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The Drugs-Crime Wars: Past, Present, and Future Directions in Theory, Policy, and Program Interventions

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Introduction

The relationship between drug use and criminal behavior has generated a substantial body of literature in peer-reviewed journals, government publications, and the public press. The very extent of such research—as well as the breadth of policy positions based on or ignoring such research—argues for the importance of a review that can summarize theory, policy, and programmatic approaches to the issue. In this paper, we do not attempt to provide a comprehensive review of the issues or literature. Instead, we seek to provide a sufficient review of the most pertinent knowledge about the drugs-crime relationship to stimulate further discussion among researchers regarding the most important research questions that still need attention. This discussion holds great promise for the development of new approaches to the drugs-crime relationship. As Brownstein has argued, “those who do the research are in the best position to interpret their findings and offer advice based on their conclusions” (1991, p. 132). This paper approaches the above task by focusing on the following issues: (a) documenting the existence of the drugs-crime relationship, (b) addressing the nature and complexity of that relationship, (c) summarizing philosophical and theoretical contributions that may best address the relationship, (d) reviewing both State- and Federal-level policy approaches to breaking the relationship, including integrated program approaches, and (e) proposing key areas for future research.

The existence of the drugs-crime relationship

The purpose of this section is to briefly discuss what is known about the drugs-crime relationship. This discussion will focus on the historical policy context; the empirical nature of the relationship overall; and specific drugs, crimes, and populations.

Which drugs and what crime?

Before proceeding further, we wish to clarify what we mean by “drugs” and provide a more complete picture of what is involved in “crime” related to drug use. These clarifications are made in the hope that readers will recognize that the crime aspect of the drugs-crime relationship is multifaceted and that the current exclusion of alcohol from most discussions of the drugs-crime relationship may be detrimental.

Substance inclusion decisions

The term “drugs” as used throughout this paper refers to currently illicit substances in the United States based on Federal drug schedules. Alcohol, prescription drugs, and other substances are excluded. Although it is beyond the scope of the current project, it is important to at least mention the alcohol-crime relationship. Greenfeld (1998) reminds us that an estimated 36 percent of convicted offenders were drinking at the time they committed their crimes and that a high correlation has been observed between public order

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crimes and alcohol use. Alcohol is also strongly related to violent crime (Coker et al., 2000; Dawkins, 1997; Ernst et al., 1997; Parker and Auerhahn, 1998; Pihl and Peterson, 1995). Ironically, this relationship often remains outside sentencing decisions and monitoring procedures because alcohol is legal and therefore not subject to the same arrest, seizure, and prosecution laws as are illicit drugs. Drug treatment interventions, however, often include both alcohol and other drugs. Comprehensive efforts to address crime and substance use should include alcohol treatment in programmatic considerations.

The history of drug policy and the definition of crime

Crimes associated with drug use range from violent (such as murder and aggravated assault) to acquisitive (burglary, forgery, fraud, and deception) to specific drug-law violations. In addition, crimes such as bribery and corruption are related to drug use as a result of drug policy prohibitions. Traditionally, discussions of the drugs-crime relationship have focused primarily on violent crime; however, it is important to recognize the complexity of criminal acts associated with drug use. When considering the drugs-crime relationship, this paper recommends that researchers and policymakers include both violent and nonviolent crimes as well as drug law violations and corruption associated with drug policy to grasp more fully the resulting harms and societal costs (for example, see French and Martin, 1996).

Efforts to address the drugs-crime relationship must incorporate a realization of how the development of policy and law has contributed to the relationship itself. Policy approaches to drug use in the United States have historically ranged between legal markets in the 19th century to decriminalization, harm reduction, medicalization, and strict prohibition (as the dominant policy) in the 20th. Over time,

policy has moved to various points along this continuum, and it often resides at different points at the same time in different locations and for different substances. Each time policy shifts, the act of drug use takes on a slightly different character in relation to crime. Thus, it is important to present a brief history of drug policy in the United States, together with current possible positions in the drug policy discussion, as each position has a unique implication for fighting drug-related crime.

An understanding of American drug policy begins with three early American cultural traditions that still strongly affect drug policy discussions: (a) libertarianism, (b) the emergence of a relatively open legal market resulting from the libertarian perspective, and (c) Puritan moralism. Libertarianism argues that government must have an extremely compelling motive for interfering in the personal lives of citizens. Such interference legitimately occurs only if a citizen's behavior is a significant, actual risk to others (Mill, 1979). Consistent with this libertarian tradition, early America had an open-market orientation that emphasized limited government interference in the production and distribution of desired goods and services.¹ Nineteenth-century national drug policy was consistent with both libertarianism and the open market. While the Federal Government regulated the importation of such drugs as opium and cocaine, few regulations governed the distribution of these and other drugs through what came to be called the patent medicine industry (Belenko, 2000; Inciardi, 2001; Musto, 1999). Patent medicines were extensively advertised and, through them, the use of drugs such as opium and cocaine became integrated into routine American cultural behavior patterns (Musto, 1999).

Conflicting with both libertarianism and the market-driven approach is the Puritan moralist perspective: Individual behaviors with the potential to harm the community

are seen as a community problem within the legitimate purview of community action (Cherrington, 1920; Schmidt, 1995). Puritan and other religious and moral traditions present in American history often viewed behavior such as substance use as undermining the moral fabric of society, potentially causing the withdrawal of God's blessing from America. The Puritan moralist perspective dominated the early 1900s, an era of societal reform and increasing prohibition (and thus increasing penalties for drug use). One of the first successes of the social reform movement in the early 20th century was the passage of the Pure Food and Drug Act of 1906, which required the patent medicine industry to list product ingredients. The subsequent passage of the Harrison Act of 1914 and the Marihuana Tax Act of 1937 made illegal the manufacture, sale, and possession of a variety of drugs, including opiates and cocaine, as well as the nonmedical use of marijuana. A strongly prohibitionist approach continued through the 1950s with the Boggs Act of 1951 and the Narcotic Control Act of 1956, when mandatory minimum sentences for Federal drug trafficking law violations were strengthened and arrests without a warrant for drug charges were enabled.

The 1960s and 1970s represented a major cultural shift in the United States. For a variety of reasons, American society experienced a "drug revolution" during this era. There appeared to be an increase in the proportion of individuals using drugs and in the variety of drugs used. The evidence for this increase is seen in the number of drug-related arrests and the increase in drug use in the general population (Musto, 1999). During this era, drug policy initially shifted to a stronger treatment- and less punishment-oriented stance. In 1966, the Narcotic Addict Rehabilitation Act allowed the establishment of the civil commitment system instead of prosecution for Federal offenders and encouraged State and local

governments to develop their own treatment programs. In 1970, the Comprehensive Drug Abuse Prevention and Control Act consolidated and replaced the patchwork of previous Federal drug laws. The Act created the drug schedules in current use today and initiated the so-called "war on drugs"; it also moved some possession or casual transfer offenses to misdemeanors instead of felonies. This era may be considered a time when drug use was primarily considered a medical/mental health problem to be addressed by treatment, with lessened emphasis on criminal penalties for possession and use.

With an apparent increase in drug use, as evidenced by an increase in drug overdose cases and drug treatment admissions, a more prohibitionist movement again swept the Nation. New York's Rockefeller Drug Laws were passed in 1973, establishing mandatory prison sentences of up to 20 years for the sale of any amount of heroin or cocaine. The Anti-Drug Abuse Acts of 1986 and 1988 continued to emphasize law enforcement (although the 1988 Act gave more attention to treatment and prevention). In yet another policy shift, treatment (including diversion into treatment from the criminal justice system) and prevention received increasing attention in the 1990s. Further, some States developed policies that effectively decriminalized marijuana possession (removing jail/prison penalties) and initiated policies, such as needle exchange programs, that would reduce the dangers of injecting drugs.

Although scholars often focus on the relatively rapid development of national drug policy, it is important to remember that many States passed legislation prohibiting patent medicine and/or alcohol sales, as well as marijuana use, a decade or more before similar legislation was passed by Congress (Belenko, 2000). Because of how the United States is organized, States often have or exercise considerable

The history of drug policy can be broken down into five main approaches: prohibition, risk reduction, medicalization, legalization/regulation, and decriminalization.

discretion regarding alcohol and drug policies (Musto, 1999).

Essentially, the history of drug policy (and debates about where drug policy should move in the future) can be broken down into five main approaches: prohibition, risk reduction, medicalization, legalization/regulation, and decriminalization (for an indepth discussion, see McBride et al., 1999; see also Goode, 1997). Prohibition emphasizes severe penalties for use, distribution, and production. Risk reduction uses a public health approach to reduce the risks and harms associated with illicit drug use and emphasizes education on risks, safer use practices, prevention, and treatment. Medicalization calls for physician treatment of drug addicts, viewing substance abuse primarily as a medical issue. Legalization/regulation supports increased access to drugs through governmental regulation of these substances, with possible distribution of specific substances through governmentally controlled distribution channels. Decriminalization calls for a complete end to the use of criminal law to address individual drug use. This may imply a relatively open-market approach to drug availability and use, but that need not be the case.

Although there has been significant debate over which policy approach or approaches might best address the drugs-crime cycle, more research is needed that examines scientifically the effects of policy positions on both drug use and crime. For the most part, current Federal drug law takes a prohibitionist stance that includes a strong deterrence approach to reducing the supply of drugs and high penalties for drug law violations. As a result, a significant portion of the drugs-crime relationship is simply an artifact of law and policy itself: “most directly, it is a crime to use, possess, manufacture or distribute drugs classified as having the potential for abuse” (Craddock, Collins, and Timrots, 1994).

The statistical relationship between drug use and criminal behavior

The general conclusion of almost three decades of research on the relationship between drug use and crime has been that there is a clearly significant statistical relationship between the two phenomena (Austin and Lettieri, 1976; Dorsey and Zawitz, 1999; Gandossy et al., 1980; McBride and McCoy, 1993). Research indicates extensive drug use among arrested populations, a high level of criminal behavior among drug users, and a fairly high correlation between drug use and delinquency/crime in the general population. Research also indicates significant differences in the relationship based on drug type and type of crime. Importantly, all these differences are further complicated by ethnic and gender issues.

The drugs-crime relationship within various population groups

Drug use among arrested/incarcerated populations and crime among drug users. From the early 1970s onward, biological and self-report data have indicated a relatively high rate of drug use among arrested and incarcerated populations (Arrestee Drug Abuse Monitoring Program, 2000; Austin and Lettieri, 1976; Dorsey and Zawitz, 1999; Gandossy et al., 1980; McBride and McCoy, 1993). In 1999, the Arrestee Drug Abuse Monitoring Program (ADAM) collected data from more than 40,000 adults in more than 30 sites and more than 400 juveniles in 9 sites throughout the United States (ADAM, 2000). In almost all cities where the ADAM project operates, about two-thirds of both adult male and female felony arrestees had an illegal drug in their bodies at the time of arrest (with higher rates among females). Even among juveniles, the majority of arrestees were found to have an illegal drug in their urine (with

higher rates among males). The data also suggest that, although current drug use rates among adult arrestees are higher than those reported in the more isolated reports of the 1970s (Austin and Lettieri, 1976), these rates have remained steady for the past 5 years (the same patterns are found among juvenile arrestees). An argument can be made that with about two-thirds of arrestees already using illegal drugs in the 72 hours prior to their arrest, there is not much room for an increase.

A recent report from the Bureau of Justice Statistics (BJS) suggests that drug use also is extensive among inmates in local jails (Wilson, 2000). This document reports that the majority of inmates in State prisons and local jails used drugs in the month prior to the offense that put them in prison/jail. Interestingly, this same report also notes that about 10 percent of jail inmates test positive for drugs while in jail.

The extent of crime among drug users also has been documented. From the 1960s through the 1990s, surveys of drug-using populations both in and out of treatment have consistently shown that the large majority of users have extensive histories of criminal behavior and time served in prison (Defleur, Ball, and Snarr, 1969; Inciardi, Horowitz, and Pottieger, 1993). This pattern applies to juveniles as well: Between 40 and 57 percent of adolescents treated for substance disorders also have committed delinquent acts (Winters, 1998).

Drug use and crime levels among the general population. A tradition of studies shows a correlation between drug use and delinquency in general youth populations (Elliott and Huizinga, 1984; Elliott, Huizinga, and Menard, 1989; Harrison and Gfroerer, 1992). Analysis from the National Youth Survey has provided data often used to examine this relationship. These data report a direct correlation between serious drug use and delinquency (Johnson et al.,

1991). Youths who used “hard” drugs (about 5 percent of the sample) accounted for 40 percent of all delinquencies and 60 percent of index crimes.

