OPIOIDS in the WORKPLACE

Up-to-date programs can reduce sick days and hospital days

Employers Can Help Treat Dependence

New patient-friendly therapies improve worker productivity

What to Consider When Implementing an Opioid Program

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Opioids in the Workplace

Opioid Dependence Can Be Treated Successfully

Pain treatment has improved significantly in the past decade. Physicians more readily use a wide range of drugs available to treat patients suffering from debilitating chronic pain — and that is of benefit to employers. Successful pain treatment improves productivity and reduces absenteeism. However, some of the drugs used to treat pain — particularly opioids — carry risk of dependence.

Opioid dependence is a medical condition, and it can be treated. But employers remain largely unaware of the treatments that are available and their effectiveness. In fact, federal laws and FDA rulings encourage and facilitate the treatment of dependence on painkillers. The good news is that highly effective treatment options for opioid dependence exist, and are covered by most health plans.

“Substance abuse, including opioid dependence, can be effectively addressed in the workplace,” says Eric Goplerud, director of the Center for Integrated Behavioral Health Policy at George Washington University. “What is needed is a willingness on the part of employers to encourage treatment.”

Drug testing is an important first step and is facilitated by federal legislation such as the Drug-Free Workplace Act of 1988. But because opioid dependence is often related to prescribed medication, testing alone does not always reveal a pattern of misuse.

The Americans with Disabilities Act encourages employers to support employees who come to realize they have a problem with painkillers. In 2000, Congress passed the Drug Addiction Treatment Act (DATA), which allows qualifying physicians to treat opioid dependence directly.

In 2002, the FDA approved the use of buprenorphine by physicians as a replacement therapy for opioid dependence. A modification of DATA in 2006 allows individual physicians to treat up to 100 patients with buprenorphine. Today, more than 12,000 physicians have received training in the treatment of opioid dependence by means of replacement therapy.

These are very encouraging developments for employers, and they are outlined in detail in this report. We look at the extent of opioid abuse and dependence in our society and in the workplace, the treatment options available and their relative effectiveness, and the concrete steps employers are currently taking to address this enduring and spreading problem.

And we look at the Drug Addiction Treatment Act, how it is being implemented, and the significant success the law’s empowerment of replacement therapy is having in addressing the often misunderstood medical condition of opioid dependence.

Christopher V. Goff, JD, MA
CEO, Employers Health Purchasing Corp. of Ohio
Introductory Message
From Christopher Goff, JD, MA

With federal laws and FDA rulings leading the way, employers are encouraged to facilitate the treatment of opioid dependence.

Dependence by the Numbers

Surveys have found that tens of millions admit to misuse of painkillers. Rates are highest in the South.

Opioid Dependence Affects Society on Many Levels

Overuse of painkillers is on the rise, but employers are in a unique position to help employees get back on track.

How Opioids Hijack the Brain

The effect of opioids on the brain is highly individualistic. Some people experience euphoria; others feel nauseous.

Multiple Therapies Help Curb Opioid Dependence

Successful dependence treatment programs meld behavior and lifestyle modification with pharmacologic therapies.

Employers Address Opioid Dependence

Employers are facing the burden of helping workers overcome their dependence by training managers to recognize signs of abuse, enriching their assistance programs, and monitoring pharmacy claims.

Primary Care Physicians May Now Treat Opioid Dependence Directly

With the passage of the Drug Addiction Treatment Act, people who are dependent can obtain help from a doctor at an office in the community, instead of being forced to visit a clinic.
Demographics of opioid dependence show a significant and underappreciated problem

Opioid use and dependence in a medically insured population

A study of opioid use and dependence found that males accounted for 57 percent of all those who used these drugs. More than 52 percent of people dependent on opioids are 35–54 years of age.

The study covered 2,200 people using pain relievers solely for medical reasons and another 740 who reported abusing prescription pain relievers. Abuse, for this study, is “a maladaptive pattern of substance use leading to clinically significant impairment or distress as manifested by one or more behavioral criteria.” They had medical claims associated with ICD-9-CM (International Classification of Diseases, 9th Revision, Clinical Modification) codes for opioid abuse. Persons with physiological dependence on opioids were included in the category of abuse. Dependence is defined by DSM-IV as “increasing tolerance for a drug, withdrawal signs and symptoms when a drug is discontinued, or the continued use of a substance to avoid withdrawal.”

Lifetime nonmedical use of pain relievers by persons 12 or older

Annual averages (2002–2004 data)

<table>
<thead>
<tr>
<th>Gender</th>
<th>Age</th>
<th>Region</th>
</tr>
</thead>
<tbody>
<tr>
<td>Male</td>
<td>Mean</td>
<td>Midwest</td>
</tr>
<tr>
<td>57%</td>
<td>37.6</td>
<td>14.2%</td>
</tr>
<tr>
<td>Female</td>
<td>Median</td>
<td>Northeast</td>
</tr>
<tr>
<td>43%</td>
<td>39.0</td>
<td>20.7%</td>
</tr>
</tbody>
</table>

Pain relievers: 2,150
Marijuana: 2,063
Tranquilizers: 1,112
Cocaine: 977
Ecstasy: 860
Inhalants: 783
Sedatives: 267
LSD: 264
Methamphetamine: 258
Heroin: 91
PCP: 69


More people initiate illegal drug use with pain relievers than with marijuana

Prescription drug abuse is a growing national problem.

Number of initiates for specific illicit drugs in 2006 (12 or older)

Source: SAMHSA 2006 National Survey on Drug Use and Health (published September 2007)
Millions report misuse of, or dependence on, pain relievers at some point in their lifetime

An estimated 30.9 million persons either abused or were dependent on an opioid pain reliever sometime in their life among people who had ever used a pain reliever for nonmedical reasons, according to the most comprehensive look at lifetime misuse of pain relievers. This does not include those who never misused an opioid, yet became dependent through legitimate medical use, but no figures have been collected for that category. Still, 31 million is an impressively high number.

**Lifetime nonmedical use of specific pain relievers among persons 12 or older**

*Annual averages based on 2002–2004 data*

### Specific pain reliever (descending order of prevalence)

<table>
<thead>
<tr>
<th>Pain Reliever</th>
<th>Estimated number (1,000s)</th>
<th>Percentage of lifetime nonmedical users of any pain reliever</th>
</tr>
</thead>
<tbody>
<tr>
<td>Any pain reliever</td>
<td>30,862</td>
<td>100</td>
</tr>
<tr>
<td>Darvocet, Darvon, or Tylenol with codeine</td>
<td>19,366</td>
<td>62.7</td>
</tr>
<tr>
<td>Vicodin, Lortab, or Lor cet</td>
<td>15,172</td>
<td>49.2</td>
</tr>
<tr>
<td>Percocet, Percodan, or Tylox</td>
<td>10,473</td>
<td>33.9</td>
</tr>
<tr>
<td>Codeine</td>
<td>6,859</td>
<td>22.2</td>
</tr>
<tr>
<td>Hydrocodone</td>
<td>5,398</td>
<td>17.5</td>
</tr>
<tr>
<td>Demerol</td>
<td>2,788</td>
<td>9.0</td>
</tr>
<tr>
<td>OxyContin</td>
<td>2,609</td>
<td>8.5</td>
</tr>
<tr>
<td>Morphine</td>
<td>2,067</td>
<td>6.7</td>
</tr>
<tr>
<td>Methadone</td>
<td>1,131</td>
<td>3.7</td>
</tr>
<tr>
<td>Ultram</td>
<td>1,060</td>
<td>3.4</td>
</tr>
<tr>
<td>Dilaudid</td>
<td>963</td>
<td>3.1</td>
</tr>
<tr>
<td>Phenaphen with codeine</td>
<td>772</td>
<td>2.5</td>
</tr>
<tr>
<td>Fiorinal</td>
<td>492</td>
<td>1.6</td>
</tr>
<tr>
<td>Talwin</td>
<td>457</td>
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<tr>
<td>Fioricet</td>
<td>455</td>
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<tr>
<td>Propoxyphene</td>
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<td>Tramadol</td>
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<td>Stadol</td>
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<tr>
<td>Talwin NX</td>
<td>86</td>
<td>0.3</td>
</tr>
<tr>
<td>Talacen</td>
<td>71</td>
<td>0.2</td>
</tr>
<tr>
<td>SK-65</td>
<td>42</td>
<td>0.1</td>
</tr>
</tbody>
</table>


### Most get pain relievers for nonmedical use from friends and relatives

Among the 12.6 million people reporting using pain relievers for nonmedical reasons in 2005, 70 percent received them from a friend or family member, followed by “from a doctor,” according to the Substance Abuse and Mental Health Services Administration.

Source: SAMHSA 2006 National Survey on Drug Use and Health (published September 2007)
Opioid Dependence Affects Society on Many Levels

Employers have been slow to recognize the drag that opioid use can have on productivity, but workers can be treated successfully.

### Extent of the Problem

About 48 million people have used prescription drugs — including pain relievers — for nonmedical reasons. That amounts to about 20 percent of the population of the United States. Significant increases in the prevalence of lifetime misuse have been observed for pain relievers, especially in the hydrocodone and oxycodone categories.

