevent substance misuse and related harms;
- Improved access to evidence-based treatment services, integrated with mainstream health care, for those at risk for or affected by substance use disorders;
- Recovery support services (RSS) to assist individuals in maintaining remission and preventing relapse; and
- Research-informed public policies and financing strategies to ensure that substance misuse and use disorder services are accessible, compassionate, efficient, and sustainable.

Recognizing these needs, the *Report* explains the neurobiological basis for substance use disorders and provides the biological, psychological, and social frameworks for improving diagnosis, prevention, and treatment of alcohol and drug misuse. It also describes evidence-based prevention strategies, such as public policies that can reduce substance misuse problems (e.g., driving under the influence [DUI]); effective treatment strategies, including medications and behavioral therapies for treating substance use disorders; and RSS for people who have completed treatment. Additionally, the *Report* describes recent changes in health care financing, including changes in health insurance regulations, which support the integration of clinical prevention and treatment services for substance use disorders into mainstream health care practice, and defines a research agenda for addressing alcohol and drug misuse as medical conditions.

Thus, this first *Surgeon General's Report on Alcohol, Drugs, and Health* is not issued simply because of the prevalence of substance misuse or even the related devastating harms and costs, but also to help inform policymakers, health care professionals, and the general public about effective, practical, and sustainable strategies to address these problems. These strategies have the potential to substantially reduce substance misuse and related problems; promote early intervention for substance misuse and substance use disorders; and improve the availability of high-quality treatment and RSS for persons with substance use disorders.



KEY TERMS

The Public Health System. The Public Health System is defined as “all public, private, and voluntary entities that contribute to the delivery of essential public health services within a jurisdiction” and includes state and local public health agencies, public safety agencies, health care providers, human service and charity organizations, recreation and arts-related organizations, economic and philanthropic organizations, and education and youth development organizations.²

The Health Care System. The World Health Organization defines a health care system as (1) all the activities whose primary purpose is to promote, restore, and/or maintain health, and (2) the people, institutions, and resources, arranged together in accordance with established policies, to improve the health of the population they serve. The health care system is made up of diverse health care organizations ranging from primary care, specialty substance use disorder treatment (including residential and outpatient settings), mental health care, infectious disease clinics, school clinics, community health centers, hospitals, emergency departments, and others.⁵

Evidence also shows that such an approach will improve the effectiveness of treatments for substance use disorders. Remission of substance use and even full recovery can now be achieved if evidence-based care is provided for adequate periods of time, by properly trained health care professionals, and augmented by supportive monitoring, RSS, and social services. This fact is supported by a national survey showing that there are more than 25 million individuals who once had a problem with alcohol or drugs who no longer do.⁷³

The Separation of Substance Use Treatment and General Health Care

Until quite recently, substance misuse problems and substance use disorders were viewed as social problems, best managed at the individual and family levels, and sometimes through the existing social infrastructure—such as schools and places of worship, and, when necessary, through civil and criminal justice interventions.⁷⁴ In the 1970s, when rates of substance misuse increased, including by college students and Vietnam War veterans, most families and traditional social services were not prepared to handle this problem.⁷⁵ Despite a compelling national need for treatment, the existing health care system was neither trained to care for nor especially eager to accept patients with substance use disorders.

For these reasons, a new system of substance use disorder treatment programs was created, but with administration, regulation, and financing placed outside mainstream health care.^{74,75} This meant that with the exception of detoxification in hospital-based settings, virtually all treatment was delivered by programs that were geographically, financially, culturally, and organizationally separate from mainstream health care. Of equal historical importance was the decision to focus treatment only on addiction. This left few provisions for detecting or intervening clinically with the far more prevalent cases of early-onset, mild, or moderate substance use disorders.

Creating this system of substance use disorder treatment programs was a critical element in addressing the burgeoning substance use disorder problems in our nation. However, that separation also created unintended and enduring impediments to the quality and range of care options. For example, separate systems for substance use disorder treatment and other health care needs may have exacerbated the negative public attitudes toward people with substance use disorders. Additionally, the pharmaceutical industry was hesitant to invest in the development of new medications for individuals with substance use disorders, because they were not convinced that a market for these medications existed. Consequently, until the 1990s, few U.S. Food and Drug Administration (FDA) approved medications were available to treat addictions.^{76,77}

Meanwhile, despite numerous research studies documenting high prevalence rates of substance use disorders among patients in emergency departments, hospitals, and general medical care settings, mainstream health care generally failed to recognize or address substance use disorders.⁷⁸ In fact, a recent study by the CDC found that in 2011, only 1 in 6 United States adults and 1 in 4 binge drinkers had *ever* been asked by a health professional about their drinking behavior.⁷⁹ Furthermore, the percent of adult binge drinkers who had been asked about their drinking had not changed since 1997, reflecting the challenges involved in fostering implementation of screening and counseling services for alcohol

the brain that make a person more likely to get addicted to marijuana or other drugs, such as alcohol, opioids, or cocaine.

It is important to point out, however, that research has not fully explained any of these observations, which are complex and likely to involve a combination of biological, social, and psychological factors.

Does smoking marijuana cause lung cancer?

Studies have not found an increased risk of lung cancer in marijuana smokers compared with nonsmokers. However, marijuana smoke does irritate the lungs and increases the likelihood of other lung and breathing problems.^{12,13} Moreover, many people who smoke marijuana also smoke cigarettes, which do cause cancer, and research suggests that quitting tobacco can be harder if the person uses marijuana.

Can marijuana produce withdrawal symptoms when someone quits?