The impact of drug type on the drugs-crime relationship

The first National Institute on Drug Abuse (NIDA)-sponsored *Crime and Drugs Report* (Austin and Lettieri, 1976) noted that a complex relationship exists between type of drug use and type of crime. This relationship is further complicated if multiple drug use exists. The 1999 ADAM report shows that a fairly large proportion of arrestees tested positive for more than one drug (up to 30 percent), and that reported criminal behavior tended to include a wide variety of offenses. The ADAM data show that while cocaine was the most likely drug found among adult arrestees in large cities (and there is literature suggesting a significant relationship between cocaine and violence), for many urban ADAM sites, violent offenders were more likely to test positive for marijuana than cocaine. In addition, property offenders were more likely to test positive for cocaine than marijuana in most sites (ADAM, 2000).

The impact of crime type on the drugs-crime relationship

Drug law violations. A significant proportion of drug user arrests involve violations of drug laws only. As noted previously, the United States experienced wide drug policy shifts in the 20th century. Each shift has uniquely affected crimes related to drug use and distribution. In a study of 611 juvenile cocaine users by Inciardi and colleagues in the early 1990s, analyses showed that participants had committed more than 400,000 criminal acts in the 12 months prior to being interviewed. Of these, 60 percent were for drug law violations, mostly sales of small amounts

(Inciardi, Horowitz, and Pottieger, 1993). At the Federal level, a total of 581,000 drug arrests in 1980 nearly tripled to a record high of 1,584,000 in 1997. By 1997, 79 percent of drug arrests were for possession and 21 percent were for sales. Forty-four percent of drug arrests overall were for marijuana offenses (Uniform Crime Reports, 1998). Drug defendants comprised 42 percent of felony convictions (Bureau of Justice Statistics, 1999). A recent BJS Special Report (Wilson, 2000) also substantiates the extensive percentage of drug-related crimes that result from violation of drug laws, suggesting that about a quarter of jail inmates have a current charge or conviction for drug law violations. Critics have argued that since such arrests likely include many low-level users and dealers, criminal justice processing and the stiff sentences that often are handed down because of mandatory minimums may be inappropriate to the offense level (McBride et al., 2001).

Changes in drug policy are usually driven by concerns for public safety and the perception of a direct relationship between drugs and violence.

The violence connection. Changes in drug policy are usually driven by concerns for public safety and the perception of a direct relationship between drugs and violence (Brownstein, 1996, 2000). For example, the drug policy reform movement of the early 1900s (changing from legal markets to strict prohibition) was accompanied by horror stories focused on exaggerated claims of criminal behavior as a consequence of drug use. In this literature, there was a particular emphasis on horrific violent crime (including rape), with minority group members often portrayed as the drug users engaged in the violent behavior. Musto (1999; see also Belenko, 2000; Hickman, 2000) documents the public concern of the time (perhaps obsession) with Chinese opiate use, African-American cocaine use, and the use of marijuana by Mexicans. The creation of the Narcotics Bureau led to a type of media distribution industry focused on

violence associated with drug use, "documenting" the criminal consequences of such activity (see Anslinger and Tompkins, 1953; Inciardi, 2001). Among the best known of these efforts were the films "The Man with the Golden Arm" (purporting to depict the effects of heroin use/injection) and "Reefer Madness" (showing the supposed behavioral consequences of marijuana use). Although such media portrayals exaggerated the possible links between drugs and crime, some research has connected drug use with violence. Grogger and Willis (2000) conclude that without the introduction of crack cocaine into urban America, 1991 crime rates would have been about 10 percent lower. These researchers also examined the impact of crack on specific types of violent crime and reported that the biggest impact was on aggravated assault.

In 1985, Goldstein provided the perspective that has been most commonly used to examine the relationship between drug use and violence. Essentially, he argued for a tripartite scheme, where "psychopharmacological violence" could result directly or indirectly from the biochemical behavioral consequences of drug use; "economic-compulsive violence" could relate to behavior/crimes engaged in to obtain money for drugs; and "systemic violence" could emerge in the context of drug distribution, control of markets, the process of obtaining drugs, and/or the social ecology of drug distribution/use areas.² Some researchers have concluded that there is minimal evidence regarding the psychopharmacological impact of drugs on violence (Resignato, 2000); however, Pihl and Peterson (1995) reviewed a wide range of studies on the issue. They concluded that alcohol and drugs can be psychopharmacologically related to violent acts through the release of dopamine, which reduces inhibitory anxiety about the consequences of aggressive behavior and increases the rewards associated with

violence. In addition, they argue that the psychopharmacological effects of drugs interfere with the user's cognitive processing of the consequences of potentially violent situations. It should be noted that these authors believe that the evidence for psychopharmacological effects of alcohol use on violence are much higher than for other drugs.

However, some indications point to the environment as being a more powerful explanation of the drugs-violence relationship than the psychopharmacological properties of drugs (Brownstein, 2000; Fishbein, 1998; Parker and Auerhahn, 1998). In terms of economic compulsive and systemic violence, Collins (1990) as well as Fagan and Chin (1990) argue that crack selling is the main contributor to the drugs-violence relationship. Specifically, their research found that violence (mostly robbery) emerged from the need to obtain money to purchase drugs (predominately crack). Fagan and Chin suggest that the drugs-violence relationship also emerges as a part of the subculture of violence.

In a 1994 study, Roth argued that drug users commit more property crime than violent crime. A recent publication by De Li, Priu, and MacKenzie (2000) examined the relationship between drug use and property and violent crime in a population of probationers in Virginia. Results indicated that drug *use* had a positive association with property crime, whereas drug *dealing* had an association with both violent and property crime (though the relationship was stronger for property crime). The analysis also showed an interactive effect between drug use, drug dealing, and violent and property crime. Among juveniles, Linnever and Shoemaker (1995) found that arrests for both possession and selling of drugs were related to the rate of property crime arrests. However, juvenile robbery arrest rates were related to only drug sales arrests (not possession). A National

Institute of Justice (NIJ) Research in Brief supports this research, stating "illegal drugs and violence are linked primarily through drug marketing" (Roth, 1994, p. 1).

The impact of ethnicity and gender

Much of the research that has been conducted on drugs and crime has not had a sufficient focus on gender and ethnic variance. This limitation has significant repercussions on applying findings to other population groups. As Paniagua (1998) notes, the multicultural nature of current society must incorporate a recognition of the complex nature of ethnicity and gender. Specifically, individuals who share a similar ethnicity or gender will not all be the same (i.e., recognition of language, acculturation, and socioeconomic differences); however, it is important to recognize cultural commonalities that may significantly affect both the extent and nature of the drugs-crime relationship across individuals. Research that has focused on ethnicity and gender indicates that these variables may significantly affect various aspects of the drugs-crime relationship, including:

- Source of drugs and/or works (Taylor et al., 1994).
- Predictors of violence (Ellickson and McGuigan, 2000).
- Types of violence experienced and reactions to such violence (Brownstein et al., 1994; Fine and Weis, 1998; Mazza and Dennerstein, 1996).
- Stress-coping factors (Vaccaro and Wills, 1998).
- Biological effects of drugs (Brady and Randall, 1999).
- Epidemiology of substance-use disorders (Brady and Randall, 1999).

- Psychiatric comorbidity (Brady and Randall, 1999).
- Social stigma issues (Brady and Randall, 1999).
- Medical consequences of drug use, including heredity issues and course of illness (Brady and Randall, 1999).
- Assessment and treatment issues, including possible prevention settings (Brady and Randall, 1999; Metsch et al., 1999; Paniagua, 1998).
- Differences in initiation of drug use (Doherty et al., 2000).

Summary: What we know of the past

The intended purpose of this section has been twofold. The first goal has been to review the history of American drug policy (as well as possible drug policy positions) within the framework of the relationship among policy, drug use, and crime. The second purpose has been to summarize the statistical documentation of the drugs-crime relationship. Hopefully, this review has served to remind readers of the following issues:

1. American drug policy originated in the antithetical cultural traditions of relatively open-market/libertarian values and Puritan moralist social reform. These traditions still affect current debates about the drugs-crime relationship, as well as the various policy positions between these two endpoints on the policy continuum.
2. States have a history of experimenting with drug policies in advance of, and sometimes in opposition to, Federal action on the same issues.
3. Public safety concerns have been the underlying rationale for the

development of drug policy at all levels of government.

4. Hyperbole, demagoguery, demonization, and perhaps even naivete have historically characterized the drugs-crime debate (and may still). However, there is a clear statistical relationship between drug use and crime. The majority of drug users have extensive histories of involvement with crimes and the criminal justice system; most arrestees are current drug users; and there is a correlation between drug use and delinquency/crime in general populations. A large proportion of this criminal activity is a result of drug law violations.
5. Although there is some evidence that drug costs may be related to property crimes and robberies, and that distribution and subcultural elements surrounding drug use may be related to violence, there is debate about the evidence for a strong and continuous connection between drug use and violence. This relationship is also complicated by the type of drug use, the category of crime, and ethnicity and gender.

The nature and complexity of the drugs-crime relationship

As White and Gorman (2000) note, three main explanatory models exist for grappling with the drugs-crime relationship:

- Drug use causes or leads to crime.
- Crime causes or leads to drug use.
- The relationship is purely coincidental or is based in a common etiology.

Based on their evaluations of the research supporting and/or refuting each of the three main models above, they conclude

that “one single model cannot account for the drug-crime relationship. Rather, the drug-using, crime-committing population is heterogeneous, and there are multiple paths that lead to drug use and crime” (White and Gorman, 2000, p. 151). Ten years earlier, Collins (1990) also rejected simple explanatory models for the complex relationship. The debates over both the direction of a drugs-crime relationship as well as the etiological variables that may be involved in the common occurrence of both drugs and crime have significant implications for attempts to intervene in the drugs-crime cycle.

The direction of the relationship: Searching for a cause

At the popular and sometimes at the governmental level, the drugs-crime relationship is often clearly causal: Drug use causes crime. Models such as Goldstein’s tripartite scheme (1985) have been used to illustrate this approach, specifying psychopharmacological, economic-compulsive, and systemic causes of violence. As noted previously, arguments that focus on the *psychopharmacological properties* of various drugs cite research that indicates that stimulants may increase aggressiveness and paranoia and that many drugs have a strong disinhibiting effect that could seriously interfere with judgment (Pihl and Peterson, 1995).

Economic arguments posit that the cost of drugs, coupled with high unemployment among drug users, results in the commission of property crimes to support drug use (16 percent of jail inmates committed their current offense to get money for drugs; BJS, 1999). Those who argue for a systemic approach maintain that drug use simply has a *subcultural relationship* with criminal behavior: Because it is illegal, drug use involves the user in criminal subcultures that often lead to future deviance (Fagan and Chin, 1990).

On the other hand, some researchers argue that a level of general delinquency often precedes drug use (Elliott, Huizinga, and Menard, 1989). The subcultural explanation is used here as well: Involvement in criminal activity and/or subcultures provides “the context, the reference group, and the definitions of a situation that are conducive to subsequent involvement with drugs” (White and Gorman, 2000, p. 174; see also White, 1990). Individuals with deviant lifestyles and/or personalities may also use substances for the purposes of self-medication (Khantzian, 1985; White and Gorman, 2000) or to provide a “reason” for deviant acts (Collins, 1993; White and Gorman, 2000). Although Apospori and associates (1995) concluded that the relationship between early delinquency and subsequent drug use was relatively weak, Bui, Ellickson, and Bell (2000) found what they called a modest relationship between delinquency in grade 10 and greater drug use in grade 12. Importantly, they found no significant differences by ethnicity for this relationship. Hser, Anglin, and Powers (1993) found that addicts who ceased narcotic use were less likely to engage in criminal behavior over a 24-year followup period.

Although there is some evidence of directionality in the drugs-crime relationship, researchers who have attempted to address this issue generally have concluded that the relationship is extremely complex and defies attempts to sort out directionality. Work by Nurco and colleagues on criminal careers initially found that increases in narcotic drug use were often followed by increases in criminal activity; conversely, periods with no drug use were associated with less criminal activity of all types (these results applied for white, African-American and Hispanic narcotics addicts; Nurco, Cisin, and Balter, 1981; Hanlon et al., 1990). However, in a subsequent 1993 article, Nurco, Kinlock, and Balter found that narcotic drug users had very early

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involvement in what these researchers call “precocious criminal activity.” This activity pattern occurred prior to the onset of addiction, and therefore simply could not be attributed to addiction itself. A recent article by Maxwell and Maxwell (2000) provides another example of the confusing directionality, suggesting that drug use has a very complex relationship with types of deviant behavior for women. Their findings suggest that frequent use of crack, combined with early onset of crack use, is related to prostitution. Drug selling, however, was found to relate to decreased prostitution as it provided another opportunity for income to purchase drugs. On a broader level, Curtis (1999) found that drug use rates did not decrease in either the general or at-risk populations during the 1990s; however, there was a widespread decrease in urban crime during the same time period. He argues that market and cultural forces were behind the observed changes in substance use patterns and consequences: street drug dealers exerted higher control on both the drug use of those who worked for them as well as the violence often associated with street drug dealing.