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By Martin Sipkoff
Contributing Editor

Opioid dependence, long associated with heroin users lurking in urban alleys, is moving into the nation’s living rooms — and increasingly into the workplace. A cultural shift toward prescription drug dependence is occurring, adversely affecting workers, employers, families, and family physicians in ways unheard of just a decade ago.

“We are seeing a dramatic increase in the use and abuse of opioid-related prescription drugs, especially in the last five or six years, as pain is being treated more aggressively by doctors,” says Eric Goplerud, director of the Center for Integrated Behavioral Health Policy in the Department of Health Policy at the George Washington University (GWU) Medical Center in Washington, D.C. “Employers and physicians should both be concerned.”

“We are seeing a growing number of workers and others becoming dependent through the overuse of pain relievers,” agrees Helen Taws, director of the Hazelden Center for Public Advocacy. “When they are prescribed by doctors it’s easier for people — both themselves and their employers — to avoid recognizing the degree of their problem. Adding to that, these drugs are becoming easier to get. They’re too readily available on the Internet, for example.”

Yet business leaders, policymakers, and health professionals remain insufficiently informed about the heavy economic costs of substance use disorders and what can be done to reduce these costs. Many have not examined the costs of undetected and untreated drug use disorders in their workforces, according to GWU research.2

Unfortunately, substance abuse of all types remains largely undertreated — a societal problem made more acute by the increased misuse of prescription drugs, especially opioids, which have a particularly high potential for dependence.

There is a difference between abuse and dependence. The American Psychiatric Association’s Diagnostic and Statistical Manual of Mental Disorders IV provides diagnostic criteria for differentiating abuse and dependence. Drug abuse refers to the intentional misuse or overuse of drugs. Drug abusers maintain control over their behavior. They do not have a medical disease; they have a self-imposed problem. Drug dependence involves impaired control over use of the drug and implies an obsessive preoccupation with the use of a drug. Statistical analysis, however, tends to report both conditions in a single category.

“Employer awareness of the potential for [substance abuse] problems is of benefit to the employee and the employer, because it represents an increased possibility that the problem will be addressed,” says Robert L. Stephenson II, director of the Division of Workplace Programs in the Center for Substance Abuse Prevention of the Substance Abuse and Mental Health Services Administration, a division of the Department of Health and Human Services.

And in fact, when substance abuse — including opioid dependence — occurs among workers, there is a likelihood that treatment will occur and that it will be successful. That is because many workers...
have employer-based health insurance and are motivated to seek treatment to avoid losing their jobs. Part of the problem is that opioid dependence related to prescription drug abuse is “a truly complex situation” for employers, adds Stephenson.

“These drugs are usually being prescribed for legitimate purposes by physicians,” he says. “That complicates the drug testing environment and the treatment options. Therefore, a thorough understanding by employers of the complexity of the issue is an important part of any therapeutic approach.”

The potential for abuse of and dependence upon opioids is evident from the number of people using the powerful drugs, which are “commonly administered for the treatment of moderate to severe pain and are among the most widely prescribed drugs in the United States.” One study found that more than 4.3 million U.S. adults are taking opioids regularly in any given week.

Between 1992 and 2002, while the U.S. population increased 13 percent, prescriptions filled for federally controlled drugs such as opioids increased 154 percent. “With increased availability has come increased abuse of these drugs,” states one seminal report from Columbia University.

About 48 million people have used prescription drugs for nonmedical reasons in their lifetime — about 20 percent of the U.S. population. The number of people who admit to actually abusing controlled prescription drugs doubled between 1992 and 2003, from 7.8 million in 1992 to 15.1 million in 2003 — seven times as fast as the increase in the U.S. population. Fifteen million people amount to 5 percent of the population. These people have a great effect on our health care system and workplace — and even on the mortality of our population.

Although the rate of misuse of prescription psychotherapeutic drugs — which include pain relievers along with tranquilizers, stimulants, and sedatives — was stable between 2000 and 2004, significant increases in the prevalence of lifetime misuse were observed for pain relievers, especially in the hydrocodone and oxycodone categories.

The search for workplace solutions to opioid dependence is urgent for employers: SAMHSA, the Substance Abuse and Mental Health Services Administration, reports that misuse of prescription drugs — including pain relievers — is second only to marijuana as the nation’s most prevalent drug problem.

Between 2002 and 2004, for example, abuse of hydrocodone grew nearly 2 percent and abuse of oxycodone grew by 4.4 percent. Over a two-year period, the number of people using hydrocodone nearly doubled from 2.7 percent of people in 2002 to 5.2 percent in 2004.

What are opioids?

Opioids, also called opiates, are used by physicians to reduce pain. They can be addictive.

Opioids originate from the opium poppy or can be synthesized by chemists. Opium, codeine, and morphine are derived from the plant. Methadone and oxycodone, for example, are synthesized by chemists.

Opioids include prescription painkillers, such as oxycodone and hydrocodone. Heroin, an illegal drug, is also an opioid. Several drugs used to treat opioid dependence are also opioids, including buprenorphine and methadone.

Opioids act on the brain and body by attaching to specific proteins called opioid receptors, which are found in the brain, spinal cord, and gastrointestinal tract. When these drugs attach to certain opioid receptors, they block the perception of pain. Opioids produce drowsiness, nausea, and constipation, and can depress respiration.

The drugs also induce euphoria by affecting the brain regions that mediate what we perceive as pleasure. This feeling is often intensified for those who abuse opioids. Opioid dependence is a chronic brain disease that involves a physical, psychological, and behavioral need for an opioid drug.

Opioids are commonly prescribed because of their effective analgesic, or pain-relieving, properties. Medications that fall within this class — referred to as prescription narcotics — include:

- oxycodone (brand names include OxyContin, Percodan, Percocet)
- propoxyphene (Darvon)
- hydrocodone (Vicodin, Lortab, Lorcet)
- hydromorphone (Dilaudid)
- meperidine (Demerol)
- diphenoxylate (Lomotil)
- morphine (Kadian, Avinza, MS Contin)
- codeine
- buprenorphine (Subutex, Suboxone, which also contains naloxone)
- fentanyl (Duragesic)
- methadone
Opioids in fact are among the most frequently abused prescription drugs. The 2007 National Survey on Drug Use and Health found that 6.9 million (2.8 percent) people used prescription psychotherapeutic drugs nonmedically in the month before the survey. Of these, 5.2 million abused pain relievers.

**A powerful societal dilemma**

Abuse of prescription opioids has been growing for some time. The annual average number of people using pain relievers nonmedically for the first time exceeded the number of new marijuana users each year between 2002 and 2006, the last year for which data are available. (Nonmedical use is defined by SAMHSA as “the use of prescription-type drugs not prescribed for the respondent by a physician or used only for the experience or feeling they caused.”

“Recent reports have noted a linear relationship between opioid analgesic sales and the drug-poisoning mortality rate across the United States,” states a recent SAMHSA analysis of the prevalence of opioid use.

People are dying as a result of the abuse of pain relievers. The Centers for Disease Control and Prevention reported in July 2008 that over a two-year period (April 2005–March 2007), more than 1,000 people died as a result of taking a nonprescribed version of the painkiller fentanyl. According to the Wall Street Journal, the deaths occurred in Camden, N.J., Chicago, Detroit, Philadelphia, St. Louis, and other areas, and “many deaths likely went unreported.”

The CDC’s report on the deaths noted that painkillers continue to play a big role in fatal drug overdoses and said deaths from unintentional drug poisonings doubled to 22,448 between 1999 and 2005.

Such tragedies have a profound effect on our nation’s welfare.

“The productivity of an individual who dies prematurely as a result of prescription opioid analgesic abuse is forever lost to society. Similarly, the productivity of employed prescription opioid analgesic abusers may decline as their health deteriorates. Society also loses the at-work productivity benefits of incarcerated individuals,” states one analy-
sis of the effect of opioid dependence on society and the workplace.13

GWU reports that people who abuse or depend on pain medication are less productive than people who abuse or depend on alcohol. According to an analysis of recent NSDUH data, people abusing pain medications miss more than 2.2 days of work every month. In comparison, people abusing alcohol miss a little less than a day (0.91) every month. The average person misses .83 days each month.2

The direct cost of prescription opioid abuse and dependence on the workplace in 2001, the latest year for which data are available on direct workplace costs, was more than $4.5 billion — 53 percent of the total societal cost of prescription opioid abuse that year.13

Most of that money — more than $3 billion — was in the reduced wages and employment opportunity that resulted from prescription opioid abuse.

Hitting the workplace hard

Opioid abuse affects absenteeism, presenteeism, and productivity. GWU research has found that working adults who used heroin or misused pain medications and were covered by employment-based health insurance and by Medicaid missed more than 50 percent more days of work than their non-using peers.2


The report included a sobering analysis of the nonmedical use of pain relievers. By analyzing survey data, SAMHSA found that in each of the three surveyed years, an average of 11.3 million people used prescription pain relievers nonmedically.1

The problem is greatest in the working age population: Pain relievers were used nonmedically in the previous year by more than 9 million people 18 or older.