Yes. Many people who use the drug long-term and then stop have symptoms that are similar to those of nicotine withdrawal—irritability, sleep problems, anxiety, decreased appetite and various forms of physical discomfort—which may prompt relapse (a return to drug use). Withdrawal symptoms are generally mild and peak a few days after use has stopped. They gradually disappear within about 2 weeks.^{14,15} While these symptoms do not pose an immediate threat to health, they can make it hard for someone to stop using the drug. Because withdrawal is not as obvious or as painful as withdrawal symptoms from some other drugs such as opioids, many people do not realize that stopping marijuana use can cause withdrawal symptoms.

¹² Tashkin DP. Effects of marijuana smoking on the lung. *Ann Am Thorac Soc*. 2013;10(3):239-247. doi:10.1513/AnnalsATS.201212-127FR.

¹³ Owen KP, Sutter ME, Albertson TE. Marijuana: respiratory tract effects. *Clin Rev Allergy Immunol*. 2014;46(1):65-81. doi:10.1007/s12016-013-8374-y.

¹⁴ Budney AJ, Hughes JR. The cannabis withdrawal syndrome. *Curr Opin Psychiatry*. 2006; 19(3):233-238. doi:10.1097/01.yco.0000218592.00689.e5.

¹⁵ Gorelick DA, Levin KH, Copersino ML, et al. Diagnostic Criteria for Cannabis Withdrawal Syndrome. *Drug Alcohol Depend*. 2012;123(1-3):141-147. doi:10.1016/j.drugalcdep.2011.11.007.

Living Well With Dementia in the Community

Resources and Support



Controlling Your Risk Factors

If you have heart disease, you may wonder *why* you have it. The answer is that many personal characteristics, health conditions, and lifestyle habits can contribute to heart disease. These are called risk factors.

But risk factors do more than simply contribute to heart problems. They also increase the chances that existing heart disease will worsen. Since you already have heart disease, it is very important to find out about all of your risk factors and take active steps to control them.

Certain risk factors, such as getting older, can't be changed. Starting at age 45, a man's risk of heart disease begins to rise, while a woman's risk begins to increase at age 55. Family history of early heart disease is another risk factor that can't be changed. If your father or brother had a heart attack before age 55, or if your mother or sister had one before age 65, you are more likely to develop heart disease yourself.

While certain risk factors can't be changed, it's important to realize that you do have control over many others. Regardless of your age or family history, or how serious your heart disease is, you can take steps to reduce your risk of a first or repeat heart attack. You can also manage other problems associated with heart disease, such as angina, heart failure, and arrhythmias.

It may be tempting to believe that doing just one healthy thing will be enough to control heart disease. For example, you may hope that if you walk or swim regularly, you can still eat a lot of fatty foods and stay safe. Not so. To reduce your risk of a heart attack and other complications, it is vital to make changes that address each risk factor you have. You can make the changes gradually, one at a time. But making them is very important.

you are overweight or have any other risk factors for type 2 diabetes, ask your doctor about getting tested for it. You have diabetes if your fasting blood glucose level is 126 mg/dL or higher.

If you have diabetes, controlling your blood glucose (blood sugar) levels will help to prevent complications. Because diabetes is so strongly linked with heart disease and heart attack, you must manage your diabetes very carefully. It is also especially important to control your blood pressure and cholesterol levels. (See “The ABCs of Diabetes Control” on the next page.) Recommended levels of blood pressure and blood cholesterol are lower for people with diabetes than for most others. Not smoking, getting regular physical activity, and taking aspirin daily (if your doctor recommends it) also are important ways to prevent heart disease complications if you have diabetes.

Some people do not yet have diabetes, but are at high risk for developing the disease. About 40 percent of Americans aged 40–74 have a condition known as prediabetes, where blood glucose levels are higher than normal but not yet in the diabetic range. Prediabetes is defined as a fasting blood glucose level of 100–125 mg/dL.

If you have heart disease and also have prediabetes, it is extremely important to improve your blood glucose levels in order to prevent the development of diabetes. The good news: A recent study shows that many people with prediabetes can prevent or delay diabetes by eating a lower fat, lower calorie diet and getting 30 minutes of moderate physical activity at least 5 days per week.

or years as tolerance develops. This loss of efficacy often elicits dose escalation to recapture efficacy. This escalation is rewarded, as the increased dose is initially more effective than the lower dose.

If the drug produces physical dependence, the person may have not only increased pain when the substance is absent, but also withdrawal symptoms (e.g., anxiety, nausea, cramps, insomnia). Withdrawal symptoms may lead to an increase in symptoms of depression and an increase in the potential risk for suicide. All these symptoms are relieved by ingesting more of the drug that caused the dependence. A similar situation may occur if the drug is one that elicits rebound symptoms. For example, ergot relieves migraine, but excessive use leads to rebound headaches that are more persistent and treatment resistant than were the original headaches.

An illusion of benefit produced by reinforcing drugs can create a paradoxical situation in

which long-term use of the substance creates the very symptoms the person hopes to alleviate. People commonly drink to relax or “cheer up,” yet chronic alcohol abuse leads to depression and anxiety.

In some people, a cycle develops in which pain or distress elicits severe preoccupation with the substance that previously provided relief. This cycle—seeking pain relief, experiencing relief, and then having pain recur—can be very difficult to break, even in the person without an addiction, and the development of addiction markedly exacerbates the difficulty. The propensity to develop this cycle is influenced by genetic and environmental factors; some people will experience greater degrees of analgesia than others, and some will have more severe or prolonged abstinence symptoms. Genetic variability in susceptibility to these experiences may explain some cases of iatrogenic addiction.