PRINCIPLES OF DRUG ABUSE TREATMENT FOR CRIMINAL JUSTICE POPULATIONS

1 Drug addiction is a brain disease that affects behavior. Drug addiction has well-recognized cognitive, behavioral, and physiological characteristics that contribute to continued use of drugs despite the harmful consequences. Scientists have also found that chronic drug abuse alters the brain's anatomy and chemistry and that these changes can last for months or years after the individual has stopped using drugs. This transformation may help explain why addicts are at a high risk of relapse to drug abuse even after long periods of abstinence and why they persist in seeking drugs despite deleterious consequences.

Z Recovery from drug addiction requires effective treatment, followed by management of the problem over time. Drug addiction is a serious

problem that can be treated and managed throughout its course. Effective drug abuse treatment engages participants in a therapeutic process, retains them in treatment for an appropriate length of time, and helps them learn to maintain abstinence over time. Multiple episodes of treatment may be required. Outcomes for drug abusing offenders in the community can be improved by monitoring drug use and by encouraging continued participation in treatment.

3. Treatment must last long enough to produce stable behavioral changes. In treatment, the drug abuser is taught to break old patterns of thinking and behaving and to learn new skills for avoiding drug use and criminal behavior. Individuals with severe drug problems and co-occurring disorders typically need longer treatment (e.g., a minimum of 3 months) and more

PRINCIPLES

comprehensive services. Early in treatment, the drug abuser begins a therapeutic process of change. In later stages, he or she addresses other problems related to drug abuse and learns how to manage the problem.

4. Assessment is the first step in treatment.

A history of drug or alcohol use may suggest the need to conduct a comprehensive assessment to determine the nature and extent of an individual's drug problems, establish whether problems exist in other areas that may affect recovery, and enable the formulation of an appropriate treatment plan. Personality disorders and other mental health problems are prevalent in offender populations; therefore, comprehensive assessments should include mental health evaluations with treatment planning for these problems.

D. Tailoring services to fit the needs of the individual is an important part of effective drug abuse treatment for criminal justice populations.

Individuals differ in terms of age, gender, ethnicity and culture, problem severity, recovery stage, and level of supervision needed. Individuals also respond differently to different treatment approaches and treatment providers. In general, drug treatment should address issues of motivation, problemsolving, and skill-building for resisting drug use and criminal behavior. Lessons aimed at supplanting drug use and criminal activities with constructive activities and at understanding the consequences of one's behavior are also important to include. Treatment interventions can facilitate the development of healthy interpersonal relationships and improve the participant's ability to interact with family, peers, and others in the community.

6 Drug use during treatment should be carefully monitored. Individuals trying to recover from drug addiction may experience a relapse, or return, to drug use. Triggers for drug relapse are varied; common ones include mental stress and associations with peers and social situations linked to drug use. An undetected relapse can progress to serious drug abuse, but detected use can present

opportunities for therapeutic intervention. Monitoring drug use through urinalysis or other objective methods, as part of treatment or criminal justice supervision, provides a basis for assessing and providing feedback on the participant's treatment progress. It also provides opportunities to intervene to change unconstructive behavior—determining rewards and sanctions to facilitate change, and modifying treatment plans according to progress.

7 Treatment should target factors that are associated with criminal behavior. "Criminal thinking" is a combination of attitudes and beliefs that support a criminal lifestyle and criminal behavior. These can include feeling entitled to have things one's own way, feeling that one's criminal behavior is justified, failing to be responsible for one's actions, and consistently failing to anticipate or appreciate the consequences of one's behavior. This pattern of thinking often contributes to drug use and criminal behavior. Treatment that provides specific cognitive skills training to help individuals recognize errors in judgment that lead to drug abuse and criminal behavior may improve outcomes.

8. Criminal justice supervision should incorporate treatment planning for drug abusing offenders, and treatment providers should be aware of correctional supervision requirements.

The coordination of drug abuse treatment with correctional planning can encourage participation in drug abuse treatment and can help treatment providers incorporate correctional requirements as treatment goals. Treatment providers should collaborate with criminal justice staff to evaluate each individual's treatment plan and ensure that it meets correctional supervision requirements, as well as that person's changing needs, which may include housing and childcare; medical, psychiatric, and social support services; and vocational and employment assistance. For offenders with drug abuse problems, planning should incorporate the transition to community-based treatment and links to appropriate postrelease services to improve the success of drug treatment and re-entry. Abstinence requirements may necessitate a rapid clinical response, such as more counseling,

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targeted intervention, or increased medication, to prevent relapse. Ongoing coordination between treatment providers and courts or parole and probation officers is important in addressing the complex needs of these re-entering individuals.

9. Continuity of care is essential for drug abusers re-entering the community. Those who

complete prison-based treatment and continue with treatment in the community have the best outcomes. Continuing drug abuse treatment helps the recently released offender deal with problems that become relevant only at re-entry, such as learning to handle situations that could lead to relapse, learning how to live drug-free in the community, and developing a drug-free peer support network. Treatment in prison or jail can begin a process of therapeutic change, resulting in reduced drug use and criminal behavior postincarceration. Continuing drug treatment in the community is essential to sustaining these gains.