How are drugs controlled?

A n issue that the Food and Drug Administration considers in the new drug approval process is the drug’s potential to produce patterns of dependence or nondependent abuse, what the agency calls “abuse potential.” Drugs with abuse potential, which fall mainly into the category of psychoactive or psychotherapeutic substances, are subject to further regulation by the Drug Enforcement Administration, part of the U.S. Department of Justice, under the Controlled Substances Act (CSA) of 1970. These regulated drugs include both illegal substances such as heroin and pharmaceuticals subject to FDA regulation. The CSA separates drugs into five categories, known as schedules, depending on their abuse potential, utility in medical treatment, and safety when used under medical supervision:

**Schedule I**, the most restrictive level, includes drugs or other substances with a high potential for abuse, no accepted medical use in the United States, and a low level of safety. Drugs and other substances in Schedule I are not approved for use, distribution, manufacture, or importation. Examples of drugs in Schedule I include heroin, marijuana, phencyclidine (PCP), and lysergic acid diethylamide (LSD). Methaqualone, which has been a Schedule I drug since 1984, had been approved by the FDA in 1965 for use as a sedative and was marketed under the name Quaalude. Adverse effects from methaqualone use resulted in DEA rescheduling and FDA action to withdraw it from the market.

**Schedule II** drugs have high abuse potential but have accepted medical uses, though with severe restrictions. Examples of drugs in this category include cocaine, methamphetamine, amphetamines, morphine, oxycodone, and methylphenidate.

**Schedule III** drugs have less abuse potential than Schedule I or II drugs and have accepted medical uses in treatment. Some drugs in this category are hydrocodone and butalbital.

**Schedule IV** drugs have lower abuse potential than those in Schedule III and have accepted medical uses in treatment. Schedule IV includes such drugs as alprazolam, diazepam, and propoxyphene.

**Schedule V** drugs have low abuse potential and recognized medical uses. Some Schedule V pharmaceuticals contain drugs with otherwise higher abuse potential but in much lower concentrations relative to other ingredients. Examples include cough medicines with codeine.1

In analyzing SAMHSA data, GWU found that the highest rates of nonmedical use of pain relievers were in the retail sales (.89 percent of the working population) industry and in the arts, entertainment, recreation, and food service industries (.88 percent).2
Colorado, Kentucky, and Washington have the highest prevalence of nonmedical prescription pain reliever use. The District of Columbia and the Midwestern states of Iowa, Nebraska, and South Dakota have the lowest prevalence.1

Regardless of geography, the financial effect on our health system is significant. Painkillers such as hydrocodone, oxycodone, and methadone and anti-anxiety and insomnia drugs (benzodiazepines, such as alprazolam and clonazepam) were each present in more than 100,000 emergency room visits associated with nonmedical use of pharmaceuticals in 2004.14

In January 2008, GWU completed a preliminary analysis of the prevalence of heroin use and misuse of prescription pain medication, using data from the SAMHSA National Survey on Drug Use and Health. The agency found that people who abused or were dependent on opioids used hospital emergency departments more than 50 percent more often in a single year and were more than 50 percent more likely to have been hospitalized in the previous year.2

The effects

When hospitalized, these patients spent approximately one more day in the hospital than their peers who were not dependent on opioids. Adults who reported ever using heroin or misusing pain medication in their lifetimes were four times as likely to have been arrested or booked and three times as likely to have driven while under the influence of drugs or alcohol. People who used heroin or misused prescription pain medications in their lifetimes were 3 to 10 times as likely to report risk for infection through the sexual transmission of HIV. Children born to mothers who contracted HIV by sharing needles or by having sex with an injection drug user may become infected as well.19

The Center for Integrated Behavioral Health Policy reports, however, that “the prevalence of heroin abuse/dependence is low among employed populations, about one tenth of 1 percent,”20 compared to 4.8 percent of the employed population abusing pain relievers.1

“Heroin continues to be a problem, of course, but especially in the workplace, we are seeing prescription drug abuse as a growing problem,” says Eric Goplerud. “Yet there is more attention being paid to alcohol issues, with a greater confidence in effective treatments. We need to begin placing a greater emphasis on opioid abuse, for which there are also effective treatments.”

How is chronic pain treated?

More than 50 million Americans suffer from chronic pain. When treating pain, health care providers have long wrestled with a dilemma: how to adequately relieve a patient’s suffering while avoiding the potential for that patient to become dependent on the pain medication.

Many health care providers underprescribe opioid pain relievers, such as morphine and codeine, because they overestimate the potential for patients to become dependent. Although these drugs carry a risk for dependence and physicians should watch for signs of abuse and dependence, the likelihood of patients with chronic pain becoming dependent on opioids is low, except for people with a personal or family history of drug abuse or mental illness. The risk of becoming dependent on prescription pain medications is also minimal when treatment time is short.

Pain management for patients who have substance abuse disorders is particularly challenging, but these patients can still be treated successfully with opioids.3

Heroin: A lesser problem than prescription painkillers

As prescription drug abuse grows more prevalent, the use of heroin appears to be diminishing as a problem. The number of current heroin users decreased from 338,000 in 2006 to 153,000 in 2007, and the corresponding prevalence rate decreased from 0.14 to 0.06 percent.18

That is not to say the problem is disappearing, however. In 2007 there were 106,000 people who had used heroin for the first time within the past 12 months. The average age at first use by recent initiates was 22 that year.10

Heroin, as most people know, carries its own horrific health threat.

Sharing syringes and other equipment for drug injection is a well known route of HIV transmission, and injection drug use contributes to the epidemic’s spread far beyond the circle of those who inject. People who have sex with an injection drug user are at risk for infection through the sexual transmission of HIV. Children born to mothers who contracted HIV by sharing needles or by having sex with an injection drug user may become infected as well.19

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ceutical products, including pain relievers, probably contributed to an overall increase in availability of the drugs on the street. Between 2000 and 2004, for example, commercial distribution by manufacturers of pharmaceuticals more than doubled, making significantly more pharmaceutical dosages available for illegal diversion. Of particular concern during that period is the sharp rise in commercial disbursements of commonly abused pharmaceuticals such as oxycodone (15.3 million to 29.0 million) and hydrocodone (14.1 million to 23.6 million).15

Law enforcement

Law enforcement officials are increasingly concerned about prescription drug abuse, especially the opioid class. The Department of Justice’s National Drug Intelligence Center reports that pharmaceutical drug availability and abuse are at very high levels throughout most of the country.2

“Availability is increasing, continuing a trend that has been developing since the late 1990s; abuse has stabilized at high levels. High availability levels enable individual users to easily and inexpensively acquire drugs, primarily through theft, forged prescriptions, doctor shopping, and the fraudulent practices of some unscrupulous physicians and pharmacists,” states the agency’s National Drug Threat Assessment 2006.15

A source of concern to law enforcement is the ready availability of opioids and other drugs on the Internet, which is used by about 200 million Americans. Not surprisingly, online trafficking of controlled prescription drugs grew rapidly since the first Internet pharmacies began in 1999, according to a study by the National Center on Addiction and Substance Abuse at Columbia University (CASA).7

“With cash, wire transfer, or access to a credit card and the click of a mouse, the Internet has offered a convenient and private means of purchasing controlled prescription drugs — completely lacking in scrutiny from parents, other family members, and frequently hidden from law enforcement,” the CASA report says.

DOJ reports that an increase in the number of prescriptions being written is contributing to an increase in prescription drug abuse. Although there are no conclusive estimates as to the quantity of illegally diverted pharmaceutical drugs available, a sharp increase in the manufacture of pharmaceutical products, including pain relievers, probably contributed to an overall increase in availability of the drugs on the street. Between 2000 and 2004, for example, commercial distribution by manufacturers of pharmaceuticals more than doubled, making significantly more pharmaceutical dosages available for illegal diversion. Of particular concern during that period is the sharp rise in commercial disbursements of commonly abused pharmaceuticals such as oxycodone (15.3 million to 29.0 million) and hydrocodone (14.1 million to 23.6 million).15

The pattern of abuse appears to be shifting. Specific drugs that were most prevalent among persons

Glossary of drug abuse terms

The Substance Abuse and Mental Health Services Administration (SAMHSA) Web site provides an explanation of drug abuse terms. Prescription medications that are on the Drug Enforcement Administration’s list of controlled substances have high abuse potential and can lead to physiological or psychological dependence, or both, in some patients.

Nonmedical use: Use of prescription drugs that were not prescribed by a medical professional (i.e., obtained illicitly) or use for the experience or feeling a drug causes.

Misuse: Incorrect use of a medication by patients, who may use a drug for a purpose other than that for which it was prescribed, take too little or too much of a drug, take it too often, or take it for too long (misuse does not apply to off-label prescribing — prescribing a medication for a condition other than the conditions for which the Food and Drug Administration approved the medication — when supported by common medical practice, research, or rational pharmacology).

Abuse: A maladaptive pattern of substance use leading to clinically significant impairment or distress as manifested by one or more behavioral criteria.