A common origin

One of the traditions of research on the drugs-crime relationship has emphasized that drug use and crime may not have a direct causal relationship (White and Gorman, 2000), but may emerge in the same contextual milieu and have the same antecedent variables such as poor social support systems, difficulty in school, and membership in a deviant peer group (Hamid, 1998; Inciardi, Horowitz, and Pottieger, 1993; Lurigio and Swartz, 2000). These variables have been suggested to include such issues as neighborhood context (McBride and McCoy, 1982), the

development of street identity for survival (Collison, 1996), social isolation that prevents access to the social and economic systems of society (Harrell and Peterson, 1992; Stephens, 1991), and lack of what is now referred to as human and social capital (described later in this chapter). Dembo and his colleagues have studied the drugs-crime relationship among high-risk youths entering the juvenile justice system throughout the last decade. In an important 1994 article, Dembo and colleagues found that both delinquency and drug use emerge within the context of family problems and peer deviant behavior. These researchers found that for both males and females, as well as African-Americans and whites, family alcohol and drug use, emotional problems, arrest history, and peer deviant behavior were related to continuing drug use. Based on these models, any simple attempt to only deter drug use through severe punishment or treatment will not result in less crime or substance use, as such approaches do not address the complex cause of both behaviors (Harrell and Peterson, 1992).

Summary

Research on understanding the nature of the drugs-crime relationship illustrates that no simple causal model can explain the phenomena. Rather, the statistical relationship between the two activities may be a result of their common etiological origin. As the purpose of this paper is to present a background for discussion of possible research agendas to expand and reform research on the drugs-crime relationship, it is important to ground such a system-wide effort in theoretical frameworks that allow for the complex nature of the relationship. Such frameworks can be then used to help shape possible future research.

Philosophical and theoretical contributions to addressing the drugs-crime relationship

This section will provide a theoretical framework for reviewing current programmatic approaches to breaking the drugs-crime cycle. The theoretical approaches to be presented include both overarching behavioral theories and philosophies specific to justice system programming.

Overarching theoretical approaches

While recognizing the existence of a wide range of theories on human behavior, this paper uses ecosystems theory as an overall framework for examining the drugs-crime relationship. Within this framework, the concept of social capital has emerged recently as a promising approach to breaking the drugs-crime cycle.

Ecosystems theory. Human behavior, including participation in drug use or criminal activities, takes place within the broader social environment: circumstances, social norms, cultural conditions, and interactions with others (Kirst-Ashman, 2000). Ecosystems theory acts as an organizing framework (as opposed to a definitive theory of behavior or development) that calls for an active awareness that the interaction of biology; interpersonal relationships; culture; and legal, economic, organizational, and political forces affects an individual's behavior (Beckett and Johnson, 1995; Kirst-Ashman, 2000). It should be noted that the relative influences of each force are likely to change throughout the lifecourse of each person. Essentially, ecosystems theory helps provide the perspective needed to understand the breadth of systems (micro, mezzo, and macro) involved in any discussion of human behavior, as well as specific theories that might be useful in addressing

behavior. The theory calls attention to inherent personal characteristics that affect individual behavior, including competence, self-esteem, and self-direction (Germain and Gitterman, 1995).

Definitive theories of behavior that have been used to explain crime and deviance have varied. Since the 1960s, the following theories have been predominant: anomie, social disorganization, differential association, social control, deterrence, labeling, and conflict (Liska, Krohn, and Messner, 1989). Recently, however, attention has been directed to new approaches with the hope that theoretical and research advances will better support prevention and treatment: "integrated theory, general theory, lifecourse transitions, and social capital appear to offer promise for the future" (Bartollas, 2000, p. 564). We will focus specifically on social capital since it is a relatively new theory with the potential to explain many complex relationships.

Social capital. The social sciences have always had an interest in the relationship among community organization, social interaction, and individual behavior. Today, the concept of social capital increasingly is used to understand the extent of community interaction and its effects. Social capital was originally defined by Coleman (1988) as the quality and depth of relationships between people in a family and community. Putnam (1993) developed the concept to include "the networks, norms and trust that facilitate coordination and cooperation for mutual benefit" (p. 2). The World Bank Group (2002) modified the definition to include "the institutions, relationships, and norms that shape the quality and quantity of a society's interactions" (p. 1). Finally, Rose (2000) emphasized the utility of social capital by defining it as "the stock of networks [relationships between individuals] that are used to produce goods and services in society" (p. 1422). Increasing evidence shows that social

Increasing evidence shows that social capital and the social cohesion and normative environment enabling its development are critical for community and individual quality of life.

capital and the social cohesion and normative environment enabling its development are critical for community and individual quality of life. The productive utility of informal face-to-face associations and formal organizational networks has been noted, for example, in the areas of economic development (World Bank Group, 2000), political participation (Putnam, 2000; Putnam and Campbell, 2000), health promotion (Baum, 1997, 2000; Kawachi et al., 1997; Kawachi, Kennedy, and Glass, 1999; Veenstra, 2000), and general quality of life at the individual and community levels (Billings, 2000; Caspi et al., 1998; Lerner, 2000; Parcel and Menaghan, 1993; Popay, 2000).

Recent studies based on social control and social bonding theories have developed highly innovative solutions to crime prevention, linking the levels of collective efficacy (Sampson and Raudenbush, 1999; Sampson, Raudenbush, and Earls, 1997; Fagan, 1987), community cohesion and/or integration (Hirschfield and Bowers, 1997; Jobes, 1999; Kawachi, Kennedy, and Wilkinson, 1999; Kennedy et al., 1998; Lee, 2000; Mullen and Donnermeyer, 1985; Walklate, 1998), local informal networks (Bursik, 1999; Savelsberg, 1999), and youth family dynamics (Brannigan, 1997; Hagan, 1995, 1997; Macmillan, 1995; Sampson and Laub, 1990) to crime rates in a given neighborhood.

Despite the extent of recent studies applying the concept of social capital, very little research has been conducted to measure the relationship between social capital and drug use. The only related (and very limited) evidence points to the role of social capital in preventing youth behavior problems (Parcel and Menaghan, 1993). Putnam (2000) found that this was especially true for those at higher risk for parental abuse. As effective intervention programs are developed, it is essential to differentiate between the various forms of social

capital (informal friendship and family relationships versus formal institutional arrangements) and the quantity versus quality of the social networks involved.

The concept of social capital can be applied to breaking the drugs-crime relationship in several ways. First, high levels of social capital in communities may play a role in preventing drug use and other deviant behavior through the presence of stronger formal and informal social bonds and networks. The presence of anti-drug-use norms within more informal structures (such as family networks, communities of faith, and neighborhoods) may contribute to lower drug use rates. Conversely, lower levels of community social capital may be associated with greater access to drugs and more lenient social norms and lowered social controls regarding the use of drugs or association with drug users. Second, drug users who have recently entered the criminal justice system may find that the presence of high levels of social capital in a community result in a stronger network of diversion options. This could be due, in part, to formal and informal network interest in restorative justice (described later in this chapter) versus punishment approaches to crime intervention. Third, once a drug offender is incarcerated, high levels of social capital within the offender's home community might better preserve networks of support for reintegration upon the offender's release. Offenders might more easily obtain jobs, receive support for continued sobriety, and receive reinforcement for socially appropriate behaviors. Finally, communities with high levels of social capital might have strong formal (vertical) social networks in the form of coalitions or collaboratives working to reduce substance use. Such agency connections may help focus the community on policy development related to drug prevention and treatment systems in homes, schools, and businesses. Such strong, integrated social

networks may offer a larger range of services and may develop more formal horizontal relationships with other service providers, thereby improving the coordinated delivery of services and care to those with drug or alcohol problems.

One example of the impact that social-capital-based concepts are currently having on the drugs-crime relationship in the United States is the recent establishment of the Office of Faith-Based and Community Initiatives in the White House. This action has focused the Nation's attention on the role of faith-based institutions in the provision of drug treatment, aftercare, and other services. Such interventions may be particularly important in poor and minority communities with large numbers of high-risk individuals, where there are few (if any) traditional drug treatment programs. However, these same communities are often served by churches and other faith-based organizations that care deeply about the members of their community and are well established in service provision. While concerns about church-state separation, attempts at proselytization, and teachings of bigotry and prejudice have prompted some to demand a clear ban on the use of public funds to support faith-based institutions, others have begun to carefully examine the potential of these organizations to improve the lives of their clients. At present, there has not been sufficient research to determine the effectiveness of treatment in faith-based settings.

Criminal justice philosophies

An examination of recent approaches to intervention in the drugs-crime cycle requires a brief review of major criminal justice philosophies and recent conceptual developments. Philosophies with the greatest promise for success acknowledge the complex relationship between drugs and crime. In addition, they attempt

to incorporate factors that best support the inherent personal characteristics that affect individual behavior and they address the broader context of the social environment. These concepts have significant implications for how programmatic interventions may occur within the criminal justice system.

Retributive justice. The traditional criminal justice perspective of retributive justice generally sees drug abuse as a willful choice made by an offender capable of choosing between right and wrong and acting on that choice. The approach emphasizes deterrence through strict penalties, including increasing arrests, developing tougher sentencing laws, and building new prisons to hold and punish offenders (McBride et al., 2001). Implementation of this perspective does temporarily reduce the number of criminals on the streets as well as interrupt an offender's drug use. However, drug-using offenders do not appear to alter their behavior in the face of punishment alone (Goldkamp, 1994). Thus, it is highly likely that offenders will recidivate, and the cycle of drug use and crime will continue (Hora, Schma, and Rosenthal, 1999).

Therapeutic jurisprudence and restorative justice. Therapeutic jurisprudence has been defined as "the use of social science to study the extent to which a legal rule or practice promotes the psychological and physical well-being of the people it affects" (Slobogin, 1995, p. 196). Within this framework, key players from the justice system (including judges, prosecutors, and defense attorneys) move from adversarial roles to problem solvers as part of a collaborative team while still performing their traditional roles of guardians of community protection, administrators of the law, and protectors of due process (Spangenberg and Beeman, 1998). Therapeutic jurisprudence specifically addresses the needs and problems of drug offenders from a medical, therapeutic perspective.

Drug addiction is viewed as a problem with deeply rooted biological, psychological, and social influences, and substance abusers are seen as having a condition that requires treatment. From this perspective, the criminal justice system offers the best opportunity some offenders will ever have to confront and overcome their drug use and its consequences. Programmatic approaches that often employ therapeutic justice principles include drug courts, restorative conferencing, cross-systems case management, coerced and voluntary drug treatment programs, day reporting centers, and intensive monitoring approaches. Each of these approaches will be reviewed in greater detail later in this paper.

Within the past decade, a justice philosophy associated with the principles underlying therapeutic jurisprudence has emerged: restorative justice. Used primarily for non-violent adult and juvenile offenders, the restorative justice approach (also termed restorative conferencing) attempts to balance the needs of victims, the community, and offenders. Unlike retributive justice, which is concerned primarily with punishing the offender, restorative justice seeks to repair the damage inflicted by the crime. This approach makes the criminal process less formal by involving the victim and community members in the planning and implementation of the sentencing. Rather than asking what should be done to punish the offender, restorative justice asks the following questions (Zehr, 1990):

- What is the nature of the harm resulting from the crime?
- What needs to be done to repair the harm?
- Who is responsible for the repair?

Restorative justice has been implemented in a number of programmatic methods, including victim-offender mediation,

community reparative boards, family group conferencing, and circle sentencing (see Bazemore and Umbreit, 2001). The shared features of these approaches include:

- Promoting citizen and community ownership of the criminal justice system.
- Providing an opportunity for the victim and other community members to confront the offender about his or her behavior.
- Providing opportunities for the offender to learn about the impact of the crime and to take responsibility and be held accountable for the offense.
- Creating meaningful consequences developed by the victim, the community, and sometimes by the offender and his or her support system.

Although concerns and implementation issues exist regarding restorative justice (such as some resistance by the victims' rights movement, the need for collaborative relations with the community at large, and potential clashes with current sentencing and corrections law), the philosophical approach shows promise as a future direction in addressing drugs and crime (Smith, 2001).

Summary

Human behavior is an extremely complex phenomenon, and theories imply that programs that acknowledge the multiple systems and factors that affect behavior will have the greatest chance for realistically assisting in behavior change—in this case, reducing both drug use and crime. Although programmatic interventions focusing on punishment and deterrence alone can temporarily reduce drug and crime rates, long-term solutions seem to favor interventions based on principles similar to those of therapeutic jurisprudence as well as restorative justice.