10. A balance of rewards and sanctions encourages prosocial behavior and treatment

participation. When providing correctional supervision of individuals participating in drug abuse treatment, it is important to reinforce positive behavior. Nonmonetary "social reinforcers" such as recognition for progress or sincere effort can be effective, as can graduated sanctions that are consistent, predictable, and clear responses to noncompliant behavior. Generally, less punitive responses are used for early and less serious noncompliance, with increasingly severe sanctions issuing from continued problem behavior. Rewards and sanctions are most likely to have the desired effect when they are perceived as fair and when they swiftly follow the targeted behavior.

11. Offenders with co-occurring drug abuse and mental health problems often require an integrated treatment approach. High rates of mental health problems are found both in offender populations and in those with substance abuse problems. Drug abuse treatment can sometimes address depression, anxiety, and other mental health problems. Personality, cognitive, and other serious mental disorders can be difficult to treat and may disrupt drug treatment. The presence of co-occurring disorders may require an integrated approach that combines drug abuse treatment with psychiatric treatment, including the use of medication. Individuals with either a substance abuse or mental health problem should be assessed for the presence of the other.

12. Medications are an important part of treatment for many drug abusing offenders.

Medicines such as methadone and buprenorphine for heroin addiction have been shown to help normalize brain function and should be made available to individuals who could benefit from them. Effective use of medications can also be instrumental in enabling people with cooccurring mental health problems to function successfully in society. Behavioral strategies can increase adherence to medication regimens.

13. Treatment planning for drug abusing offenders who are living in or re-entering the community should include strategies to prevent and treat serious, chronic medical conditions, such as HIV/AIDS, hepatitis B and C, and tuberculosis.

The rates of infectious diseases, such as hepatitis, tuberculosis, and HIV/AIDS, are higher in drug abusers, incarcerated offenders, and offenders under community supervision than in the general population. Infectious diseases affect not just the offender, but also the criminal justice system and the wider community. Consistent with Federal and State laws, drug-involved offenders should be offered testing for infectious diseases and receive counseling on their health status and on ways to modify risk behaviors. Probation and parole officers who monitor offenders with serious medical conditions should link them with appropriate healthcare services, encourage compliance with medical treatment, and re-establish their eligibility for public health services (e.g., Medicaid, county health departments) before release from prison or jail.



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From the time it was established in 1974, the National Institute on Drug Abuse (NIDA) has supported research on drug abuse treatment for people involved with the criminal justice system.

Findings show unequivocally that providing comprehensive drug abuse treatment to criminal offenders works, reducing both drug abuse and criminal recidivism. Given the swelling prison population, attributable in large part to drug-related offenses accompanied by high rates of recidivism, it is a matter of public health and safety to make drug abuse treatment a key component of the criminal justice system. Indeed, addressing the treatment needs of substance abusing offenders is critical to reducing overall crime and other drugrelated societal burdens, such as lost job productivity.

Scientific research shows that drug abuse treatment can work even when an individual enters it under legal mandate. However, only a small percentage of those who need treatment actually receive it, and often the treatment provided is not sufficient. To be

PREFACE

effective, treatment must begin in prison and be sustained after release through participation in community treatment programs. By engaging in a continuing therapeutic process, people can learn how to avoid relapse and withdraw from a life of crime.

As reflected in our collaborative Criminal Justice–Drug Abuse Treatment Studies (CJ–DATS) Initiative, NIDA is committed to working across organizational boundaries to improve substance abuse treatment services. Multiple studies from different scientific disciplines have helped us understand the basic neurobiology of addiction, along with what constitutes effective treatment to help individuals recover. Increased understanding of the complex biological, behavioral, and social consequences of addiction helps to strengthen behavioral and medical interventions aimed at motivating and sustaining abstinence.

This booklet—a complement to NIDA's *Principles of Drug Addiction Treatment: A Research-Based Guide*—is intended to describe the treatment principles and research findings that have particular relevance to the criminal justice community and to treatment professionals working with drug abusing offenders. It is divided into three main sections: (1) research findings on addicted offenders distilled into 13 essential principles (see pages 1–5), (2) a series of frequently asked questions (FAQs) about drug abuse treatment for those involved with the criminal justice system, and (3) a resource section that provides Web sites for additional information. A summary of the research underlying both the principles and the FAQs is available on NIDA's Web site at www.drugabuse.gov.

With the release of this landmark publication's revised edition, we are optimistic that correctional agencies are starting to realize how implementing drug treatment programs can help achieve public health and safety goals for the Nation.

Nora D. Volkow, M.D. Director National Institute on Drug Abuse

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INTRODUCTION

The connection between drug abuse and crime is well known.