Physiological dependence: Increasing tolerance for a drug, withdrawal signs and symptoms when a drug is discontinued, or the continued use of a substance to avoid withdrawal.

Psychological dependence (addiction): A set of psychological symptoms that demonstrate overall loss of control or obsessive-compulsive drug-seeking and continued use of a substance in spite of clearly adverse consequences. Symptoms may include specific physiological signs of dependence such as increasing tolerance or withdrawal signs and symptoms when the drug is discontinued.

Pseudoaddiction: Drug-seeking and other behavior that is consistent with addiction but actually results from inadequate pain relief. Once the pain is adequately treated, the person no longer abuses the medication.18
who began nonmedical use in the year before they were surveyed differed from those that were most prevalent among lifetime abusers. For example, hydrocodones such as Vicodin, Lortab, and Lorcet were the pain relievers with the highest prevalence (50.3 percent) among past-year initiates of pain reliever misuse, but Darvocet, Darvon, or Tylenol-with-codeine as a group had the highest prevalence (62.7 percent) among lifetime misusers of pain relievers overall.1

“There is no doubt that prescription drug abuse, including opioid abuse, is a significant societal problem and a threat to employers,” says SAMHSA’s Stevenson. “The question always is what are we as a society going to do about it.”

Endnotes
20. Statistic provided by Center for Integrated Behavioral Health Policy. Email communication with David Anderson September 26, 2008.
The euphoric power of opium can be traced to writings of Sumerians who thrived along the Middle East’s Tigris-Euphrates river system around 3400 B.C. These ancient people cultivated the opium from the poppy plant, with its mind-altering milky tar found in the poppy’s egg-shaped seed. Later, ancient Greeks and Romans recognized opium’s dual properties as a pleasure drug as well as a painkiller.

Since then, opium’s colorful history has been replete with countless people who obtained welcome relief from the hellish agony of debilitating diseases, such as end-stage cancer. But the flower’s alluring, intoxicating side effect has a history littered with tragic deaths.

“Opioids” is the generic term for natural, synthetic, or semi-synthetic drugs that mimic opium. They have familiar names, like heroin, morphine, codeine, oxycodone (Oxycodone), hydrocodone (Vicodin), propoxyphene (Darvon) and others. Since they primarily relieve pain without loss of consciousness, opioids are called analgesics and, more commonly, “painkillers.”

How opioids cause addiction

How opioids cause addiction is only modestly known. All humans have mu opioid receptors, catcher’s mitt proteins in the brain, on the spinal cord, and in gastrointestinal passages, that allow the sensation of pain. When an opioid is ingested, injected, smoked or snorted, it is caught by opioid receptors, which alter the perception of pain.

“You still have the pain but you don’t care about it,” explains Carlton Erickson, PhD, a University of Texas–Austin neurobiologist, pharmacologist, and author of The Science of Addiction: From Neurobiology to Treatment (W. W. Norton, 2007).

Genetics and individual body chemistry determine largely why some people are vulnerable to an opioid side effect — euphoria — when it reaches the brain, Erickson says. These receptors cause a chain reaction to release dopamine, the natural body chemical that induces pleasure from activities like sex. Once freed, dopamine surges, floods the brain, and produces a high that evaporates anxieties, tensions, fears and inhibitions.

Enter directly

Drugs that are snorted or injected enter directly into the bloodstream to produce euphoria within seconds or minutes; when ingested, it can take 20–30 minutes. Highs can last five minutes to two hours, Erickson adds.

There is no way to tell which person will have the euphoric side effect. “If you give pain medicine to a patient and he throws up for hours, he says, ‘Doctor why did you give me that drug?’” says Martin Doot, MD, co-author of Dying for a Drink, who practices at Advocate Lutheran Hospital in Des Plaines, Ill., and who has treated hundreds of working opioid-dependent patients for 30 years. “You give the same medicine to a different patient, and they say, ‘I got energy, I got high, I felt like I could conquer the world,’ and they had no side effects. Guess which one is going to want to use it again?”

One theory to explain why certain people are predisposed to dependence is that they have “dysregulation” of their pleasure pathways, meaning their pathways are not working as expected.

“There could be a genetic weakness that causes opioid receptors to be formed imperfectly. Consequently, the receptors tell the brain the opioid is needed to stay alive. That’s why certain people can’t stop using. Their brains are hijacked,” says Erickson, the pharmacologist.

Depending on dosage, all opioids typically cause sleepiness. In some people, because of radical dif-
What is drug dependence?

Dependence, physical and psychological, occurs when a person uses a drug, becomes tolerant, and needs ever increasing amounts to avoid withdrawal. A drug is so central to thought, emotion, and activity that a user must continue drug use because it becomes a craving or compulsion.

“What we call addiction is the continued seeking and use of a drug in the face of severe negative medical, social, financial and family interactions,” says Timothy Condon, PhD, deputy director of the National Institute on Drug Abuse of the National Institutes of Health.

Erickson cites this example, known in pharmacological circles: “If you give a dog morphine, it will probably have a sedative effect. If you give a cat morphine, it will become wildly excited. We see both effects in people.”

Dependence

Constant stimulation of the reward center in the brain by dependent persons results in permanent changes to the structure of brain cells after long and repeated use, reports Timothy Condon, PhD, a neuroscientist who is deputy director of the National Institute on Drug Abuse (NIDA), the federal agency that is part of the National Institutes of Health.

A user loses sensitivity to more natural rewards, such as sex and food. “Normal pleasurable experiences, such as eating, are no longer pleasurable,” Condon says.

Drug dependence was once thought to be caused by a lack of willpower or moral weakness. Today, however, physicians believe addiction is a treatable disease of the reward centers of the brain, much as diabetes is a treatable disease of the islet cells of the pancreas. And like diabetes, addiction is essentially a chronic, relapsing disease.

Repeated treatments over a long period are frequently necessary. That’s because continuous abuse of opioids over a long period modifies the brain in ways that can remain for weeks, months, even years, NIDA’s Condon says. NIDA scientists have discovered through human and animal studies that such alterations help unleash cravings that can plunge recovered users back into the throes of addiction long after their last high during or after successful treatment episodes. This helps explain why it is so hard for users to just stop using on their own without the continuing support of what are often successful treatments.

Though drug abuse begins as a voluntary behavior — it could be as simple as that first prescription for pain — at some point a perilous line is crossed. With physical dependence, the body adapts to the presence of the drug. Physical dependence occurs in almost everyone who takes a narcotic continuously for two to ten days when the drug is stopped abruptly.

Symptoms could include craving for the drug, restlessness, moodiness, insomnia, yawning, abdominal cramps, diarrhea, vomiting, runny nose, depression, mood swings, hypersensitivity to pain, and goose bumps.

“Opioids have a unique feature in that the withdrawal symptoms are very uncomfortable and keep people using because of the unique discomfort of withdrawal,” Doot says.

Although it depends on the amount and duration of the opioids used, a person who is dependent but abstinent will usually experience withdrawal symptoms about 6–12 hours after last taking a short-acting opioid, such as heroin, and about 1–3 days after last taking a long acting opioid, such as methadone.

Onset and duration vary

The onset and duration of withdrawal varies depending on the drug. For example, meperidine withdrawal symptoms peak in 8–12 hours and last 4–5 days. Heroin withdrawal symptoms usually peak in 36–72 hours and may last 7–14 days.

A bell-shaped curve represents the way addicts experience withdrawal, depending on particular sensitivity and individual body chemistry. “For some it will be extreme discomfort; for others it will be just a little bit of nervousness. But the average person has terrible withdrawal,” Erickson says.

In the workplace, it may be difficult to identify an opioid-dependent person unless he or she is in withdrawal. “Someone intoxicated with opioids will have pinpoint pupils and may nod off,” Doot says. Such people may have needle marks on their arms. Withdrawal symptoms are more pronounced.

Deception to acquire prescription painkillers is
Contrary to popular belief, only a small fraction of patients taking opioids for pain become addicted

notoriously hard to spot, according to researchers Beth Jung and Marcus Reidenberg of the department of pharmacology at Cornell University’s Joan and Sanford I. Weill Medical College, who document it in a survey.\(^9\) Patients may fake back pain, arthritis, or severe headaches. Painkiller-dependent Metropolitan Opera star Andrea Gruber admitted she twice faked elective sinus surgery just to obtain prescription painkillers.\(^10\)

When treating chronic pain, doctors have to rely on what patients tell them because there is no proven way to diagnose or measure it. Even police officers and judges, ostensibly experts at detecting fraud, were not better at detecting liars than were doctors, according to the Jung study.

Contrary to popular belief, only a small fraction (2 – 6 percent) of patients taking opioids for true chronic pain become addicted.\(^11\) Typically, they don’t get high; they get relief from their pain. When larger doses are needed, it is usually because their pain has become more intense from their diseases.\(^12\)

About 75 percent of all illicit drug users 18 and older are employed full or part time, according to a 2006 Substance Abuse and Mental Health Administration survey.\(^13\) Erickson, the pharma-
cologist, says that people dependent on opioids need to have an income stream to support their habits. “Most of them use when they are not at work unless they are in the late stages of addiction,” Doot adds.