State- and Federal-level policy approaches to breaking the drugs-crime relationship

As noted previously, American drug policy is undergoing continual modification. Thus, the observed relationship between crime levels associated with drug use and drug policy is constantly changing. There are currently a broad array of drug policy movements that may directly affect the drugs-crime relationship. The most widespread and potentially influential of these policy changes include marijuana medicalization and/or decriminalization, lessening of the powder and crack cocaine sentencing disparity, current activity surrounding club drugs, revisiting the concept of mandatory minimum sentencing, treatment versus prison, and model State drug laws. Each of these movements will be briefly described below, with a focus on how the proposed policy changes may affect the drugs-crime relationship.

Marijuana medicalization

Movement toward the medicalization of marijuana has been ongoing since the 1970s (see Belenko, 2000; Goode, 1997). The two actions that preceded the movement were the National Commission on Marihuana and Drug Abuse report in 1972 that called for reduced penalties for possession, and the unpublished 1975 trial of *United States v. Randal*, which allowed the use of a medical necessity defense for marijuana possession when a glaucoma patient was arrested for growing his own plants (Belenko, 2000). By the end of 1982, 31 States and the District of Columbia had enacted medical marijuana provisions (Markoff, 1997). However, in 1986, the Food and Drug Administration approved the use of the brand-name drug Marinol (dronabinol, delta-9-tetrahydrocannabinol, or THC) to prevent the nausea and vomiting often occurring

with cancer treatments and to increase appetite in patients with AIDS. Many State medical marijuana laws were allowed to expire or were repealed following Marinol's approval (Dogwill, 1998).

Current efforts at marijuana medicalization began in the mid-1990s as a result of media pressure and general dissatisfaction with Marinol and other antiemetic drugs (Dogwill, 1998). As of the end of the 2000 legislative year, 28 States had statutes providing for the medicinal use of marijuana (Pacula et al., 2001). The type of laws enacted by States varies, and States may have more than one law type. The list below shows the number of States with currently operating laws and a brief description of the laws and related protections (Pacula et al., 2001):

1. Therapeutic research programs (TRPs): 14 (only 6 of which are currently operational). TRPs are administered by State health departments or pharmacy boards and must be approved by the Food and Drug Administration and adhere to specific Federal regulations. Protection is provided only to approved and participating patients, physicians, and pharmacies, and for specified ailments not responding to other available treatments.
2. Physician prescription laws: 13. These laws are of three types: One allows physicians to discuss the medical benefits of marijuana with patients; the second allows physicians to prescribe marijuana for medical purposes; and the third provides an affirmative defense for physician discussion or prescription of marijuana. These laws protect physicians only, not patients.
3. Medical necessity laws: 10. These actions provide a defense from prosecution to patients and/or caregivers for possessing marijuana for medical purposes if obtained via physician

recommendation, certification, or authorization.

4. Rescheduling laws: 3. These laws reschedule marijuana to categories that recognize an acceptable use for marijuana and/or claim a lower potential for abuse.

Of the four types of laws noted above, only TRPs are federally sanctioned. Although the other three types of laws have been or are being challenged in court, no firm ruling has been given that would clearly identify the final outcome of medical marijuana initiatives. Although the outcome of the medical marijuana debate is unknown, the policies in question have several ramifications for the drugs-crime relationship (Pacula et al., 2001). These include potential decreases in marijuana-related arrests due to a supportable defense for medical use, significant changes in black-market marijuana prices between States with varying medicalization policies, changes in the ability or willingness to prosecute recreational marijuana users, changes in possession penalties, and differences in use rates for both adults and adolescents.

Marijuana decriminalization

The decriminalization of marijuana possession in law or in enforcement policy has been evolving for many years. In the early 1970s, the National Commission on Marihuana and Drug Abuse called for the decriminalization of simple marijuana possession. This would mean the removal of all criminal penalties; possession would be neither a felony nor a misdemeanor. In practice, the application of such a simple definition is complex. Although 11 States indicate that they have decriminalized marijuana, an examination of those statutes indicates that, operationally, decriminalization means the removal of incarceration for first or second marijuana possession offenses but may include fines and/or

jail/prison penalties for subsequent possession offenses. MacCoun and Reuter (1997) have suggested that a better term might be depenalization. While the exact definition of decriminalization is debated, complex, and inconsistently applied, a review of State statutes shows significant variation regarding possible penalties for simple marijuana possession ranging from no monetary penalties and no incarceration to fines in the five figures and multiple years in prison (ImpacTeen Illicit Drug Team, 2002). In addition, anecdotal reports suggest that some local police departments simply do not enforce existing marijuana possession laws. All of this suggests that States (and communities) show significant variance in marijuana policy, and the impact of this variance should be examined to determine the possible ramifications for arrests, black-market prices, use rates, and associated harms.

Lessening of the powder and crack cocaine sentencing disparity

There has been considerable public and research focus on the current sentencing differences between the possession or sale of powder versus crack cocaine. Sentencing disparities emerged in the 1980s in the context of large increases in crack cocaine use, together with the conclusion that crack cocaine caused significantly more harm than powder cocaine to the individual and the community through increased violence (McBride et al., 2001). Congress eventually enacted legislation mandating 5-year prison terms for the possession or sale of 5 grams of crack cocaine. This same legislation mandated the same penalty (5 years) for the possession of 500 grams of powder cocaine (Sentencing Project, 1998). Thus, the Federal Government defined the mandatory minimum sentencing disparity of crack to powder cocaine at 100:1. The ramifications of this policy became apparent fairly

early in its application: There were significant increases in the prison population, in the number of drug users in prison, and specifically in the number of African-Americans in prison (Beck and Mumola, 1999; Mumola, 1999). Currently, 86 percent of all Federal crack cocaine defendants are African-American (Sentencing Project, 1998). In 1995, the U.S. Sentencing Commission recommended the elimination of the sentencing disparity between crack and powder forms of cocaine, arguing that the policy had not accomplished its goal of reducing crack use but had resulted in significant unintended consequences. The recommendation was not acted upon. In 1997, the same group recommended moving to a 5:1 sentencing ratio, the Clinton administration recommended a 10:1 ratio, and an additional bill was introduced in the Senate specifying a 20:1 ratio. No action was ever taken, however, and the initial sentencing disparity remains at the original Federal level of 100:1. It is important to note that at the State level, sentencing disparity is not universally mandated (but may be specified in State sentencing guidelines). Some States, such as Michigan, have begun to modify the disparity in their laws (Sentencing Project, 1998).

The growing club drug reaction

The general term “club drugs” refers to a “number of illicit drugs, primarily synthetic, that are most commonly encountered at nightclubs and ‘raves’” (Drug Enforcement Administration Intelligence Division, 2000, p. 1). Examples of club drugs include Ecstasy, Ketamine, Rohypnol, and GHB (gamma-hydroxybutyrate). Both use rates and emergency department mentions for these substances (especially Ecstasy) have recently increased. Johnston, O’Malley, and Bachman (2001) report that use of Ecstasy in the past 12 months among 12th graders increased from 6 percent in 1999 to 8 percent in 2000. According to the Drug Abuse Warning Network (DAWN), there were only 25 emergency

department mentions of Ecstasy in 1994. In 1999, the number had risen to 2,850 (DAWN, 2000). Results of these increases have been felt in both research and policy. Research focus on the psychopharmacological effects of Ecstasy is growing (for example, see Boot, McGregor, and Hall, 2000), as are attempts to provide valid information about the effects and dangers of its use (Larkin, 2000). At the Federal policy level, the Ecstasy Anti-Proliferation Act was enacted in October 2000. The Act directs the U.S. Sentencing Commission to increase penalties for Ecstasy trafficking as part of an increased deterrence approach to use. State laws also are changing, with substantial numbers of States moving to schedule Ecstasy and/or to increase penalties for sales (ImpacTeen Illicit Drug Team, 2002).

Reconsidering mandatory minimum sentencing

Mandatory minimum sentencing plays a significant role in the drugs-crime relationship and has been a major component of the war on drugs. Initially, it was thought that high mandatory penalties for drug law violations (such as serving at least 85 percent of an assigned sentence) would have a deterrent effect on drug use, related criminal behavior, and associated costs (see McBride et al., 2001). However, the primary results of mandatory minimum sentencing likely have been to increase dramatically the number of drug-related arrests and the proportion of prisoners who are drug users (Harlow, 1998; Mumola, 1999). Mandatory minimums for drug charges may play a significant role in the shifting of power from judges to prosecutors, prison overcrowding, and a breakdown in truth-in-sentencing laws because of early release due to prison overcrowding. In reality, prison overcrowding often makes mandatory minimum sentencing laws all but impossible to enforce (see McBride et al., 2001).

Those who question the appropriateness of mandatory minimum sentences have been supported by studies suggesting that this approach to addressing the drugs-crime relationship is not effective and is more costly than treatment (for example, see Caulkins et al., 1998). Significant activity at the State and Federal level is focusing on mandatory minimum sentencing revision. Along with seeking to reduce the crack/powder sentencing discrepancy, the U.S. Sentencing Commission has been actively supporting efforts to reevaluate mandatory minimum sentencing (Sentencing Project, 1998). New York (the State that played a major role in the introduction of mandatory minimum sentencing for drug offenders via the Rockefeller Drug Laws) is seriously considering significant modification of its policies. The proposed New York modifications focus on an expansion of treatment services, a reduction in the range of mandatory minimum sentences, and an expansion of judicial discretion (Sengupta, 2001). If and when these changes take place (at the national level and/or in specific States), it will be important to examine their impact on the drugs-crime relationship.

Treatment versus prison

Coerced treatment (also referred to as compulsory, mandated, or involuntary treatment) is a heavily debated issue. Some oppose the practice on philosophical or constitutional grounds, while many treatment clinicians maintain that treatment can be successful only if a person is truly motivated to change. Other researchers (Anglin and Maugh, 1992; Salmon and Salmon, 1983) and policymakers have argued that few chronic addicts will voluntarily agree to enter and remain in treatment without external coercion. In a review of research examining the relationship between various levels of legal pressure and treatment outcomes,

Farabee, Prendergast, and Anglin (1998) determined that findings generally supported the use of coercive measures to increase the likelihood that an offender will enter and remain in treatment. Specifically, they concluded that compulsory substance abuse treatment is "an effective source of treatment referral, as well as a means for enhancing retention and compliance" (p. 7). Since researchers generally agree that length of time in treatment is strongly related to treatment success, coercing offenders into treatment and then applying graduated sanctions to motivate continued participation is a potentially successful strategy. It can certainly be stated that coerced treatment plays a major role in treatment referrals. Recent studies indicate that the criminal justice system is responsible for 40 to 50 percent of community-based treatment program referrals (Farabee, Prendergast, and Anglin, 1998). Rates of referral vary widely by substance, with marijuana and methamphetamine referrals occurring significantly more often than referrals for other substances (Drug Abuse Warning Network, 2000).

However, Taxman (2000) argues that merely mandating an offender to treatment does little to increase motivation or success. Simpson and colleagues (Simpson et al., 1997; Simpson, Joe, and Brown, 1997) have found that failure to address motivation and readiness for treatment reduces treatment effectiveness. In addition, Farabee et al. (1999) maintain that the application of mandated treatment varies widely, ranging from simple referral to treatment to strict graduated sanctions with heavy monitoring and clear penalties for failure. More research is needed to determine which offender types may experience the greatest benefits of coerced treatment, and with which levels of treatment structures and settings (e.g. residential versus intensive outpatient with heavy monitoring).

Reports on the promise of coerced treatment have prompted some State legislatures to adopt various forms of corrections-initiated drug treatment for nonviolent drug-using offenders. The following is a review of these State initiatives, as well as a Federal measure under current consideration.

California. State voters recently passed the Substance Abuse and Crime Prevention Act of 2000, which targets \$128 million per year to help counties develop the capacity to provide drug treatment, literacy training, family counseling, and vocational training services for an expected 36,000 new treatment clients per year (*San Francisco Examiner*, 2000).

Arizona. The Arizona Drug Medicalization, Prevention and Control Act of 1996 requires mandatory treatment and prohibits incarceration of first- and second-time drug offenders. A 1998 Arizona Supreme Court report concluded that the State saved \$2.5 million in its first year by sending users into treatment rather than prison (Arizona Supreme Court, 1999). Although critics claim it is too early to argue for program effectiveness due to selection bias and lack of long-term recidivism rates, the study found that 77 percent of offenders tested drug free at the end of their outpatient treatment programs. In addition, probationers who received treatment were twice as likely to be employed (90 versus 41 percent), to finish community service requirements (85 versus 40 percent), and to complete probation successfully (85 versus 22 percent) when compared with those who did not complete treatment.