Drug abuse is implicated in at least three types of drug-related offenses: (1) offenses defined by drug possession or sales, (2) offenses directly related to drug abuse (e.g., stealing to get money for drugs), and (3) offenses related to a lifestyle that predisposes the drug abuser to engage in illegal activity, for example, through association with other offenders or with illicit markets. Individuals who use illicit drugs are more likely to commit crimes, and it is common for many offenses, including violent crimes, to be committed by individuals who had used drugs or alcohol prior to committing the crime, or who were using at the time of the offense.

After a nationally representative survey of State correctional agencies was conducted in 2005, Criminal Justice–Drug Abuse Treatment Studies (CJ–DATS) investigators estimated that nearly 8 million adults are involved in the justice system (Taxman, Young, Wiersema, et al., 2007). Almost 5 million individuals are on probation or under parole supervision (Glaze and Bonczar, 2006; Taxman, Young, Wiersema, et al., 2007), with drug law violators accounting for the largest percentage of these parolees. The substance abuse or dependence rates of offenders are more than four times that of the general population (National Institute of Justice, 2003; U.S. Department of Health and Human Services, 2006). In a 2004 survey, the Bureau of Justice Statistics (BJS) estimated that about 53 percent of State and 45 percent of Federal prisoners met *Diagnostic and Statistical Manual for Mental Disorders* (DSM) criteria for drug abuse or dependence (Mumola and Karberg, 2006). Of those surveyed, 14.8 percent of State and 17.4 percent of Federal prisoners reported having received drug treatment since admission (Mumola and Karberg, 2006). Juvenile justice systems also report high levels of drug abuse. A survey of juvenile detainees in 2000 found that about 56 percent of the boys and 40 percent of the girls tested positive for drug use at the time of their arrest (National Institute of Justice, 2003).

Although the past several decades have witnessed an increased interest in providing substance abuse treatment services for criminal justice offenders, only a small percentage of offenders has access to adequate services, especially in jails and community correctional facilities (Taxman, Perdoni, and Harrison, 2007). Not only is there a gap in the availability of these services for

Treatment offers the best alternative for interrupting the drug abuse/criminal justice cycle.

offenders, but often there are few choices in the types of services provided. Treatment that is of insufficient quality and intensity or that is not well suited to the needs of offenders may not yield meaningful reductions in drug use and recidivism. Untreated substance abusing offenders are more likely than treated offenders to relapse to drug abuse and return to criminal behavior. This can bring about re-arrest and re-incarceration, jeopardizing public health and public safety and taxing criminal justice system resources. Treatment offers the best alternative for interrupting the drug abuse/criminal justice cycle for offenders with drug abuse problems.

Drug abuse treatment can be incorporated into criminal justice settings in a variety of ways. These include treatment as a condition of probation, drug courts that blend judicial monitoring and sanctions with treatment, treatment in prison followed by community-based treatment after release, and treatment under parole or probation supervision. Drug abuse treatment can benefit from the crossagency coordination and collaboration of criminal justice professionals, substance abuse treatment providers, and other social service agencies. By working together, the criminal justice and treatment systems can optimize resources to benefit the health, safety, and well-being of the individuals and communities they serve.

FREQUENTLY ASKED T

1. Why do people involved in the criminal justice system continue abusing drugs?

The answer to this perplexing question spans basic neurobiological, psychological, social, and environmental factors. The repeated use of addictive drugs eventually changes how the brain functions. Resulting brain changes, which accompany the transition from voluntary to compulsive drug use, affect the brain's natural inhibition and reward

centers, causing the addict to use drugs in spite of the adverse health, social, and legal consequences (Volkow, Fowler, Wang, et al., 1993; Volkow. Hitzemann. Wang, et al., 1992; Volkow and Li. 2004). Craving for drugs may be triggered by contact with the people, places, and things associated with prior drug use, as well as by stress.

Addictive drugs cause long-lasting changes in the brain



metabolism has not returned to normal levels.

Forced abstinence without treatment does not cure addiction. Abstinent individuals must still learn how to avoid relapse, including those who have been incarcerated and may have been abstinent for a long period of time.

Potential risk factors for released offenders include pressures from peers and even family members to return to drug use and a criminal lifestyle. Tensions of daily life—violent associates, few opportunities for legitimate employment, lack of safe housing, even the need to comply with correctional supervision conditions—can also create stressful situations that can precipitate a relapse to drug use.

Research on how the brain is affected by drug abuse promises to help us learn much more about the mechanics of drug-induced brain changes and their relationship to addiction. Research also reveals that with effective drug abuse treatment, individuals can overcome persistent drug effects and lead healthy, productive lives.

2. Why should drug abuse treatment be provided to offenders?

The case for treating drug abusing offenders is compelling. Drug abuse treatment improves outcomes for drug abusing offenders and has beneficial effects for public health and safety. Effective treatment decreases future drug use and drug-related criminal behavior, can improve the individual's relationships with his or her family, and may improve prospects for employment.