Some who misuse opioids ride their drug habits to bankruptcy and homelessness. “People get desperate to maintain their drug of choice when they are harmfully dependent. Jails are filled with people who have robbed to sustain their habits because they can’t tolerate withdrawal,” Doot says.

Opioid-dependent employees could sell defense secrets to support their habits, cause fatal accidents, produce shoddy equipment, or injure themselves or others, Erickson says. “Does addiction drive them to do things that are against their value system? Sure. And does treatment get rid of that social problem? Absolutely,” Doot adds.

In the long term, people who use high doses of opioids continuously may develop lung problems because of the depressed respiration effect of the drugs. They could also contract viral hepatitis, HIV, and other blood borne infections from use of contaminated needles, syringes, and other drug paraphernalia.
As an occupation, addiction treatment did not come into its own until the 1970s, says H. Wesley Clark, MD, JD, director of the federal Center for Substance Abuse Treatment in Rockville, Md. Until then, anyone who treated it was viewed as something akin to an exorcist, committed to casting out demons. By the ’70s, various physicians attempted to help detoxify abusers, but “Narcotics bureaus of the day felt this was coddling…. Incarceration was the preferred method of dealing with dependence,” Clark says.

Gradually physicians and scientists began to refer to dependence as a medical illness, but their assertions were not widely accepted and they lacked proof. By the last decade that imaging and genetic studies would provide the evidence necessary to define dependence as a chronic disease requiring medication and treatment, just like type 2 diabetes, asthma, and hypertension.

As recently as 2000, most medical schools did not teach courses in treating dependence, most physicians did not screen for it, and about half of all physicians believed no medical intervention was effective in treating dependence. “Significant progress has been made in the last 10 years in terms of people’s attitudes, but we still have a long way to go,” Clark says. Today, dependence is probably the most undertreated illness in the United States.

**Treatment history**

Opioid abuse treatment began in 1958 when a charismatic recovering alcoholic, Charles Diederich, founded Synanon in California. It was the first organized, highly structured group therapy, with recovering opioid abusers and others helping each other. Most treatment programs previously focused on alcoholics.

Initially, Synanon was a two-year residential program based on behavior modification. Those with dependencies confronted each other and demanded self-revelation and responsibility. With Synanon came the birth of the therapeutic community concept, a drug-free self-help program whose primary goals were abstinence and personal growth. These communities proved to reduce drug use, increase pro-social behavior, reduce criminal behavior, increase health status, and improve the likelihood of employment.

In the 1960s and ’70s, second-generation therapeutic communities sprang up, like Daytop Village (1963), Phoenix House (1967), and Odyssey House (1973). They incorporated some of Synanon’s concepts, but with a less autocratic approach than the one used by Diederich, Clark says. Use of prescribed drugs for treatment of dependence was inconsistent with the therapeutic community. Chronic opioid abuse was managed primarily using abstinence-based, medication-free behavioral approaches, successful in only a small percentage of long-term heroin addicts.

Pharmacological solutions emerged in 1964 when methadone gained recognition as an effective daily opioid replacement treatment. Methadone is a synthetic opioid, a mu opioid agonist that binds to the opioid receptors, activates them, and produces many of the same effects as opioids — pain relief and euphoria — but without cravings and withdrawal symptoms.

High methadone dosages of 80–120 mg a day produced an agonist blockade similar to the effects of opioids that are administered intravenously, reducing criminal recidivism and mortality. To prevent misuse, methadone was dispensed to opioid abusers only under supervision at a licensed clinic, though physicians dispense it with federal approval in areas where there are no clinics. Drug replacement therapy thus became a viable form of treatment for opioid dependence. With methadone...
Compliance was high since it caused unpleasant side effects. It was not considered a drug replacement.

“Naltrexone is unacceptable to the addict population. Some say it makes them feel sick; some get mood disturbances,” says Frank Vocci, PhD, director of treatment research and development of the National Institute for Drug Abuse (NIDA). It is most used today by highly motivated medical professionals with dependence problems who have been required to take it.

LAAM (levo-alpha-acetyl methadol), an alternative to methadone, was approved for dispensing in clinics in 1993. While methadone suppressed withdrawal symptoms for 24 hours or longer, LAAM achieved this effect for 48–72 hours or even longer. Production ended in 2003 because of increasing reports of adverse cardiac events. It is no longer available.

In 2002, Suboxone and Subutex, buprenorphine with naloxone and buprenorphine respectively, were approved for prescription and for dispensing in physician offices and pharmacies, the first time opioid replacement therapy could be given in privacy outside of a drug clinic.

Because it could be prescribed in the privacy of a physician’s office, Suboxone was thought to encourage working professionals, who were unlikely to line up at a methadone clinic or register at an inpatient facility, to seek treatment. Patients could hold down jobs while receiving medication. This medication furthered growing acceptance of addiction as a medical condition, not a moral failing.

Clinically, it is a long-acting partial agonist that acts on the same receptors as heroin and morphine, relieving drug cravings without producing the same intense high or dangerous side effects. Appropriate dosing is critical to block the positive reinforcing effects of illicitly used opioids and prevent withdrawal.21 Lower dose Suboxone, such as 2 mg, has not been shown as effective as the...
higher dose (8 mg) for keeping dependence under control, NIDA’s Vocci says. He adds that new dosages are in development, including implantable and injected formulations that could reduce the number of visits to physician offices. “You could stabilize someone on buprenorphine and then they are protected for five–six months,” he notes.

Subutex, the pure form of buprenorphine, has a potential for abuse when it is ground up and injected, so it should not be dispensed without supervision.

NIDA-supported research has demonstrated that Suboxone significantly reduces opiate abuse and is a safe and acceptable dependence treatment, says Robert Lubran, director of the Division of Pharmacologic Therapies of the federal Substance Abuse and Mental Health Services Administration (SAMHSA). Patients can receive up to 30 days of medication at a time once they are stable. Also, it can be prescribed for young people as a method of early intervention in the dependence cycle.

In all, the three anti-craving drugs — methadone, naltrexone, and Suboxone — help patients ease off harder drugs. Along with effective behavioral treatments and outreach efforts, they have reduced injection drug use and have helped to reduce the spread of HIV/AIDS from a peak of more than 25,000 new cases in 1993 to fewer than 10,000 in 2003, according to NIDA.22

The medications can be used at different stages of treatment to help a patient stop abusing, stay in treatment, or avoid relapse. Clinically, the brain adapts gradually to the absence of the abused drug by acting slowly to stave off drug cravings, producing a calming effect on the body, and allowing patients to focus on psychotherapies related to treatment.23 A 2006 study published in the New England Journal of Medicine concludes those who take Suboxone may not require aggressive counseling,24 but most studies suggest the opposite.

No paper trail
Preferences for methadone or Suboxone relate to genetics and body chemistry, Lubran says. Some patients have a better reaction with one than with the other. Though NIDA’s Vocci says efforts are under way to gain approval for dispensing methadone for treatment of opioid dependence in physicians’ offices, it is now available primarily in 1,200 clinics nationally.

Patients on methadone maintenance have to present at one of these clinics daily at first. They can earn the privilege of taking home doses of medication if they stop drug use and do well in treatment. Suboxone allows people who are dependent on opioids to receive either a prescription or treatment confidentially in a physician’s office. Methadone is less expensive than Suboxone — 57 cents versus $10.76 for the most common daily dosages,25 but the cost of the necessary clinic visit drives the methadone cost above the Suboxone cost, and that isn’t taking into account the cost to the patient for transportation to the clinic and the value of the time traveling to and from the clinic.

Though some health plans cover drug replacement therapy, often persons with opioid dependence prefer to pay out of pocket so that there is no trail of treatment. On job applications and security checks, they do not have to admit to a dependence disorder.

The drugs can have unpleasant side effects. The most common methadone side effects are sedation, sweating, constipation, and weight gain, which usually go away in a short time. Suboxone sometimes produces headaches. These do not fade away.25

Methadone remains a potent, dangerous drug. From 1999 to 2005, unintentional poisoning deaths mentioning methadone increased 468 percent (from 786 to 4,462), according to a February 2008 report by the National Center on Health Statistics. Part of the reason is that methadone is dually prescribed as an inexpensive pain reliever as well as for opioid dependence.

No short-term fix
Drug replacement therapy is not a short-term fix. The opioid-dependent person may need to remain on medication for years for treatment to be effective. Moreover, patients on methadone or Suboxone will not stop abuse of other drugs, like nicotine.
or alcohol. They usually have to engage in counseling, mutual help groups, and other forms of treatment to recover fully. 26

Though there is no cure for opioid dependence, it does not have to be a life sentence. “Research in imaging, genetics and pharmacology has proven that opioid addiction can be treated,” says Clark of the Center for Substance Abuse Treatment. Recovery requires a combination of therapies, with anti-craving drugs playing a critical role. “Some people get along with just behavioral therapy, but they are a minority. The medications clearly have a very large effect,” Vocci says.