New York. Governor Pataki recently unveiled a plan to reform the State's Rockefeller Drug Laws by cutting minimum sentences from 15 to 8 1/3 years for some offenses, giving judges increased discretion in sentencing, and giving prosecutors the power to divert repeat drug

offenders into 18-month residential treatment programs in lieu of prison time (Gallagher, 2001). These plans resulted primarily from the recommendations of an independent commission charged to study the impact of drug cases on New York State courts. The principal recommendation of this commission was to "launch a systematic, statewide approach to the delivery of 'coerced' drug treatment to nonviolent addicts in every jurisdiction" (New York State Commission on Drugs and the Courts, 2000, p. 7).

Massachusetts. The Department of Public Health's Bureau of Substance Abuse Services recently reported that integrating such services across the State resulted in significant improvements in a number of categories, including reductions in crime involvement, psychological problems, and use of health services, as well as improvements in employment levels and abstinence rates (Massachusetts Department of Public Health, 2000). Based in part on these successes, ballot initiative Proposition P was introduced in the 2000 general election to divert drug forfeiture money from police and district attorneys to treatment centers. The measure failed, possibly due to claims that the initiative was a cover for efforts to decriminalize dangerous drugs (*Boston Globe*, 2000).

National. The U.S. Senate is currently considering the recently introduced Drug Abuse Education, Prevention, and Treatment Act of 2001 (S. 304, 2001). The measure would, among other things, authorize new funding grants to States for the purpose of providing drug treatment services to inmates and residential treatment facilities.

Model State drug laws

In 1992, the President's Commission on Model State Drug Laws was charged with the task of creating a compilation of model State laws that would effectively address

drug and alcohol use (President's Commission on Model State Drug Laws, 1993). After a series of public hearings, drug treatment program site visits, and meetings with various individuals, agencies and groups, a total of 44 model laws and policies were developed. In its report, the Commission noted that

[T]he legislative remedies offered within do not rely exclusively on punishment and deterrence to "solve" drug problems. Instead, the goal of this report is to establish a comprehensive continuum of responses and services, encompassing prevention, education, detection, treatment, rehabilitation, and law enforcement to allow individuals and communities to fully address alcohol and other drug problems. Tough sanctions are used to punish those individuals who refuse to abide by the law. More importantly, the recommended sanctions are designed to be constructive, attempting to leverage alcohol and other drug abusers into treatment, rehabilitation, and ultimately, recovery. (pp. 1–2)

The five main policy areas are as follows (see appendix A for a listing of specific model laws and policies within these areas): economic remedies, community mobilization, crimes code enforcement, treatment, and drug-free families/schools/workplaces (President's Commission on Model State Drug Laws, 1993).

Following the compilation of the model laws and policies, The National Alliance for Model State Drug Laws (Alliance) was organized as a nonprofit group that would serve as an ongoing resource for States considering implementation of legislation based on the model laws. The Alliance has held several conferences across the United States to work with elected and appointed officials, substance abuse professionals, and other community leaders

and members (National Alliance for Model State Drug Laws, 2001). Several States have passed legislation using the model laws as a framework for laws specifically tailored to their needs, including Arizona, Arkansas, Georgia, Iowa, Kansas, Louisiana, Mississippi, New Jersey, North Carolina, Pennsylvania, and Utah (National Alliance for Model State Drug Laws, 2001). However, no known evaluations of the impact of these laws currently exist. Additional efforts by the Alliance to assist with drug policy revision include providing national and Federal agencies with assistance on State and local laws and policies.

Summary

Trends in State- and Federal-level policies aimed at the drugs-crime relationship can (and indeed do) move in different directions for different substances. Although there has been considerable movement to modify marijuana laws at the State level, no comparable action has been seen at the Federal level. The movement toward reducing the sentencing disparity between crack and powder cocaine (as well as reduce overall penalties) is co-occurring with State and Federal trends to increase the scheduling and penalties for club drugs such as Ecstasy. A further concern raised by this section is that although research may indicate the legitimacy and wisdom of revising current policy (such as moving to coerced treatment instead of incarceration), there is often significant resistance to such actions based on the fear of further escalations of the drugs-crime connection or negative voter reaction. The nature of public policy is complex and reciprocal: The public elects policymakers who support the majority view. This tends to make legislators cautious about supporting changes in drug policy. Therefore, the development of possible public policy that might contradict traditional viewpoints can be highly problematic (Tonry, 1996). However, the breadth and scope of potential legislative actions is impressive. With

The President's Commission on Model State Drug Laws' five main policy areas are economic remedies, community mobilization, crimes code enforcement, treatment, and drug-free families/schools/workplaces.

an increasing number of States developing innovative laws based on examples such as the Model State Drug Laws, there is need for researchers to examine the possible effects of such policy changes.

This paper has reviewed a wide variety of data describing the drugs-crime relationship and its complex nature, conceptual frameworks that may help interpret the relationship, and the implications of policy for the relationship. An important part of society's reaction to the relationship has been to develop programs to intervene with or break the drugs-crime cycle. Although such intervention attempts have occurred for more than a century, they have become increasingly sophisticated as policy makers and clinicians have come to further understand and apply research findings and relevant conceptual models. The next section of this paper examines many of the intervention programs that have been used and assesses key program elements that have shown some success at intervening in the drugs-crime relationship.

Integrated programmatic approaches to breaking the drugs-crime cycle

In developing programmatic interventions designed to break the drugs-crime cycle among offenders, it is essential to ensure that neither community safety nor offender accountability be compromised in any way, particularly for violent and chronic offenders. However, as noted previously, drug-related crimes exist along a continuum of severity ranging from index crimes—such as murder and armed robbery—to more minor offenses such as nonviolent drug possession. Interventions such as drug treatment should be provided along a continuum as well. Drug-involved offenders who commit serious crimes might

receive drug treatment services in a significantly restrictive prison-based therapeutic community. Nonviolent drug-using offenders might receive sentencing and ongoing supervision from a drug court and participate in minimally restrictive victim-offender mediation, along with mandated attendance in intensive outpatient drug treatment services.

Many jurisdictions struggle to integrate substance abuse treatment into their criminal justice systems, which often view such efforts as adjunct services rather than primary, integrated components. Taxman (2000) notes six threats that impede the implementation of treatment services:

- Lack of clear crime control goals for treatment services.
- Lack of clear assessment and eligibility requirements.
- Insufficient treatment duration to effect behavioral change.
- Lack of supervision and sanctions/rewards to reinforce treatment goals.
- Lack of objective drug testing to monitor treatment progress.
- Insufficient case management services.

Many researchers and practitioners have argued that to address these threats, a comprehensive and integrated approach should be used to maximize treatment success and minimize future harm to the community (Anglin and Hser, 1990; Inciardi et al., 1997; Taxman, 1998; Farabee et al., 1999; Martin et al., 1999; Taxman, 1998). Taxman (2000) argues for a systems approach in which “correctional and treatment agencies build a delivery system that cuts across and integrates the systems, reduces duplication in efforts to create and recreate processes for unique

Common screening instruments include the CAGE Questionnaire, the Michigan Alcoholism Screening Test, and the Offender Profile Index.

programs, and emphasizes empirically driven programmatic components” (pp. 5–6).

The following review will discuss interventions designed to break the drugs-crime cycle among offenders using an integrated approach that can be applied throughout the range of sentencing alternatives.³ This approach, which integrates restorative justice with an ecosystems framework, includes the following components: immediate and comprehensive assessment; judicial processing, including the use of drug courts; supervision and monitoring, including graduated sanctions and cross-systems case management; cross-systems collaboration; the drug treatment service continuum; and aftercare.

Comprehensive assessment and treatment planning

Appropriate client selection, assessment, and placement have been identified as critical components of the treatment continuum (Simpson and Curry, 1997–98; Taxman, 1998; Farabee et al., 1999). Substance abuse problems are usually enmeshed within a wide variety of other issues. Thus, comprehensive assessment is necessary to successfully address alcohol and other drug problems.

Assessment. Assessment usually occurs at the point of intake into the criminal justice system (often at either centralized intake centers or police stations). Intake recommendations can heavily affect judicial decisions; it is imperative that intake personnel be thoroughly trained in the use of comprehensive assessment tools. Such training should include incorporation of culture and ethnicity issues in comprehensive evaluations, as well as dealing with the complexities of clients with multiple diagnoses. A poorly conducted assessment, using techniques and measurement instruments that do not consider the offender’s entire life situation in a holistic

manner, are destined to produce faulty and inadequate recommendations and decisions. Careful assessment mechanisms not only will help identify those services that are most needed by offenders, but also will prevent system duplication leading to inefficient and poorly coordinated service delivery. By properly assessing and coordinating services at intake, the justice system can more effectively work towards preventing increasing levels of future recidivism and drug use.

Offender evaluation generally occurs in two phases: initial screening, followed by more comprehensive assessment. The primary purpose of initial screening is to determine if the need for a more comprehensive assessment exists. Thus, it is inappropriate to use screening instruments to formulate a diagnosis or decide treatment needs. Screening instruments also filter out individuals with medical, psychological, or legal problems that need to be addressed prior to placement. Common screening instruments include the CAGE Questionnaire, the Michigan Alcoholism Screening Test, and the Offender Profile Index (for more detailed descriptions of these tools, see Inciardi, 1994).

If the screening instrument indicates an alcohol or other drug problem, a more comprehensive assessment is needed. At minimum, a comprehensive assessment should include:

- An indepth examination of the severity and nature of the alcohol and other drug abuse identified by the screening process.
- A more thorough assessment of additional problems flagged during screening and further inquiry into problems that may not have been identified up to that point.
- A strong effort to use multiple methods and sources.

Components of a comprehensive assessment instrument include:

- History and current patterns of alcohol and other drug use.
- Past and current involvement in the criminal justice system, including any history of violent behavior and manifestations of antisocial personality and psychopathology.
- Family and social support systems.
- Medical history and current health status, including HIV/AIDS screening.
- Mental health history and current status, including screening for any history of abuse, anxiety, or depression.
- Educational and vocational history and needs.

Two commonly used assessment instruments are the Addiction Severity Index (ASI) and the Wisconsin Uniform Substance Abuse Screening Battery (adapted from the well-known Minnesota Multiphasic Personality Inventory). The Wisconsin instrument is composed of four separate sub-instruments: the Alcohol Dependence Scale, the Offender Drug Use History, the Client Management Classification interview, and the Megargee Offender Typology. Important supplemental tests to these comprehensive assessment instruments include the AIDS Initial Assessment Jail/Prison Supplement and various biological tests to determine recent drug or alcohol use, including urinalysis, breathalyzer tests, blood tests, hair analysis, and sweat tests (for more detailed descriptions of all of these tools, see Inciardi, 1994).

Comorbidity issues. Researchers report high rates of depression in street drug-using populations (McBride et al., 2000). Additionally, a wide variety of data suggest that there is a high rate of comorbidity

among incarcerated drug-using populations. Since the early 1970s, researchers have called attention to the special needs of jail inmates with mental illness (Gibbens, 1979; Gold, 1973; Verma, 1979). Although indepth studies on the prevalence of mental illness in prisons are very limited, researchers estimate that around 7 to 9 percent of jail inmates are mentally ill (BJS, 1999, as cited in Lurigio and Swartz, 2000, p. 67). Rates of mental illness among those who are alcohol or drug dependent are believed to be much higher. Peters and colleagues (1992) found that, of jail inmates who were receiving substance abuse treatment, more than half self-reported a history of depression, 45 percent reported serious anxiety or tension, and 19 percent had a history of suicidal thoughts. Among juveniles, the Northwestern Juvenile Project has estimated that two-thirds of juvenile detainees have one or more alcohol, drug, or mental disorders (Teplin, 2001). Because depression is also a consistent predictor of therapeutic noncompliance, it is important to make sure that an alcohol or other drug-diagnosed arrestee is properly assessed and treated for depression or other mental disorders (Markou, Kosten, and Koob, 1998).

The conditions and care received by the detained mentally ill have been found to be grossly inadequate (Alemagno, 2001; Birmingham et al., 2000; Lurigio and Lewis, 1987). Outcome studies suggest that to serve this population better, the most effective approach includes adequately training jail and prison personnel to meet emergency situations, perform basic assessments, and make appropriate referrals to community-based mental health services where safety concerns can be adequately monitored. Such an approach would have the added benefit of also avoiding community-based service duplication (Cox, Landsberg, and Paravati, 1989; Lurigio, 2000).