Outcomes for substance abusing individuals can be improved when criminal justice personnel work in tandem with treatment providers on drug abuse treatment needs and supervision requirements. Treatment needs that can be assessed after arrest include substance abuse severity, mental health problems, and physical health. Defense attorneys, prosecutors, and judges need to work together during the prosecution and sentencing phases of the criminal justice process to determine suitable treatment programs that meet the offender's needs. Through drug courts, diversion programs, pretrial release programs conditional on treatment, and conditional probation with sanctions, the offender can participate in community-based drug abuse treatment while under criminal justice supervision. In some instances, the judge may recommend that the offender participate in treatment while serving jail or prison time or require it as part of continuing correctional supervision postrelease.

3. How effective is drug abuse treatment for criminal justice-involved individuals?

Treatment is an effective intervention for drug abusers, including those who are involved with the criminal justice system. However, the effectiveness of drug treatment depends on both the individual and the program, and on whether interventions and treatment services are available and appropriate for the individual's needs. To amend attitudes, beliefs, and behaviors that support drug use, the drug abuser must engage in a therapeutic change process. Longitudinal outcome studies find that those who participate in communitybased drug abuse treatment programs commit fewer crimes than those who do not participate.

4. Are all drug abusers in the criminal justice system good candidates for treatment?

A history of drug use does not in itself indicate the need for drug abuse treatment. Offenders who meet drug dependence criteria should be given higher priority for treatment than those who do not. Less intensive interventions, such as drug abuse education or selfhelp participation, may be appropriate for

those not meeting criteria for drug dependence. Services such as family-based interventions for juveniles, psychiatric treatment, or cognitive-behavioral "criminal thinking" interventions may be a higher priority for some offenders, and individuals with mental health problems may require specialized services (see FAQ Nos. 6 and 12).

Outcomes can be improved when criminal justice personnel work in tandem with treatment providers.

Low motivation to participate in treatment or to end drug abuse should not preclude access to treatment if other criteria are met. Motivational enhancement interventions may be useful in these cases. Examples include motivational interviewing and contingency management techniques, which often provide tangible rewards in

exchange for meeting program goals. Legal pressure that encourages abstinence and treatment participation may also help these individuals by improving retention and catalyzing longer treatment stays.

Drug abuse treatment is also effective for offenders who have a history of serious and violent crime, particularly if they receive intensive, targeted services. The economic benefits in avoided crime and costs to crime victims (e.g., medical costs, lost earnings, and loss in quality of life) may be substantial for these high-risk offenders. Treating them requires a high degree of coordination between drug abuse treatment providers and criminal justice personnel to ensure that treatment and criminogenic needs are appropriately addressed.

5 Is legally mandated treatment effective?

Legal pressure can increase treatment attendance and improve retention. Often the criminal justice system can apply legal pressure to encourage offenders to participate in drug abuse treatment; or treatment can be mandated, for example, through a drug court or as a condition of pretrial release, probation, or parole. A large percentage of those admitted to drug abuse treatment cite legal pressure as an important reason for seeking treatment. Most studies suggest that outcomes for those

who are legally pressured to enter treatment are as good as or better than outcomes for those who entered treatment without legal pressure. Those under legal pressure also tend to have higher attendance rates and to remain in treatment for longer periods, which can also have a positive impact on treatment outcomes.

O Are relapse risk factors different in offender populations? How should drug abuse treatment deal with these risk factors?

Often, drug abusing offenders have problems in other areas. Examples include family difficulties, limited social skills, educational and employment problems, mental health disorders, infectious diseases, and other medical problems. Treatment should take these problems into account, because they can increase the risk of drug relapse and criminal recidivism if left unaddressed.

Stress is often a contributing factor to relapse, and offenders who are re-entering society face many challenges and stressors, including reuniting with family members, securing housing, and complying with criminal justice supervision requirements. Even the many daily decisions that most people face can be stressful for those recently released from a highly controlled prison environment.

Other threats to recovery include a loss of support from family or friends, which incarcerated people may experience. Drug abusers returning to the community may also encounter family, friends, or associates still involved in drugs or crime and be enticed to resume a criminal and drug using lifestyle.

Returning to environments associated with drug use may trigger cravings and cause a relapse.

Returning to environments or activities associated with prior drug use may trigger strong cravings and cause a relapse. A coordinated approach by treatment and criminal justice staff provides the best way to detect and intervene with these and other threats to recovery. In any case, treatment is needed to provide the skills necessary to avoid or cope with situations that could lead to relapse.

Treatment staff should identify the offender's unique relapse risk factors and periodically re-assess and modify the treatment plan as needed. Generally, continuing or re-emerging drug use during treatment requires a clinical response—either increasing the "dosage" or level of treatment, or changing the treatment intervention.

7. What treatment and other health services should be provided to drug abusers involved with the criminal justice system?

One of the goals of treatment planning is to match evidence-based interventions to individual needs at each stage of drug treatment. Over time, various combinations of treatment services may be required. Evidence-based interventions include cognitive-behavioral therapy to help participants learn positive social and coping skills, contingency

management approaches to reinforce positive behavioral change, and motivational enhancement to increase treatment engagement and retention. In those addicted to opioid drugs, agonist/partial agonist medications can also help normalize brain function, and antagonist medications can facilitate abstinence. For juvenile offenders, treatments that involve the family and other aspects of the drug abuser's environment have established efficacy.