New treatments

NIDA and others have been working to broaden the array of effective medications for chronic opioid dependence. New medications in development include an injectable, long-acting, monthly form of naltrexone called Vivitrol, now approved for alcohol dependence. Vivitrol binds to opioid receptors, forming a blockade of the neurotransmitters in the brain, controlling cravings, according to SAMHSA’s Lubran.

An antihypertensive drug, lofexidine HCl (Lofexidine), has been used in the United Kingdom since 1992 to alleviate signs of opiate withdrawal such as chills, sweating, stomach cramps, muscle pain, and runny nose. It is under evaluation and could become available in the United States within the next five years, Vocci says. It is clinically equivalent to methadone, but it is not an opiate. It is similar to clonidine, a blood pressure medication that some physicians use off label to treat opioid withdrawal. Clonidine and Lofexidine suppress a brain system that is hyperactive during withdrawal, according to Vocci.

Perhaps the most exciting preclinical investigative study involves an opioid vaccine. The vaccine prevents addictive substances from ever reaching the abuser’s brain and prolongs the time a patient might not have to visit a clinic or doctor’s office for treatment. “A vaccine might extend the time between visits to three months,” Vocci says, adding

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<th>Typical stages of treatment</th>
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<td><strong>Stage</strong></td>
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<td>Induction</td>
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<td>Stabilization Inpatient</td>
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<td>(for severe cases of addiction)</td>
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<tr>
<td>Stabilization Outpatient</td>
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<tr>
<td>(for less severe cases of addiction)</td>
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<tr>
<td>Maintenance</td>
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that researchers are far closer to creating a vaccine for nicotine and cocaine than for opioids. Those studies are already in human testing.

One experimental Scottish treatment is neuroelectric therapy (NET) — passing a tiny, harmless electric current into the brain through a clip attached behind the ear. A box worn around the waist powers it. The aim is to stimulate the brain to release natural painkillers, endorphins, which help the opioid-dependent person to get through initial withdrawal. NET is thought to be a safer, more effective alternative to methadone.

It was made famous when rock stars Eric Clapton and Pete Townshend quit heroin with the help of NET. One researcher said he thinks the treatment works by speeding up the body’s natural recovery process.26

Another experimental treatment is deep brain stimulation. Electrodes are implanted deep inside the brain or just under the skull to deliver a tiny jolt of electricity to correct aberrant brain circuits.27 Also, there is an NIDA study under way in Russia using naltrexone implants that provide an opioid blockade for two months to prevent relapse. Implants also limit the possibility that patients will forget to take their medication.

Three treatment stages
Throughout most of the addiction treatment occupation’s short history, counseling has been provided by lay people who themselves battled dependence. People dependent on opioids relied on what worked for these people in the 1960s and 1970s. In the 1980s, the addiction field began to evaluate the effect of its methods and techniques. No longer was the accepted standard what worked for the previous counselor or an exclusively a 12-step approach.28 Eventually, there was a softening of policies that prohibited use of medications.19

Relapse
Sustained use of opioids brings about significant and long lasting chemical changes in the brain. These changes cause intense cravings and negative emotions when opioid-dependent persons try to stop. Because of this altered chemical state of the brain, most of those who recover require medication to correct these changes, much as a diabetic requires insulin to maintain a normal blood sugar level.26

Dependence, as with symptoms of any chronic disorder, may reappear periodically. This is especially true during periods of stress or when a person doesn’t follow medical advice closely.26 Relapse can occur during or after successful treatment episodes. It is particularly common among people abusing more than one substance.

Since treatment began a half century ago, the benchmark of success or recovery has been total abstinence. But new thinking suggests moderation may be a viable alternative. Harm reduction is an emerging trend in opioid abuse treatment. It describes any program or policy designed to reduce drug-related harm without requiring the cessation of drug use, such as needle and syringe exchange programs as well as drug replacement therapy.29 Patients give up high-risk behaviors such as crime and IV use that can lead to HIV/AIDS. This is congruent with the idea that dependence is a persistent illness that requires medication to improve functioning.19

Few are treated
Patients have typically been dependent for 10–15 years before entering treatment.30 They avoid treatment for years or take it in small doses, enough to refresh themselves before starting out on another binge. And less than 10 percent of substance abusers ever receive treatment, according to the not-for-profit Network for the Improvement of Addiction Treatment.31 When they do enroll, only 1 in 7 completes a program. Remaining in treatment for an adequate period is crucial for treatment effectiveness.32

The amount of insurance coverage held is directly related to sobriety. At least one study reports that people who have private insurance or who are financially well off are likely to complete opioid treatment.32

Opioid dependence accounts for the largest percentage of drug related admissions to substance abuse treatment facilities, more than marijuana, cocaine, or stimulants.
According to NIDA, full recovery is a challenge, but it is possible.

**Perfect storm**

Opioids are highly addictive, yet are being prescribed more and more. “It’s a bit of a perfect storm with an aging population and people getting heavier all the time,” says NIDA’s Vocci. “The biggest increase in prescribing has been for chronic nonmalignant pain—joint pain and back pain. We have a population that is becoming more obese and they are wearing their joints out faster. Obesity worsens back problems. There are an awful lot of people who get pain medications legitimately and who can sometimes segue into addiction.”

About 2 percent of people who take prescription opiates legitimately will develop some kind of dependence problem, Vocci says. There is a higher likelihood of dependence if they have a concurrent mental disorder or a history of drug dependence, he adds. Opioid dependence accounts for the largest percentage of drug related admissions to substance abuse treatment facilities, more than marijuana, cocaine, or stimulants. Drug replacement therapy is controversial in that some experts believe it is substituting one dangerous drug for another. Others, however, adhere to the notion that recovering from opioid abuse is not a matter of will power. Dependence is a physical illness treated by medications to assist an opioid abuser regain physical stability to get at psychological and other needs.

As of March 2008, there were no reports regarding the effectiveness of Suboxone in reducing opioid use to the point of discontinuation.

Behavioral therapy helps engage patients in drug abuse treatment. They modify their attitudes and behaviors related to drug abuse and increase life skills to handle stress and environmental cues that may trigger intense craving for drugs and prompt another cycle of compulsive abuse. These therapies can enhance the effectiveness of medications and help people remain in treatment.

**Endnotes**


Employers Address Opioid Dependence

Companies tackle problems in the workplace with new ideas and traditional programs

By MargaretAnn Cross  
Contributing Editor

As the use of opioid painkillers becomes more common in the United States, the burden of dependence on them is falling heavily on employers. More than 70 percent of people who misuse drugs are employed, and workplace costs such as absenteeism that stem from opioid dependence are higher than the related health care costs and criminal justice costs combined.

To combat those losses, employers are beginning to take a proactive role in fighting the problem. Dependence on opioids such as morphine, codeine, and oxycodone presents unique challenges to companies, even though employers for years have offered programs to help employees beat dependence on illegal drugs and alcohol. The difference is that employees often begin taking painkillers for a legitimate reason, and they are reluctant to admit they need assistance once they become dependent, clinical experts say. They also resist traditional treatment for drug abuse.

Yet it is because these are prescription medications that employers are able to take steps not possible with illegal drugs. They can, for example, encourage insurers to monitor pharmacy claims and address the issue with physicians. Employers are also educating employees about the dangers of dependence, training managers and executives on how to recognize problems, reviewing drug policies and testing procedures, and shoring up insurance benefits and employee assistance programs to ensure that coverage of effective treatment is available.

That kind of work is essential — and employers should be doing more, human resources professionals say, according to a recent survey by the Hazelden Foundation, a national organization that fights substance abuse.

“We are seeing a real lack of understanding regarding the number of people that dependence on opioids is affecting,” says Ron Finch, EdD, vice president of the National Business Group on Health.

Workplace challenges

Many human resource staffers say they lack experience and skills to deal with dependence

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<thead>
<tr>
<th>Percentage of HR professionals who say they face this challenge</th>
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<tr>
<td>Getting employees to acknowledge or talk about the issue</td>
<td>54%</td>
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<tr>
<td>Lack of experience in identifying substance abuse and addiction</td>
<td>20%</td>
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<tr>
<td>Lack of information regarding treatment options</td>
<td>16%</td>
</tr>
<tr>
<td>Personal discomfort in approaching employees about the issue</td>
<td>13%</td>
</tr>
<tr>
<td>Not having enough time to deal with substance abuse and addiction issues</td>
<td>13%</td>
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Source: Hazelden Foundation
“It’s not something that people want to own up to, and what concerns me is that not enough people are being treated.”

**Growing problem**

The impact of drug use on the workplace is not a new phenomenon, but the growing number of prescriptions being written for opioid painkillers has increased the number of people who are dependent on drugs. Retail sales of oxycodone jumped nearly six-fold between 1997 and 2005, according to an Associated Press analysis of statistics from the Drug Enforcement Administration. That has added a new, complex layer to the issue, says Neil A. Capretto, DO, medical director at Gateway Rehabilitation Center in Aliquippa, Pa. He gives talks to managers and human resources personnel to raise awareness and educate them about opioids (see “Reaching Out to Employers,” p. 23).