Treatment planning. The treatment plan should be based on the client's needs, problems, strengths, and resources as identified in the assessment process, and it should seek to use assessment information to match the client with the best treatment modality and level of risk (Inciardi, 1994; McLellan et al., 1997; see also Taxman, 2000). Although clients should participate in the planning process to improve buy-in and treatment compliance, they cannot dictate treatment goals. Treatment planning goals and objectives should be specific, measurable, and attainable. They should also be flexible enough to adapt to emerging client needs as they move through the criminal justice and treatment systems. Goals must conform to the limitations imposed by the court, parole or probation department, or other criminal justice agency that has jurisdiction over the client. Good treatment plans also are designed to address issues related to treatment attrition, noncompliance, and inadequate progress (Inciardi, 1994).

At the conclusion of intake and assessment, intake officers generally have the option of dismissing the case with no further action, placing the offender in a diversion program, or referral to further justice system processing.

Judicial processing

If a decision is made to formally refer an offender to court for further processing, judges will generally use the assessment and arrest report as well as other facts to determine disposition and, if necessary, sentencing. In most jurisdictions, fact-finding and adjudication take place in conventional court systems. However, in an attempt to play a more active role in breaking the linkage between substance use and crime, the judicial system developed the drug court.

Specifically, a drug court takes responsibility for less serious drug-using offenders,

and often uses an intensive supervision and treatment program based on graduated sanctions (described below). Drug courts are partnerships between justice system personnel (prosecutors, defense attorneys, and judges); treatment specialists; and other social service personnel (National Association of Drug Court Professionals, 2000). Drug courts allow judges to take a more active role than was provided by such previous options as mandated lengthy sentences and to partner with community resources and agencies. Judges draw on a variety of professionals in assessing needs and recommending services. They are then actively involved in the decisionmaking process regarding what services are to be received. Judges also monitor compliance and apply sanctions when a lack of compliance is evident. Some of the most unique and essential principles of drug courts include immediate and upfront intervention; coordinated, comprehensive supervision; access to a wide variety of treatment services including long-term treatment and aftercare; and graduated sanctions and incentive programs (Tauber, 1994; for more indepth information on suggested organizational factors, see Berman and Anderson, 1999; Cooper, 1997; McBride et al., 1999; National Association of Drug Court Professionals, 2000; Peyton and Gossweiler, 2001).

Evaluations of drug courts have been mixed. Concern has been expressed over evaluation research methodology, wide variations in populations served, and lack of consistent standards for assessment and referral (Inciardi, McBride, and Rivers, 1996; U.S. General Accounting Office, 1997). More recent reviews by Belenko (1998) and Covington (2001) have concluded that drug courts have not been subjected to consistent or methodologically strong evaluations that define terms clearly (from program elements to definitions of success), examine the long-term impact

of drug courts using appropriate comparison groups, or identify what program elements contribute to successful outcomes. Peyton and Gossweiler (2001) suggest the need for more comprehensive policies and protocols consistently applied in all drug courts. This would contribute significantly to methodologically strong evaluations.

With the above concerns noted, evidence still points to a positive impact for drug courts: high treatment retention, increased sobriety, and reductions in recidivism have been noted in many drug court locations; in addition, savings in jail costs can be substantial (Drug Strategies, 1997; Cooper, 1997; Harrell, Cavanagh, and Roman, 2000). A recent evaluation of a midwestern drug court by Spohn and colleagues (2001), which used a comparison group design and controlled for a variety of social and behavioral characteristics, concluded that drug court participants had significantly lower rates of recidivism than those who received standard court processing. To be successful, drug courts require a long-term outlook, significant initial resource allocation, and available treatment slots (Platt, 2001). Additional research is needed to address the significant issues critics have raised regarding the scientific support for drug court enthusiasm.

Supervision and monitoring

As stated in the introduction to this section, interventions for drug-using offenders must ensure community safety as well as offender accountability. Programmatic approaches designed to help accomplish safety and accountability goals include supervision via a system of graduated sanctions, use of drug monitoring and testing to substantiate accountability, and system oversight and coordination through cross-systems case management.

Graduated sanctions. Judicial processing within systems such as drug courts often relies on graduated sanctions for supervision purposes. This approach helps ensure offender rights and deters noncompliance. Graduated sanctions are based on the theoretical foundation of procedural justice, which posits that compliance is enhanced by procedures that are perceived as fair (Taxman, Soule, and Gelb, 1999). Lack of compliance is a significant problem across the justice system. Studies indicate that as many as 61 percent of probationers fail to comply with release conditions (Langan and Cunniff, 1992), and that 30 to 80 percent of new prison intakes each year are probation and parole violators (Burke, 1997; Rhine, 1993). Some critics have expressed concerns that graduated sanctions are a form of “net widening,” in which probationers are given technical violations for positive urinalysis tests. Such positive tests have become the equivalent of crimes, although they are described by the drug treatment system as relapses.

Taxman, Soule, and Gelb (1999) state that the efficacy of graduated sanctions results from the use of structured, incremental responses to noncompliant behavior and from an emphasis on swift response to noncompliant acts through a series of specific sanctions that vary based on such factors as the nature and number of violations. The concept of graduated sanctions applies to the following:

- The type of initial treatment intervention (outpatient, residential, or types of collaborative services).
- The service delivery sentencing context (from community diversion to incarceration with coerced drug treatment in a State training school).
- Overall intervention/treatment program outcome goals.
- Progress within the program (McBride et al., 1999).

Taxman, Soule, and Gelb (1999) state that to be effective, graduated sanctions must include three specific elements:

- Inform offenders about infractional behavior and the potential consequences for such behavior.
- Ensure that all members of the graduated sanctions judicial team adhere to the agreed-on sanctions model.
- Strive to uphold offender dignity.

Use of a behavioral contract informing the offender of the graduated sanctions menu should be developed at intake or at the time of court-ordered probation. Such a sanctions menu should reflect certainty, consistency, parsimony, proportionality, and progressiveness (Taxman, Soule, and Gelb, 1999), and it should provide for equivalent responses that allow for tailoring sanctions to specific cases.

Research specifically evaluating graduated sanctions approaches is very limited. However, the use of this approach is quite common within drug courts. In addition, initial studies indicate that offenders in a pretrial intervention program that used graduated sanctions had lower rearrest rates for both short- and long-term (1-year) followup (Harrell, 1998). In addition, the cost-benefits of graduated sanctions indicate promise (Greenwood and Turner, 1993; Rivers and Trotti, 1995).

Drug monitoring and testing. In recent years, drug testing programs have become increasingly widespread in criminal justice settings (Jacobs, DuPont, and Gold, 2000). In 1998, 71 percent of jails reported having a policy to test inmates for drug use; however, only 8 percent imposed mandatory treatment in response to positive test results. Instead, the most common responses to positive testing involved punitive sanctions ranging from loss of privileges to adding time to the sentence (Wilson, 2000), a practice that

critics regard as net widening. Regular drug testing is often part of an overall strategy in which both treatment and criminal justice systems use graduated sanctions to monitor compliance. Advocates of such strategies recommend that testing must be conducted frequently and randomly. Researchers (Marlowe, 2001; Taxman, Soule, and Gelb, 1999) have recommended several compliance-gaining strategies, including clarification of negative and positive behaviors as well as swift, certain, and progressive responses. It is important to use a team approach in which treatment providers and criminal justice personnel share information about progress or relapse issues. It is also important to ensure that offenders are tested as long as they are under criminal justice system supervision.

A wide variety of testing methods exists for illicit drugs, with variation in reliability and validity among testing procedures. The most widely practiced technique is urinalysis. Urinalysis offers a number of advantages compared with other testing methods, including ease in obtaining a sample, ability for sample retest, and low cost (Jacobs, DuPont, and Gold, 2000). However, subjects can easily tamper with samples, and testing only reflects drug use within the last few days. The window of detection is also small for blood sampling, although results are highly reliable. In contrast, hair analysis allows for detection of long-term use (within the last 90 days), but provides unreliable data for studying variables other than simple drug presence. The least invasive testing techniques include sweat patch, saliva testing, and nail testing, but the wider utility of these approaches remains to be studied. Although a combination of modalities is likely to offer the most accurate results, privacy and feasibility issues usually determine which methods are used in practice (Jacobs, DuPont, and Gold, 2000). Comprehensive outcome studies are needed to evaluate the linkages between drug

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testing and expected (negative) consequences for positive results.

Cross-systems case management, including TASC. Case management provides one way for criminal justice systems to coordinate the comprehensive needs of offenders. Case management has emerged as a strategy to connect clients to needed resources throughout the service continuum, at intake, during treatment, and after treatment. Case management results in more rapid service access (Bokos et al., 1992), higher levels of goal attainment (Godley et al., 1994; Rapp, 1997), longer lengths of stay in treatment (Rapp et al., 1998), reductions in drug use (Rapp, 1997), improved employment functioning (Siegal et al., 1996) and improved connection to needed resources over time (Dennis, Karuntzos, and Rachal, 1992; Godley et al., 1994; Schlenger, Kroutil, and Roland, 1992) when compared with standard treatment services. Research suggests that case management may be effective as an adjunct to substance abuse treatment for two reasons: Retention in treatment is generally associated with better outcomes, and one of case management's primary goals is to keep the client engaged in the treatment process (Kolden et al., 1997; Siegal et al., 1995, 1996, 1997); and treatment is more likely to succeed when a client's non-substance-abuse problems are also being addressed (e.g. financial problems, family problems, etc.; see Siegal, 1998).

Case managers (CMs), who are often mental health or social workers, support and reinforce treatment goals throughout the treatment continuum by providing the following three functions: assessment (Babor et al., 1991); treatment planning and goal setting, linking, monitoring and advocating (Ballew and Mink, 1996), including navigating the often-confusing social service system (Spear and Skala, 1995); and assisting in offender reintegration with home or other placement, social

services, and the workforce. In addition, CMs may intervene in crisis situations or assist offenders with relapse prevention strategies such as developing non-drug-related leisure activities. Intensive case management services are most critical during the vulnerable 2-month period following discharge from primary treatment. They provide continuity of care while simultaneously working to move the client toward independence.

Although a CM can help an offender navigate through the interconnected array of treatment services, it is also clear that such services must be provided in the context of the justice system. Drug courts, probation offices, and other criminal justice system components must work with CMs to coordinate an offender's movement through the justice system via the use of graduated sanctions. The graduated sanctions process allows the judge or probation officer to maintain an appropriate balance between community protection and offender rehabilitation. However, judges generally have neither the time nor the training to ensure that offenders receive a continuum of services. According to a recent NIJ examination of case management within the criminal justice system (Healey, 1999), optimum case management models currently combine two broad approaches: strengths-based case management—focusing on a client's self-identified strengths and talents when developing a service plan, and assuming a client's ability to use these strengths to move toward "socially acceptable choices" (Clark, 1997; Enos and Southern, 1996; Rapp et al., 1998; Siegal et al., 1997); and assertive case management—requiring active involvement of the CM in seeking out and delivering services to clients as opposed to passive service provision (Healey, 1999; Inciardi, McBride, and Rivers, 1996). Within the criminal justice setting, CMs combine support and positive regard for a client's strengths with clear disapproval of the behaviors that led

the client to become involved with the justice system.

Healey (1999) notes that criminal justice case management often involves a conscious blurring of roles between CMs, mental health providers, substance abuse counselors, domestic violence program counselors, and other social service providers. Taxman and Sherman (1998) have suggested that much of the role confusion can be reduced through a systemic approach to case management, including agreed-on role clarifications and resource allocation. Significant cross-training is often necessary to allow such blurring to take place without confusion of appropriate role responsibility or misunderstandings regarding philosophical differences (Healey, 1999).

Effective use of assessment data within a case management framework requires a complex information system that can ensure the availability of relevant information to those involved in service provision (Taxman and Sherman, 1998). If services are to be integrated effectively, it is crucial that intake, assessment, and progress information be shared and not be needlessly duplicated. Such information can play a major role in increased service delivery efficiency and improve the outcome of provided services (for further discussion of this area, see Mahoney et al., 1998).

Perhaps the best example of a programmatic approach incorporating cross-systems case management is TASC: Treatment Alternatives for Safe Communities (also known as Treatment Alternatives to Street Crime, or Treatment Accountability for Safer Communities). TASC is recognized as an offender management model (Anglin, Longshore, and Turner, 1999) that links criminal justice system legal sanctions with drug treatment program therapeutic interventions (Sigmon et al., 1999; see also Inciardi and McBride, 1991). The TASC approach consists of 4 distinct

processes and 10 critical elements (Bureau of Justice Assistance, 1995). The four processes are:

- Identification of appropriate drug-involved offenders.
- Assessment of treatment needs.
- Referral to appropriate services and placement.
- Continuous case management at all points along the criminal justice processing continuum (Anglin, Longshore, and Turner, 1999).