Drug abuse treatment plans for incarcerated offenders can anticipate their eventual re-entry into the community by incorporating relevant transition plans and services. Drug abusers often have mental and physical health, family counseling, parenting, educational, and vocational needs, so medical, psychological, and social services are often crucial components of successful treatment. Case management approaches can be used to provide assistance in obtaining drug abuse treatment and community services.

8. How long should drug abuse treatment last for individuals involved in the criminal justice system?

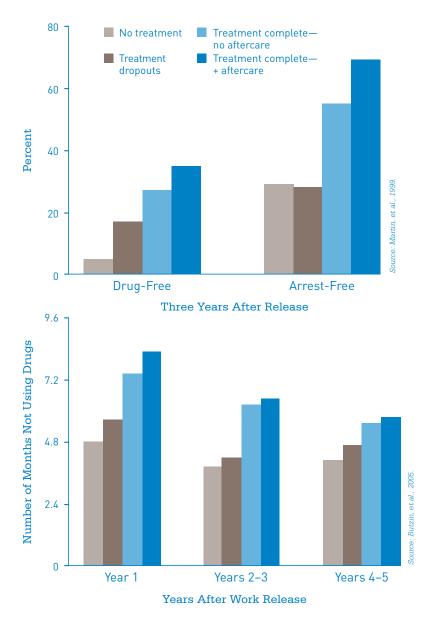
While individuals progress through drug abuse treatment at different rates, one of the most reliable findings in treatment research is that lasting reductions in criminal activity and drug abuse are related to length of treatment. Generally, better outcomes are associated with treatment that lasts longer than 90 days, with the greatest reductions in drug abuse and criminal behavior accruing to those who complete treatment. Again, legal pressure can improve retention rates.

A longer continuum of treatment may be indicated for individuals with severe or multiple problems. Research has shown that participation in a prison-based therapeutic community followed by communitybased treatment after release can reduce the risk of recidivism to criminal behavior as well as relapse to drug use.

Early phases of treatment help the participant stop using drugs and begin a therapeutic process of change. Later stages address other problems related to drug abuse and, importantly, help the individual learn how to self-manage the drug problem.

Treatment in the criminal justice system reduces drug abuse and recidivism

Delaware Work Release Therapeutic Community + Aftercare



Because addiction is a chronic disease, drug relapse and return to treatment are common features of an individual's path to recovery, so treatment may need to extend over a long period of time and across multiple episodes of care. It is also the case that those with the most severe problems can participate in treatment and achieve positive outcomes.

9. How can rewards and sanctions be used effectively with druginvolved offenders in treatment?

The systematic application of behavioral management principles underlying reward and punishment can help individuals reduce their drug use and criminal behavior. Rewards and sanctions are most likely to change behavior when they are certain to fol-

It is important to recognize and reinforce progress toward responsible, abstinent behavior. low the targeted behavior, when they follow swiftly, and when they are perceived as fair. It is important to recognize and reinforce progress toward responsible, abstinent behavior. Rewarding positive behavior is more effective in producing long-term positive change than punishing negative behavior. Nonmonetary rewards such as social recognition can be as effective

as monetary rewards. A graduated range of rewards given for meeting predetermined goals can be an effective strategy. In community-based treatment, contingency management strategies use voucher-based incentives or rewards, such as bus tokens, to reinforce abstinence (measured by negative drug tests) or to shape progress toward other treatment goals, such as program session attendance or compliance with medication regimens. Contingency management is most effective when the contingent reward closely follows the behavior being monitored.

Graduated sanctions, which invoke less punitive responses for early and less serious noncompliance and increasingly severe sanctions for more serious or continuing problems, can be an effective tool in conjunction with drug testing. The effective use of graduated sanctions involves consistent, predictable, and clear responses to noncompliant behavior. Drug testing can determine when an individual is having difficulties with recovery. The first response to drug use detected through urinalysis should be clinical—for example, an increase in treatment intensity or a change to an alternative treatment. This often requires coordination between the criminal justice staff and the treatment provider. (Note that more intensive treatment should not be considered a sanction, but rather a routine progression in healthcare practice when a treatment appears less effective than expected.)

Behavioral contracting can employ both rewards and sanctions. A behavioral contract is an explicit agreement between the participant and the treatment provider or criminal justice monitor (or among all three) that specifies proscribed behaviors and associated sanctions, as well as positive goals and rewards for success. Behavioral contracting can instill a sense of procedural justice because both the necessary steps toward progress and the sanctions for violating the contract are specified and understood in advance.

10. What is the role of medications in treating substance abusing offenders?

Medications can be an important component of effective drug abuse treatment for offenders. By allowing the body to function normally, they enable the addict to leave behind a life of crime and drug abuse.