“It’s a growing problem across the country,” he says.

When used over a short term to treat pain, opioids are rarely addictive, but long-term use — which is often effective for chronic pain — can lead to dependence.

“This is a big issue, especially in the workers’ compensation arena, where people with back problems, for example, wind up on opioids for a long range of time,” says Robert S. Conte, MD, MPH, corporate medical director at CenterPoint Energy, an electric utility company. “And even though employees are supposed to tell us about any medications that could impact safety, most people don’t report it if their doctor puts them on opioids.”

Opioids are 1 of 3 classes of prescription drugs that are commonly misused. The others are central nervous system depressants, which are used to treat anxiety and sleep disorders, and stimulants, which are used to treat narcolepsy and attention-deficit hyperactivity disorder. People from teenagers to senior citizens are at risk for opioid dependence. Older, working class people who use pain medications in high numbers are facing a growing dependence, though the majority of people who develop the problem are in their 30s and 40s.

“Employers and employees have to be aware that just because something is prescribed, it doesn’t mean it can’t cause a problem,” says Beth Lundholm, manager of management services at Ceridian, a human resources company that offers employee assistance programs.

“Our primary issues used to be marijuana, cocaine, and alcohol, but we are seeing more people having problems with painkillers, and that is of great concern to employers,” says Lundholm’s colleague Suzanne Hickman, a clinical supervisor at Ceridian.

What makes the misuse of these drugs difficult to fight is that they have a huge momentum behind them, including big marketing dollars, Capretto says. In the late 1990s, the issue of pain management began to receive a lot of attention from the news media and health care providers. Pain became the fifth vital sign, he says. So when a nurse checks a patient’s body temperature, pulse, respiration, and blood pressure, he also asks, “How’s your pain?”

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**The power of knowledge**

HR professionals say educating themselves and their employees could help

| Percentage of HR professionals who say they or their companies would benefit from the solution |
|--------------------------------------------------|--------|
| Education programs in the workplace | 85% |
| Information on how to identify addiction in the workplace | 32% |
| Information on how to discuss the issues with employees | 25% |
| Information on how to choose the most effective treatment options for their employees | 19% |

Source: Hazelden Foundation
“That’s good medicine; we want to treat pain,” Capretto says. But increases in the use of opioid painkillers are fueling the growing incidence of dependence, he says.

History of help

Employers have been addressing the issue of drug abuse in the workplace for years. As cocaine and heroin use in the United States rose in the 1980s, many employers instituted drug testing initiatives and programs to help beat addictions. The United States issued its first drug testing standards for federal employees in 1988, and they include screening for opiates such as morphine and codeine. The government also enacted the Drug-Free Workplace Act of 1988, which requires some companies to institute drug-free policies to obtain government contracts. Today, the “Drug-Free Workplace” is also a common mantra, and almost all Fortune 500 companies have some form of drug testing program in place, experts say.

The transportation industry has mandated testing, for instance. Companies that are part of the American Trucking Association follow guidelines set by the Federal Motor Carrier Safety Administration, and drug tests include opioids. “Employees can take these kinds of drugs if they have a prescription and a doctor certifies that they are OK to drive,” says Christina Cullinan, director of workplace and fleet safety for the American Trucking Association. “But if they take a drug test and are found in violation of that, they have to go through an approved substance abuse treatment program if they want to come back to work.”

Other employers require drug tests only if a problem is suspected. At CenterPoint Energy, coworkers won’t hesitate to question a person whose behavior is odd, Conte says. “Anyone working on electric utility lines is going to pick up on someone acting strange very quickly,” he says, adding that the company has not had widespread problems with opioid dependence.

When employed men and women seek treatment, 65 percent keep their jobs

“History of help

Employers have been addressing the issue of drug abuse in the workplace for years. As cocaine and heroin use in the United States rose in the 1980s, many employers instituted drug testing initiatives and programs to help beat addictions. The United States issued its first drug testing standards for federal employees in 1988, and they include screening for opiates such as morphine and codeine. The government also enacted the Drug-Free Workplace Act of 1988, which requires some companies to institute drug-free policies to obtain government contracts. Today, the “Drug-Free Workplace” is also a common mantra, and almost all Fortune 500 companies have some form of drug testing program in place, experts say.

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Other employers require drug tests only if a problem is suspected. At CenterPoint Energy, coworkers won’t hesitate to question a person whose behavior is odd, Conte says. “Anyone working on electric utility lines is going to pick up on someone acting strange very quickly,” he says, adding that the company has not had widespread problems with opioid dependence.

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days in the year after treatment. The number of days those employees reported problems at work also fell from 5.3 days a month to 0.14 days. When employed men and women seek treatment, 65 percent keep their jobs and more than half are able to completely abstain for more than a year, according to the study.10

“Employed people with substance abuse disorders achieve significant gains after treatment,” says the study, written by Valerie J. Slaymaker and Patricia L. Owen. “Although these results have not been translated to dollar amounts, they have economic ramifications. The data reported indicate that it is in an employer’s best interests to recognize when job performance problems among women and men may be caused by substance dependence and to provide treatment.”10

It is clear that helping employees is worth the time and investment, says Bruce W. Cotter, whose Butler, Md.-based company Bruce W. Cotter & Associates helps companies set up interventional programs. Ignoring the problem or firing someone not only harms the employee, it harms the business, Cotter says. When an employee is dependent on drugs, he or she is only working at 70 percent of potential, at best, resulting in lost productivity. De-
Employees who find themselves addicted to painkillers that they started taking legitimately resist traditional treatment

Dependent employees also make poor decisions that cost companies money, and they have health complications that can add to overall health care tabs, he adds. Termination, however, can also be costly because of recruitment and retraining costs.

“Weigh this against helping an addicted executive return to work more effective and loyal than ever, and the reasons are prudent and clear,” Cotter says.

Access to treatment

More than 90 percent of human resource professionals agree that offering treatment is important, saying that effective programs increase employee productivity, according to the Hazelden Foundation. Yet employees have a hard time seeking help because they worry about the ramifications and don’t want to appear weak.

Educating employees about their rights and the programs that are available to them can help, experts say.

Whether employees ask for assistance or a manager refers them to a program, the process is extremely confidential, says Sally Littell, manager of the employee assistance program at Gateway Rehabilitation Center. “If an employee is working with an employee assistance program, information can only be given back to an employer with the signed consent of the employee. Even then, employers don’t know what drug the employee has been using, only that they are complying with a treatment program.”

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How to recognize drug dependence

Managers and human resources personnel can look for signs of a problem with medications

| Absenteeism. Is the employee frequently absent or late? Is he using increasingly unbelievable excuses? |
| On-the-job absenteeism. Does the employee take long coffee breaks, doze off on the job, or make frequent trips to the restroom? |
| High accident rate. Have you noticed an increase in accidents or near accidents? Does the employee disregard safety standards or fail to wear safety gear? |
| Difficulty concentrating. Does the employee take more time to complete tasks? Do work assignments appear to take a greater effort? |
| Confusion. Does the employee have trouble recalling instructions, coordinating schedules, or handling complex assignments? |
| Inconsistent work patterns. Does the employee alternate between high and low productivity or submit incomplete reports? |
| Reduced job knowledge or technical skill. Does the employee seem unable to work independently? |
| Has he forgotten his work tasks or used equipment incorrectly? |
| Motivation. Does the employee seem less committed to his job and unconcerned about quality? Is he less attentive to his appearance or personal hygiene? |
| Behavior/attitude. Is the employee withdrawn, improperly talkative, argumentative, or highly emotional? |
| Lower job quality/performance. Does the employee miss deadlines, make mistakes, or fail to follow procedures? Are coworkers complaining, or actually stepping in to do the employee’s work for him? |
| Lower quantity/productivity. Is the employee overwhelmed by his workload, falling behind in work, and unavailable for extra work? |
| Poor relationships on the job. Does the employee overreact to criticism or avoid professional activities? Is he unable to work with others? |

Source: Gateway Rehabilitation Center
Long-standing laws ensure this level of privacy, she adds. “The drug and alcohol privacy laws have been in place for 20 years, and they are stricter than those enacted by the Health Insurance Portability and Accountability Act.”

The Americans With Disabilities Act can also come into play. While the law does not give employees the right to go to work while taking drugs, it can be used to require employers to allow employees time off for treatment, Littell says.

It’s also important for employers to have their own written policies in place, she adds. The Department of Labor Web site offers a tool that employers can use to build policies (see “Resources for employers,” right). She recommends that a company notify employees 30 days before instituting any sort of drug testing program or drug policy.

The key to all of this is to make the work environment a place where employees feel safe asking for assistance, Capretto says. “Companies have to make it comfortable to come forward.”

Educating staff

One place many employers start to address opioid dependence is by educating employees as well as human resource staff members and managers about painkillers. HR professionals say they lack the experience and skills necessary to identify the misuse of medications (see “Workplace challenges,” page 21), and a majority believe that education programs in the workplace are an effective deterrent to dependence.