The 10 critical elements involve:

- Broad-based support within both the criminal justice and treatment systems with formal communication systems.
- Independence as a unit with designated administrator.
- Appropriate staff training on TASC policies and procedures.
- An established data collection system.
- Explicit and agreed-on eligibility criteria.
- Documented assessment/referral screening procedures.
- Documented policies and procedures for drug testing.
- Offender monitoring procedures, including reporting procedures (Bureau of Justice Assistance, 1995).

The usual position of a TASC program is that of a neutral party. Most program sites do not provide treatment services of their own, nor are they an official member of the criminal justice system. Thus, the programs can be perceived as using non-biased referral judgments and case management decisions.

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Evaluations of TASC programs have been mixed, based on whether the evaluation is examining operational/procedural issues or outcome issues. Operational/procedural evaluation results (see Anglin, Longshore, and Turner, 1999) have been consistently positive, citing strong screening and identification of drug-using offenders (Toborg et al., 1976); effective linkages with the criminal justice system; increased ethnic diversity in treatment; and increased treatment participation (Collins et al., 1982); improvements in treatment retention (Hubbard et al., 1989; Inciardi and McBride, 1991), and considerable cost-benefit ratios when compared with any form of incarceration (System Sciences, 1979). Outcome evaluations have been mixed. Studies focusing on recidivism generally show that TASC clients either have higher recidivism rates or no significant differences in recidivism compared with control groups (Anglin, Longshore, and Turner, 1999; Owens et al., 1997). However, as TASC uses higher monitoring levels, results on recidivism may simply indicate “net widening”; those who are watched more are caught more. This may indicate a possibility of higher public safety in TASC communities, rather than program failure. Anglin, Longshore, and Turner’s (1999) review of five TASC programs chosen to reflect similar programmatic and population characteristics (including adherence to the 10 critical elements) indicated favorable outcomes for service delivery, drug-use days, drug crimes, and sexual activity while high on drugs. However, these results were either modest or were confined to high-risk offenders. Anglin, Longshore, and Turner conclude that more problematic offenders may receive the highest benefit from program participation. Covington (2001) reminds program administrators and researchers that TASC programs have generally not received consistent methodologically strong long-term outcome evaluations. Future research should focus on these issues.

Cross-systems collaboration

By definition, the drugs-crime relationship crosses currently accepted jurisdictional responsibilities and requires system partnerships. The promising components described so far in this paper demand the successful integration of a wide variety of services and jurisdictions, including criminal justice, drug treatment, social services, and public health. Effective use of immediate and comprehensive assessment, drug courts, communication necessary for successful use of graduated sanctions, cross-systems case management in the form of agencies such as TASC, and post-criminal-justice transition services to reintegrate drug users back into the community—all of these approaches are based on an integrated care system. Yet, as Sigmon et al. (1999) note, the adjudication process is historically an adversarial system, and creating successful partnerships that involve a variety of individual agencies is often difficult.

To build the infrastructure required to support cross-systems interactions, collaborative efforts are becoming widespread. Eisenburg and Fabelo (1996) argue that failure to develop an integrated infrastructure not only negatively affects the outcomes of individual programs, but also hastens treatment decay. Such infrastructures have a variety of names but one essential goal: to have representatives from key agencies and services join together to identify the problems their community is seeking to target, develop effective goals and strategies to address those problems, and then oversee the implementation of those goals and strategies (Sigmon et al., 1999). The types of problems such collaborative efforts address should not be narrowly construed. Sigmon and colleagues (1999) refer to adjudication partnerships as an “umbrella concept under which many interagency efforts can be classified” (p. 2).

While collaborative formation usually results from grassroots efforts of local leaders (Sigmon et al., 1999), the recent emergence of State- and county-level managed-care models often require provider subcontracts and collaboration (McBride et al., 1999). Key agency members for collaboratives addressing drugs and crime would include justice system agencies (offices of the prosecution, the defense, and the court), as well as other groups such as law enforcement, welfare, State and local corrections, managed behavioral health care, community treatment, the health department, and State and local managed-care initiatives (Mull, 1998; Sigmon et al., 1999). Such a membership list would allow two essential types of individuals: "1) those who understand and have an interest in the broad and specific problems of community welfare, justice, alcohol and other drug abuse, and health and social services, and 2) community leaders who can ensure that productive change occurs" (McPhail and Wiest, 1995, p. 28).

Although each collaborative will be uniquely tailored to the community it serves, reviews of collaborative efforts have identified several critical elements for success (Sigmon et al., 1999, pp. 2–4; see also Bureau of Justice Assistance, 1995; McBride et al., 1999). These include leadership designation, membership integration, goal setting, development of a team approach, emphasis on a long-term view, research and evaluation, efforts to develop broad-based community support, and sustainable funding (see appendix B for a more thorough discussion of these elements).

Continuum of drug treatment services

Many policymakers, particularly legislators, oppose funding for drug treatment in correctional facilities, believing that the public wants offenders punished rather than

coddled (Lipton, 1998). However, research involving numerous large-scale studies consistently demonstrates that treatment has beneficial outcomes. These federally funded and independently evaluated studies—including the Drug Abuse Treatment Outcome Study (DATOS), the National Treatment Improvement Evaluation Study (NTIES), the Treatment Outcome Prospective Study (TOPS), and the Drug Abuse Reporting Program (DARP)—have all confirmed drug abuse treatment efficacy through 1-year followup. These findings remained valid when controlling for type of service received (residential long-term, outpatient drug-free, or outpatient methadone maintenance) as well as drug and client type (U.S. General Accounting Office, 1998). However, the National Research Council (2001) has questioned the strength of these studies' conclusions, arguing that because the studies lacked randomized assignment, researchers "could not provide rigorous evidence on the relative effectiveness or efficacy of particular drug-by-treatment combinations, or estimate the absolute effect size, cost-effectiveness, or benefit-cost ratio of treatment" (p. 230).

Cost savings for treatment relative to incarceration, interdiction, and health care expenditures have been estimated by two recent studies. The first, the California Drug and Alcohol Treatment Assessment (CALDATA), examined the effectiveness, costs, and benefits of providing alcohol and drug treatment in California (Gerstein et al., 1997). Economic savings to the California taxpayer both during and after treatment were estimated to be worth \$10,000 per client, yielding a 1:7 cost-benefit ratio (the greatest share of the benefits was found in crime reductions, with smaller savings in health care and welfare costs). The study also reported a 68-percent reduction in drug selling and a 60-percent reduction in arrests resulting from drug treatment. In the second study,

RAND researchers developed an economic model to estimate the relative cost-effectiveness of four cocaine-control programs: three “supply control” programs (source-country control, interdiction, and domestic enforcement) and a “demand control” program treating heavy users (Rydell and Everingham, 1994). Results indicated that for every dollar spent on drug treatment, \$7 would have to be spent on incarceration and \$25 on interdiction to achieve the same degree of reduction in cocaine use (cost savings would vary depending on factors such as treatment setting, length of time in treatment, and degree of treatment structure). Further, they argued that even when only looking at modest in-treatment effects (assuming 0-percent post-treatment effectiveness through abstinence), cost savings for treatment exceeded those that would be achieved through incarceration and interdiction. This study was later updated to distinguish among a variety of types of domestic enforcement and used a more optimistic assumption concerning how responsive consumption is to enforcement-induced price increases. Caulkins and his colleagues (Caulkins et al., 1997) concluded that

treatment is more cost-effective than either enforcement approach [conventional or federal] at reducing both cocaine consumption and cocaine spending. Treatment is solidly but not exceptionally more cost-effective than the federal-level enforcement programs at reducing consumption; it has a 1.6:1 edge over conventional enforcement and close to a 3:1 advantage over mandatory minimums. (p. 51)

They also found treatment to be “enormously more cost-effective (on the order of 70 times more cost-effective) at reducing spending on cocaine” (p. 51) than enforcement strategies that shrink consumption primarily by driving up prices.

In a critique of the original 1994 RAND model, the Office of National Drug Control Policy (ONDCP)-funded National Research Council reviewers argued that RAND’s conclusions were “based on problematic estimates of treatment effectiveness drawn from uncontrolled observational studies” (National Research Council, 2001, p. 225), and that the assumptions and economic modeling procedures used by RAND researchers were flawed in other ways and therefore not useful for policymaking (Manski, Pepper, and Thomas, 1999). Caulkins, Chiesa, and Everingham (2000) offered an extensive response to the latter set of criticisms, showing that modifying the model to incorporate the reviewers’ suggested changes did not in fact materially alter the conclusions. As for the concern that RAND’s characterization of treatment was overly optimistic, the evidence is ambiguous. Indeed, some have criticized their model for being overly pessimistic (Caulkins, Chiesa, and Everingham, 2000). Clearly, future research in this area is needed to clarify and tighten assumptions, improve methodologies, and incorporate more carefully controlled data from drug treatment outcome studies (for more comprehensive information on the economics of drug treatment services, see Cartwright, 2001).

Inmate participation in treatment. Although billions of dollars are spent each year to support drug abuse treatment, the large majority of offenders do not receive drug treatment services of any kind. ONDCP spent approximately 20 percent of its \$18.4 billion budget on drug treatment in fiscal year 2000 (ONDCP, 2000). More than half of such Federal funding was allocated to support State block grants. In addition to these amounts, State, county, and local governments (as well as private funding sources) contributed significant funds to drug treatment efforts (U.S. General Accounting

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Office, 1998). However, it is unclear what proportion of the total available funds have been targeted toward treatment of drug-using offenders. Regarding offender treatment services, 83 percent of State and 73 percent of Federal prisoners reported past drug use in 1997, with 57 percent of State and 45 percent of Federal prisoners reporting use in the month prior to their offense (Mumola, 1999). However, reported participation in drug treatment in Federal and State prisons is minimal in most cases. The 1997 *Survey of Inmates in State and Federal Correctional Facilities* (Mumola, 1999) reported decreases in the percentage of both State and Federal inmates undergoing drug treatment. It is important to note that these trends are difficult to interpret without knowing more about the increases in actual drug treatment capacity within State and Federal systems relative to inmate population increases.

Local jails have fared about the same as Federal and State facilities. According to BJS's 1998 *Annual Survey of Jails* (Wilson, 2000), 66 percent of jail inmates were actively involved with drugs prior to their current incarceration, and 74 percent reported past drug involvement. Almost three-quarters of local jails (90 percent in larger jurisdictions) state that they provide substance abuse treatment or programs for their inmates. However, 64 percent of that total are self-help programs; only 12 percent of jail jurisdictions (mostly large jurisdictions) provided detoxification, counseling, and education in addition to self-help programs. There is a substantial difference between what jails say they provide and what inmates report. The percentage of inmates who actually reported that they participated in substance abuse treatment or programs since their admission to jail was estimated at 10 percent (19 percent for those who had used drugs at the time of the offense). Despite these low rates of participation in treatment, a broad range of studies continues to show

that drug treatment for offenders is effective.

Effectiveness of drug treatment for offenders. Drug treatment for offenders is being taken seriously by even the strongest advocates of incarceration for drug possession and use. Flooded court dockets, overcrowded prisons, and high recidivism rates of drug-using offenders have convinced even those most skeptical of treatment that it is impossible to incarcerate all the illegal drug users in the Nation. Scientific research on the brain is offering clues into the nature of drug dependence, leading most to agree with the conclusions of NIDA: "Prolonged use of these drugs eventually changes the brain in fundamental and long-lasting ways, explaining why people cannot just quit on their own, why treatment is essential" (Leshner, 2001). This view has also been adopted by ONDCP, which states that "chronic, hardcore drug use is a disease, and anyone suffering from a disease needs treatment" (ONDCP, 2001, p. 1). Recognizing both the public safety benefits from breaking the cycle of drug use and crime as well as the potential safety risks of allowing drug-addicted criminals on the streets (Taxman, 2000), ONDCP's National Drug Control Strategy advocates a two-pronged approach to the problem: punish criminals for their behaviors while mandating sanctions-based drug treatment. However, questions remain as to which treatment programs are effective, and for which drug users.

Three major cautions must be noted when reviewing the mostly quasi-experimental drug treatment outcome studies. First, many studies rely on client self-reports, which are least valid for higher penalty drugs, recent use, and those involved with the criminal justice system (for further limitations on the validity of self-report drug use, see Hser, 1997). A second and related problem is selection bias. Both the selection of those who elect to enter

treatment (and are thus perhaps viewed as being more motivated to remain in treatment) and program terminations may leave only those participants who are most ready and capable of succeeding when released into the community. Such “weeding out” of participants who may be more likely to fail than succeed could lead researchers to incorrectly conclude greater treatment effects than would be seen through more careful attention to treatment design with randomized assignment to treatment groups (U.S. General Accounting Office, 1998; Pelissier et al., 2000). Third, making a generalization based on the issues just noted, a recent National Research Council report (2001) notes that very few randomized controlled research studies have been conducted on drug treatment outcomes, thereby casting some doubt on the cause of some outcomes.