For example, opioid agonist/partial agonist medications, which act at the same receptors as heroin, morphine, and natural brain chemicals (endorphins), tend to be well tolerated and can help an individual remain in treatment. Antagonist medications, which work by blocking the effects of a drug, are effective but often are not taken as prescribed. Despite evidence of their effectiveness, addiction medications are

Medications can be an important component of effective addiction treatment for offenders.

underutilized in the treatment of drug abusers within the criminal justice system. Still, some jurisdictions have found ways to successfully implement medication therapy for drug abusing offenders.

Effective medications have been developed for opiates/heroin and alcohol:

- **Opiates/Heroin**. Long-term opiate abuse results in a desensitization of the brain's opiate receptors to endorphins, the body's natural opioids. Methadone acts on the same receptors as the natural endorphins, stabilizing the craving that otherwise results in compulsive use of heroin or other illicit opiates. Methadone is effective in reducing opiate use, drug-related criminal behavior, and HIV risk behavior. Buprenorphine is a partial agonist and acts on the same receptors as morphine (a full agonist), but without producing the same level of dependence or withdrawal symptoms. Suboxone® is a unique formulation of buprenorphine that contains naloxone, an opioid antagonist, which limits diversion by causing severe withdrawal symptoms in those who inject it to get "high," but has no adverse effects when taken orally, as prescribed. Naltrexone, an opiate antagonist, blocks the effects of opiates.
- Alcohol. Disulfiram (also known as Antabuse) is an aversion therapy that induces nausea if alcohol is consumed. Acamprosate works by restoring normal balance to the brain's glutamate neurotransmitter system, helping to reduce alcohol craving. Naltrexone, which blocks some of alcohol's pleasurable effects, is also approved by the Food and Drug Administration (FDA) for treatment of alcohol abuse.

11. How can the criminal justice and drug abuse treatment systems reduce the spread of HIV/AIDS, hepatitis, and other infectious diseases among drug abusing offenders?

It is critical for the criminal justice and drug abuse treatment systems to be involved in efforts to reduce the spread of HIV/AIDS and other infectious diseases, which occur at higher rates among drug abusers in the criminal justice system than among the general population. The prevalence of AIDS has been estimated to be approximately five times higher among incarcerated offenders than in the general population. In addition, individuals in the criminal justice system represent a significant portion of hepatitis B, hepatitis C, and tuberculosis cases in the United States. Although most infectious diseases are contracted in the community and not in correctional settings, they must be treated in the correctional setting once diagnosed. Infectious diseases among offenders who are re-entering or living within the community present a serious public health challenge. While incarcerated, offenders often have access to adequate healthcare, which offers opportunities for integrating strategies to address

medical, mental health, and drug abuse problems. Offenders with infectious diseases who are returning to their communities should be linked with community-based medical care prior to release. Community health, drug treatment, and criminal justice agencies should work together to offer education, screening, counseling, prevention, and treat-

The prevalence of AIDS is five times higher among incarcerated offenders than the general population.

ment programs for HIV/AIDS, hepatitis, and other infectious diseases to offenders in or returning to the community. Drug abuse treatment can decrease the spread of infectious disease by reducing high-risk behaviors such as needle sharing and unprotected sex.

The need to negotiate access to health services and adhere to complex treatment protocols places a large burden on the addicted offender, and many offenders fall through the cracks. Untreated or deteriorating medical or mental health problems increase the risk of relapse to drug abuse and to possible re-arrest and re-incarceration.

12. What works for offenders with co-occurring substance abuse and mental disorders?

It is important to adequately assess mental disorders and to address them as part of effective drug abuse treatment. Many types of cooccurring mental health problems can be successfully addressed in standard drug abuse treatment programs. However, individuals with serious mental disorders may require an integrated treatment approach designed for treating patients with co-occurring mental health problems and substance use disorders. Although not readily available, specialized therapeutic community "MICA" (for "mentally ill chemical abuser") programs are promising for patients with cooccurring mental and addictive problems.

Much progress has been made in developing effective medications for treating mental disorders, including a number of antidepressants, antianxiety agents, mood stabilizers, and antipsychotics. These medications may be critical for treatment success with offenders who have co-occurring mental disorders such as depression, anxiety disorders, bipolar disorder, or schizophrenia. Cognitive-behavioral therapy can be effective for treating some mental health problems, particularly when combined with medications. Contingency management can improve adherence to medications, and intensive case management may be useful for linking severely mentally ill individuals with drug abuse treatment, mental health care, and community services.

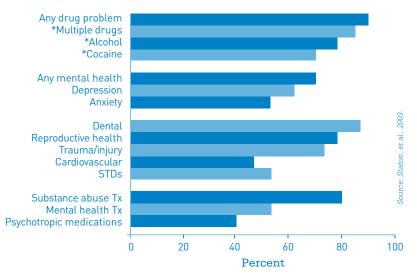
13. Is providing drug abuse treatment to offenders worth the financial investment?