The most typical sign that an employee is having a problem is a change in work habits, says Littell. (see “How to Recognize Drug Dependence,” page 25). The employee may miss a lot of work or become isolated when he is at work, not acting as a team player.

People who are misusing painkillers also tend to nod repeatedly, Capretto says. “They look like someone who is trying to stay awake, and while some people are tired occasionally, if you see that repeatedly, you may start to wonder.”

If someone has become dependent, a drug test may uncover the problem — but only if opioids are part of the screening, Littell cautions, saying companies should make sure their drug testing vendor is screening for such prescription drugs. If a problem is found with prescription medications, a vendor will employ a drug review officer to look at a person’s medical records and determine whether the prescription is legitimate, Littell explains.

Once a problem is identified, a company should already have a treatment program in place, Capretto says. “The best programs have a balance of compassionate help and punitive measures that say, ‘We don’t tolerate this, but we will offer you help if you need it.’”

Companies should review the coverage offered by their insurance plans, in particular, Howard G. Birnbaum wrote in a study on the societal costs of opioid dependence: “Because the costs of opioid abuse are so significant, particularly in the workplace, employers may want to encourage managed

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**Resources for employers**

**Department of Labor Drug-Free Workplace Advisor**
http://www.dol.gov/elaws/drugfree.htm

**Institute for a Drug-Free Workplace**
http://www.drugfreeworkplace.org/informationsources.htm
Provides links to state and federal government contacts, non-governmental agencies, drug help lines, and drug-testing laboratories.

**National Institute on Drug Abuse**
http://www.nida.nih.gov/
Distributes research and other information on the problem of drug abuse as well as its prevention. Also covers governmental policies. Offers a workplace resources section at http://www.nida.nih.gov/infofacts/workplace.html.

**Partnership for a Drug-Free America**
http://www.drugfree.org
Not-for-profit coalition offers prevention-oriented advertising and educational materials for employees and managers.

**Substance Abuse and Mental Health Services Administration**
http://www.samhsa.gov
Offers a workplace programs Web site at and a workplace help line at 1-800-843-4971.

**Working Partners**
http://www.dol.gov/workingpartners/welcome.html
U.S. Department of Labor initiative designed to raise awareness about drug dependence in the workplace and encourage partnerships between employers and employees.
care organizations to provide additional resources for management of [opioid] abuse.”

Cigna Behavioral Health and other insurers are taking proactive measures to offer the latest treatments and to identify and help individuals who become dependent on prescription opioids.

In December 2006, Congress amended the Controlled Substances Act to give more physicians the ability to prescribe buprenorphine, a medication used to treat the condition. An article on this legislation begins on page 28.

**Evaluating vendors**

Asking questions about whether an insurer or employee assistance program can provide these kinds of services and cover effective medications may be key to ensuring that a company is well equipped to deal with opioid dependence, treatment experts say.

That matters because many people who have recovered from opioid dependence have relied on help from employers. More than 93 percent of employed people seeking treatment say their employer knew of their treatment, and 55 percent had access to an employee assistance program. About 23 percent of men and 9.6 percent of women report being sent to treatment by their employer. One year after treatment, 65 percent of people continue to work with the same employer.

“This is an important topic,” Capretto says. “If an employee has a problem, living with it is going to cause stress and that’s going to affect his work.”

And when an employee is referred to a program that can help — and is given an opportunity to save his job — the success rate is very high, says Gateway’s Littell. “Employers are all encouraging wellness in the workplace today, and this can be a part of that movement. When people have an opportunity to improve their work life and home life, they are very grateful and very loyal.”

**Endnotes**

Primary Care Physicians May Now Treat Opioid Dependence Directly

Coordinating care got a little bit easier — for providers and patients — with the passage of the Drug Addiction Treatment Act

BY MARTIN SIPKOFF
Contributing Editor

In the last several years, two concurrent events profoundly changed the characteristics and treatment of opioid addiction: a rise in the prescribing rate of pain relievers and the passage of a federal law that permits primary care physicians to treat opioid addiction in their offices using opioid-based medication.1

Between 1999 and 2002, oxycodone prescriptions increased 50 percent to 29 million, fentanyl prescriptions increased 150 percent to 4.6 million, and morphine prescriptions increased 60 percent to 3.8 million. The result has been an increase in abuse of prescription pain relievers, becoming the primary source of opioid dependence.2

The law meant to address this problem is the Drug Addiction Treatment Act of 2000 (DATA 2000). It allows “qualifying physicians to receive a waiver from the special registration requirements in the Controlled Substances Act for the provision of medication-assisted opioid therapy.”3

Two years after DATA 2000 was passed, the Food and Drug Administration approved the Schedule III opioid-based medication buprenorphine for use by physicians as a replacement therapy, meaning the drug could be used by physicians to reduce or even eliminate withdrawal symptoms without much of the euphoria associated with most other

Determining appropriateness of buprenorphine treatment

An approach to determining the suitability of buprenorphine as a treatment option for patients with opioid dependence is included in the Substance Abuse and Mental Health Services Administration’s (SAMHSA) guidelines. An evaluation includes determining whether appropriate patient motivation exists and ruling out contraindicating medical and psychiatric comorbidities.4

According to SAMHSA, patients for whom buprenorphine may be an appropriate treatment option are those who

- Are interested in treatment for opioid addiction.
- Have no contraindications to buprenorphine treatment
- Can be expected to be reasonably compliant with such treatment
- Understand the benefits and risks of buprenorphine treatment
- Are willing to follow safety precautions for buprenorphine treatment
- Agree to buprenorphine treatment after a review of treatment options

Patients considered less likely to be appropriate candidates for buprenorphine treatment of opioid addiction in an office-based setting are people whose circumstances or conditions include

- Comorbid dependence on high doses of benzodiazepines or other central nervous system depressants (including alcohol)
- Significant untreated psychiatric comorbidity
- Active or chronic suicidal or homicidal ideation or attempts
- Multiple previous treatments for drug dependence with frequent relapses (except that multiple previous detoxification attempts followed by relapse are a strong indication for long-term maintenance treatment)
- Poor response to previous treatment attempts with buprenorphine
- Significant medical complications
opioids. Buprenorphine is manufactured in two forms: Subutex (buprenorphine hydrochloride) and Suboxone (buprenorphine hydrochloride and naloxone hydrochloride).³

“DATA 2000 reflects a paradigm shift in the ability of the health care system to treat addiction by providing a treatment option for people with the disease,” says David Fiellin, MD, associate professor of medicine in the Department of Internal Medicine at the Yale University School of Medicine. He is an expert in the interface between substance abuse and primary care treatment.

“Before DATA 2000 and FDA approval of the use of buprenorphine, physicians simply were not allowed to treat opioid addiction outside of a clinic setting,” Fiellin adds. Patients “were treated in opioid . . . programs, such as methadone clinics, which often weren’t readily available. And methadone could only be dispensed, not prescribed. It was for on-site consumption. These new options attract more patients, with a meaningful rate of treatment success, especially for people addicted to pain relievers.”

DATA 2000 has specific requirements for physicians. They must obtain a waiver from the center for substance abuse treatment of the Substance Abuse and Mental Health Services Administration, and must be trained in addiction medicine.⁴ The law has been modified twice since 2000, each time allowing office-based physicians to treat more patients. As of 2006, individual physicians can treat up to 100 patients for opioid addiction.⁴ Between Nov. 1, 2001 and Nov. 30, 2006, about 12,000 physicians were trained to treat opioid dependence through replacement therapy.⁵

Office-based treatment with buprenorphine brings opioid dependence care into the mainstream of medical practice, expanding access to treatment, according to SAMHSA.⁶ “The expansion of available options for addressing opioid withdrawal is a help to us,” says Helen Taws, director of public advocacy programs at the Hazelden Center in Center City, Minn., one of the nation’s oldest substance abuse treatment centers. “When used in conjunction with proper counseling, it can be effective.”

SAMHSA research appears to bear that out. In 2006, SAMHSA completed an evaluation of the DATA 2000 waiver program, with some compelling results. Physicians who had received waivers reported a high level of effectiveness: 74 percent indicated buprenorphine treatment of one month or longer was very effective, and 96 percent said it was at least somewhat effective.⁷

**Results**

Six months after initiation of treatment, buprenorphine patients reported abstinence rates from all drugs of 59 percent. From opioids, the abstinence rate was 81 percent. (However, at the six-month point, abstinence rates for persons initially abusing primarily heroin or heroin and prescription opioids were significantly lower than the rate for persons abusing prescription opioids only.)⁷

Because buprenorphine is an opioid, its use carries some potential for abuse. The FDA’s Center for Drug Evaluation and Research therefore developed guidelines for determining whether DATA 2000 waivers led to abuse. The FDA receives quarterly reports from the manufacturer and other agencies to maintain a comprehensive surveillance program.⁸

“As employers and payers begin to understand that opioid addiction, like all addictions, is a disease, they are expanding their coverage,” Fiellin says. “The science is evolving and so are our societal attitudes. Recognition of the value of a medical approach to opioid addiction is growing steadily.”

**Endnotes**