In 2002, it was estimated that the cost to society of drug abuse was \$180.9 billion (Office of National Drug Control Policy [ONDCP], 2004), a substantial portion of which—\$107.8 billion—is associated with drug-related crime, including criminal justice system costs and costs borne by victims of crime. The cost of treating drug abuse (including research, training, and prevention efforts) was estimated to be \$15.8 billion, a fraction of these overall societal costs (ONDCP, 2004).

The largest economic benefit of treatment is seen in avoided costs of crime. Drug abuse treatment is cost effective in reducing drug use and bringing about associated healthcare, crime, and incarceration cost savings. Positive net economic benefits are consistently found for drug abuse treatment across various settings and populations. The largest economic benefit of treatment is seen in avoided costs of crime (incarceration and victimization costs), with greater economic benefits result-

ing from treating offenders with co-occurring mental health problems and substance use disorders. Residential prison treatment is more cost effective if offenders attend treatment postrelease, according to research (Martin, Butzin, Saum, and Inciardi, 1999). Drug courts also convey positive economic benefits, including participant-earned wages and avoided incarceration and future crime costs.

Incarcerated women have high rates of substance abuse, mental disorders, and other health problems



*Note: Graph shows lifetime percentages except for multiple drugs, alcohol, and cocaine, which are the percent reporting use in the 30 days prior to incarceration. (N=60)

14. What are the unique treatment needs for women in the criminal justice system?

Although women are incarcerated at far lower rates than men, the number and percentage of incarcerated women have grown substantially in recent years. Between 1995 and 2005, the number of men in prisons and jails grew by about a third, while the number of incarcerated women more than doubled (Harrison and Beck, 2006). Women in prison are likely to have a different set of problems and needs than men, presenting particular treatment challenges. For example, incarcerated women in treatment are significantly more likely than incarcerated men to have severe substance abuse histories, as well as co-occurring physical health and psychological problems (Messina, Burdon, Hagopian, and Prendergast, 2006). Approximately 50 percent of female offenders are likely to have histories of physical

or sexual abuse. Women are also more likely than men to be victims of domestic violence. Past or current victimization can contribute to drug or alcohol abuse, depression, post-traumatic stress disorder, and criminal activity.

Treatment programs serving both men and women can provide effective treatment for their female clients. However, gender-specific programs may be more effective for female offenders, particularly those with histories of trauma and abuse. Female offenders are more likely to need medical and mental health services, childcare services, and assistance in finding housing and employment. Following a comprehensive assessment, women with mental health disorders should receive appropriate treatment and case management, including victim services as needed. For female offenders with children, parental responsibilities can conflict with their ability to participate in drug treatment. Regaining or retaining custody of their children can also motivate mothers to participate in treatment. Treatment programs may improve retention by offering childcare services and parenting classes.

15. What are the unique treatment needs of juveniles in the criminal justice system?

In recent years, there has been a dramatic increase in the number of juveniles with substance abuse problems involved in the criminal and juvenile justice systems. From 1986 to 1996, drug-related juvenile incarcerations increased nearly threefold. In 2002, about 60 percent of

Effective treatment of juvenile substance abusers often requires a family-based treatment model. detained boys and nearly half of the girls tested positive for drug use. The number of juvenile court cases involving drug offenses more than doubled between 1993 and 1998, and 116,781 adolescents under the age of 18 were arrested for drug violations in 2002. One study found that about one-half of both male and female juvenile detainees met criteria for a substance use disorder (Teplin, Abram, McClelland, et al., 2002).

Juveniles entering the criminal justice system can bring a number of serious issues with them—substance abuse, academic failure,

emotional disturbances, physical health issues, family problems, and a history of physical or sexual abuse. Girls make up nearly one-third of juvenile arrests, a high percentage reporting some form of emotional, physical, or sexual abuse. Effectively addressing these issues requires their gaining access to comprehensive assessment, treatment, case management, and support services appropriate for their age and developmental stage. Assessment is particularly important, because not all adolescents who have used drugs need treatment. For those who do, there are several points in the juvenile justice continuum where treatment has been integrated, including juvenile drug courts, community-based supervision, juvenile detention, and community re-entry.

Families play an important role in the recovery of substance abusing juveniles, but this influence can be either positive or negative. Parental substance abuse or criminal involvement, physical or sexual abuse by family members, and lack of parental involvement or supervision are all risk factors for adolescent substance abuse and delinquent behavior. Thus, the effective treatment of juvenile substance abusers often requires a family-based treatment model that targets family functioning and the increased involvement of family members. Effective adolescent treatment approaches include multisystemic therapy, multidimensional family therapy, and functional family therapy. These interventions show promise in strengthening families and decreasing juvenile substance abuse and delinquent behavior.



Many resources are available on the Internet. The following are useful links:

General Information

NIDA Web site: www.drugabuse.gov

General Inquires: NIDA Public Information Office 301-443-1124

Federal Resources

Bureau of Justice Assistance (BJA) Substance Abuse Programs	www.ojp.usdoj.gov/bja/ programs/substance_abu. html
Bureau of Justice Statistics (BJS) Statistics on Drugs and Crime	www.ojp.usdoj.gov/bjs/ drugs.htm
Center for Substance Abuse Treatment (CSAT) Substance Abuse and Mental Health Services Administration (SAMHSA)	www.csat.samhsa.gov

Federal Resources (continued)

Federal Bureau of Prisons (BOP) Substance Abuse Treatment	www.bop.gov/inmate_ programs/substance.jsp
National Criminal Justice Reference Service (NCJRS)	www.ncjrs.gov
National Institute on Alcohol Abuse and Alcoholism (NIAAA)	www.niaaa.nih.gov
National Institute of Corrections (NIC)	www.nicic.org
National Institute of Justice (NIJ)	www.ojp.usdoj.gov/nij
National Institute of Mental Health (NIMH)	www.nimh.nih.gov
Office of Applied Studies (OAS) Substance Abuse and Mental Health Services Administration (SAMHSA)	www.oas.samhsa.gov
Office of Justice Programs (OJP)	www.ojp.usdoj.gov
Office of Juvenile Justice and Delinquency Prevention (OJJDP)	www.ojjdp.ncjrs.org



Butzin, C.A.; Martin, S.S.; and Inciardi, J.A. Treatment during transition from prison to community and subsequent illicit drug use. *Journal of Substance Abuse Treatment* 28(4):351–358, 2005.

Glaze, L.E. and Bonczar, T.P. *Probation and parole in the United States, 2005.* Washington, DC: U.S. Department of Justice, Office of Justice Programs, Bureau of Justice Statistics, 2006.

Harrison, P.M. and Beck, A.J. *Prisoners in 2005*. Washington, DC: U.S. Department of Justice, Office of Justice Programs, Bureau of Justice Statistics, 2006.

Martin, S.S.; Butzin, C.A.; Saum, C.A; and Inciardi, J.A. Three-year outcomes of therapeutic community treatment for drug-involved offenders in Delaware: from prison to work release to aftercare. *The Prison Journal* 79(3):294–320, 1999.

Messina, N.; Burdon, W.; Hagopian, G.; and Prendergast, M. Predictors of prisonbased treatment outcomes: a comparison of men and women participants. *The American Journal of Drug and Alcohol Abuse* 32:7–28, 2006.

Mumola, C.J. and Karberg, J.C. *Drug use and dependence, state and federal prisoners, 2004.* Washington, DC: U.S. Department of Justice, Office of Justice Programs, Bureau of Justice Statistics, 2006.

National Institute of Justice. *2000 Arrestee drug abuse monitoring: annual report* (pp. 135–136, Tables 6-2 and 6-3). Washington, DC: U.S. Department of Justice, Office of Justice Programs, 2003.

Office of National Drug Control Policy. *The economic costs of drug abuse in the United States*, 1992–2002. Washington, DC: Executive Office of the President, 2004.

Staton, M.; Leukefeld, C.; and Webster, J.M. Substance use, health, and mental health: problems and service utilization among incarcerated women. *International Journal of Offender Therapy and Comparative Criminology* 47(2):224–239, 2003.

Taxman, F.S.; Perdoni, M.L.; and Harrison, L.D. Drug treatment services for adult offenders: the state of the state. *Journal of Substance Abuse Treatment* 32(3):239–254, 2007.

Taxman, F.S.; Young, D.W.; Wiersema, B.; Rhodes, A.; and Mitchell, S. The National Criminal Justice Treatment Practices survey: multilevel survey methods and procedures. *Journal of Substance Abuse Treatment* 32(3):225–238, 2007.

Teplin, L.A.; Abram, K.M.; McClelland, G.M.; Dulcan, M.K.; and Mericle, A.A. Psychiatric disorders in youth in juvenile detention. *Archives of General Psychiatry* 59(12):1133–1143, 2002.

U.S. Department of Health and Human Services, Substance Abuse and Mental Health Services Administration. *Results from the 2005 national survey on drug use and health*. Rockville, MD: Office of Applied Studies, 2006.

Volkow, N.D.; Fowler, J.S.; Wang, G.J.; Hitzemann, R.; Logan, J.; Schlyer, D.; Dewey, S.; and Wolf, A.P. Decreased dopamine D2 receptor availability is associated with reduced frontal metabolism in cocaine abusers. *Synapse* 14:169–177, 1993.

Volkow, N.D.; Hitzemann, R.; Wang, G.J.; Fowler, J.S.; Wolf, A.P.; and Dewey, S.L. Long-term frontal brain metabolic changes in cocaine abusers. *Synapse* 11:184–190, 1992.

Volkow. N.D. and Li, T.K. Drug addiction: the neurobiology of behavior gone awry. *Nature Reviews Neuroscience* 5:963–970, 2004.

For More Information

For more information about other research-based publications on drug abuse and addiction, visit NIDA's Web site at **www.drugabuse.gov**, or call the National Clearinghouse for Alcohol and Drug Information at 1-800–729–6686.





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