Despite these challenges, however, some researchers are paying more attention to improving the scientific rigor of these evaluations to achieve the greatest accuracy possible. The National Research Council report summarized five recent treatment evaluation studies that were, in the committee’s view, “the methodological state of the art in drug treatment research” (2001, p. 227). The studies, none of which included drug-using offenders, were noted for their random treatment assignment, treatment fidelity, measurement reliability and validity, and continuous rather than dichotomous outcome measurements. The committee also discussed in some detail the ways in which drug treatment outcome studies could be strengthened through improved methodological and statistical rigor. In a separate review (in the same volume) of drug treatment in the criminal justice system, Covington (2001) suggested guidelines for evaluating criminal justice system-based drug treatment. These guidelines included controlling for self-selection bias; controlling for stake in

conformity such as employment or marriage (i.e., if an individual is employed, he or she has a greater incentive to adhere to treatment in order to not get fired; or, if married, an individual may have a greater incentive to do well to prevent a spouse from leaving); use of credible outcome measures; identifying appropriate followup periods; linking retention to outcomes; and identifying treatment components that promote recovery.

Treatment settings. Overall, the size and consistency of treatment effects across many reasonably good studies tend to lend credibility to consistent claims of treatment effectiveness. The following section reviews a sample of recent outcome evaluations for offenders in a variety of treatment settings, moving from more restrictive to less restrictive settings. Outcome measures that are typically used to gauge drug treatment effectiveness in such studies include reduced frequency or amount of drug used; relapse time or length of abstinence period; crime, arrest, and conviction rates; and maintenance of parole or probation status.

Prison-based therapeutic communities. Therapeutic communities (TCs) are generally intensive, long-term, self-help-based, highly structured residential treatment programs for chronic, hardcore drug users. Although still rooted in a self-help approach, prison-based TCs are more likely than community-based TCs to have professionally trained staff, with inmates being given a reasonable level of power and rewards without too much program control (Wexler, 1995; see also ONDCP, 1996). Three TC approaches will be reviewed below.

Wexler and colleagues have reported on the effectiveness of the Stay ‘N Out TC program used by the Department of Corrections in New York State (Wexler, Falkin, and Lipton, 1990; Wexler et al., 1992). TC inmates were compared with

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inmates assigned to milieu therapy, counseling, or a no-treatment group (composed of those who volunteered for TC treatment but were placed on a waiting list). Comparing male post-treatment arrest rates, the groups receiving counseling and no treatment were equally likely to be arrested (40 and 41 percent, respectively), while those receiving milieu therapy had an arrest rate of 35 percent, and those receiving TC group treatment had an arrest rate of 27 percent. One significant flaw in this finding is the researchers' failure to account for other background variables, causing some to question the strength of the treatment effect (Pelissier et al., 2000). However, time-in-treatment effects were also noted that showed a strong positive relationship between the number of months in the TC program and the percentage of inmates who were successfully discharged from parole. Specifically, the percentage of male TC inmates who had successful parole discharges grew from 49 percent for those in treatment for less than 3 months to 58 percent for those in treatment for 3 to 6 months. Positive rates further increased to 62 percent when inmates participated in a TC from 6 to 9 months and to 77 percent for those in a TC from 9 to 12 months. Those who eventually failed on parole were still able to stay drug and crime free for significantly longer periods than the comparison groups.

Field (1985, 1989) conducted two evaluations of the Cornerstone Program, a TC for alcohol- and drug-dependent inmates in Oregon's correctional system that also required at least 6 months of followup treatment in the community. Participants had to be granted minimum security status by the prison superintendent. Treatment clients had, on average, about 12 prior arrests, 6 prior convictions, and 6 years of adult incarceration. In the first 3-year followup study (1985), program graduates were found to have had a

29-percent reincarceration rate compared with 74 percent for program dropouts. Similarly, although 54 percent of program graduates were not convicted of any crime (including minor offenses), only 25 percent of the comparison group and 15 percent of program dropouts were not convicted of a crime. Again, these findings should be viewed with some caution given that participants who remained in treatment were acknowledged to have been more highly motivated to succeed than program dropouts. It is also impossible to separate out the effects of the 6 months of community followup treatment (Pelissier et al., 2000). The second study (Field, 1989) found that approximately 75 percent of program completers were not reincarcerated, compared with 37 percent in the comparison group. In contrast, only 15 percent of participants who dropped out of treatment after less than 2 months in the program were not reincarcerated during the 3-year followup.

A major concern of this and similar studies is the high dropout rates from voluntary drug treatment programs. For example, Field (1992) highlighted that, of 220 volunteer inmates who had been admitted to Cornerstone over a 2-year period, 65 withdrew after spending 1 to 2 days in the program, 58 withdrew after spending between 2 to 6 months in the program, 43 withdrew after spending at least 6 months in the program, and 43 graduated. Simpson and colleagues (1997) have estimated that, on average, only 50 percent of all addicts who voluntarily enter treatment actually complete the recommended treatment course. High dropout rates tend to confuse conclusions about treatment outcomes because those who remain in treatment could be arguably more motivated to remain drug and crime free than those who drop out. As has been noted earlier, however, offenders who are given graduated sanctions as a form of coerced treatment generally stay in treatment

longer, complete treatment programs, and report less drug use while in treatment programs than those in voluntary treatment (Simpson et al., 1997; Hubbard et al., 1989).

The Key-Crest program is a corrections-based, three-stage treatment model program that operates within Delaware's correctional system. The first stage, the Key, is modeled on the Stay 'N Out program and includes a 12-month intensive residential TC that is based in the institution but segregated from the rest of the inmates. The second stage, the Crest Outreach Center, is a transitional TC in which inmates work during the day and return to a community-based, more traditional TC environment during their non-working hours. In the third or aftercare stage, clients have completed work release and are now on parole or other supervision. Intervention at this stage usually involves group or individual counseling as well as the opportunity to return to the work-release TC for booster sessions. While earlier studies (Martin, Butzin, and Inciardi, 1995; Inciardi et al., 1997) demonstrated short-term (1-year) benefits of this TC treatment continuum, many of the positive improvements between the second and third stage clients appeared to disappear in 3-year followup studies (Martin et al., 1999). However, when less conservative analytical models were applied (the new analysis examined Crest dropouts, Crest completers, and Crest completers with aftercare), significant findings emerged. When compared with the comparison group, Crest dropouts were more than three times as likely to be drug free (as measured by initial self-reports and subsequent urinalysis); Crest completers were more than five times as likely to be drug free; and Crest completers with aftercare were seven times more likely to be drug free. Rearrests on a new charge showed a similar pattern, with Crest dropouts having the same rate of rearrests as

the comparison group. However, those who completed Crest did much better, and those who completed Crest plus aftercare were the least likely to have a new arrest. Specifically, less than one-third of clients with aftercare had a new arrest, compared with more than two-thirds of the comparison group (Martin et al., 1999).

Long-term residential treatment. Prison-based long-term residential treatment is generally considered to last between 6 to 12 months. Participants often live together in units separated from the regular inmate population. These units are specifically designed to focus on drug treatment. The degree of structure can vary, but generally a professional drug treatment staff coordinates all programs and services. Compared with TCs, prison-based residential treatment is generally more likely to include professional therapeutic interventions using standard treatment approaches. For example, the Bureau of Prisons includes programming on criminal lifestyle confrontation, cognitive and interpersonal skill building, and relapse prevention (Pelissier et al., 2000). Inmate-led self-help approaches are not present in such facilities. The following discussion will present an evaluation of long-term residential treatment, as well as one specific evaluation project.

From 1990 to 1993, the National Institute on Drug Abuse funded the Drug Abuse Treatment Outcome Study (DATOS), which included 96 programs in 11 cities. Positive outcomes were reported in multiple treatment modalities, including long-term residential treatment (Simpson et al., 1997). DATOS found that individuals in long-term residential treatment reduced weekly or more frequent use of cocaine from 66 percent in the year prior to treatment to 22 percent in the year following treatment (see exhibit 1). This same group reported a 26-percent drop (from 41 percent down to 16 percent) in predatory illegal activity during that same time period

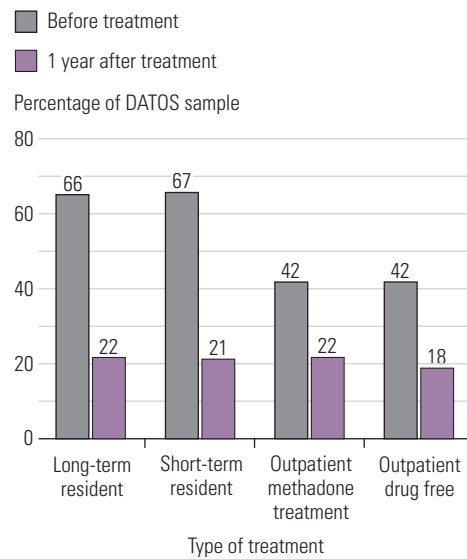
Prison-based residential treatment is generally more likely than therapeutic communities to include professional therapeutic interventions using standard treatment approaches.

(Fletcher, Tims, and Brown, 1997). Similarly dramatic reductions in self-reported cocaine use were also found for short-term residential treatment.

Using one of the most methodologically rigorous research designs to date, the Federal Bureau of Prisons (BOP) recently conducted a 3-year, 20-site evaluation of its residential drug treatment programs (Pelissier et al., 2000). During the three-phase Treating Inmates' Addiction to Drugs (TRIAD) Drug Treatment Evaluation Project, more than 1,000 inmates first voluntarily participated in a 9- or 12-month residential treatment program. Treatment group results were compared with a true comparison group as well as a control group, neither of whom received any drug treatment services. A second phase required inmates to continue drug abuse booster sessions (including relapse prevention and review of treatment techniques) for 1 year following their return to the general community. During the final

phase, inmates were required to participate in community transitional services in which they received individual, group, and/or family counseling from community-based drug treatment providers. Three-year followup findings indicated that men and women who were motivated to change were more likely to enter and complete treatment. Findings on both recidivism and post-treatment drug use were significant for men but not for women.⁴ Specifically, men who entered and completed in-prison residential treatment were 16 percent less likely to recidivate when compared with untreated inmates at 3-year postrelease followup. In addition, participants who entered and completed treatment were 15 percent less likely to use drugs than untreated inmates within 3 years after release. These findings are particularly significant because the selection process actually attracted riskier offenders into the treatment programs. In addition, this study carefully addressed the issue of selection bias by comparing results using two different bias correction methods.

Exhibit 1. Self-reported cocaine use among addicts participating in treatment



Source: Chart reproduced from Taxman (1998).

Day reporting centers. As noted previously, many offenders are serving time because of nonviolent drug convictions. To deal with prison overcrowding and the prohibitive costs associated with incarceration-based treatment programs, some correctional facilities have developed day reporting centers (DRCs). DRCs are a form of intermediate sanction in which offenders attend highly structured, nonresidential programs where a variety of services and supervision are provided. First introduced in the United States in 1986, DRCs can be operated by a wide range of public, government, and private agencies, such as residential community corrections centers, work release programs, jails, TASCs, and treatment programs (Parent, 1990; McBride and VanderWaal, 1997). Services such as drug treatment and education, GED courses, English as a Second Language and life

skills are often supervised by both corrections and case management personnel. A DRC has three primary goals: enhanced supervision and decreased liberty for offenders, treatment of offender problems, and reduced crowding of incarceration facilities (Parent, 1990). The concept has been adapted in a number of ways, including:

- Providing enhanced treatment and supervision to probationers or sentenced offenders not on probation.
- Monitoring inmates on early release from jail or prison.
- Monitoring arrested persons prior to trial.
- As a halfway-out step for inmates who have shown progress in community-based corrections or work release centers.
- As a halfway-in step for offenders who have violated their probation or parole (Curtin, 1990, as cited in Diggs and Pieper, 1994).

These programs are probably most appropriate for nonviolent offenders whose behaviors have not been improved through probation and/or who need greater structure and treatment services than could be provided in a less restrictive setting. While attending the center, participants are often required to submit to random drug testing and participate in counseling, education, and vocational placement assistance. Graduated sanctions are applied when participants are found to have violated the terms of their sentence.

Relatively few studies have been conducted to assess predictors of program completion or termination in DRCs. Studies which have been conducted are difficult to compare due to the wide variability of

settings, services, eligibility criteria, monitoring procedures, levels of supervision, and termination policies (Diggs and Pieper, 1994). While some studies have shown initial evidence of cost savings (Craddock, 2000) and lower rearrest rates (Diggs and Pieper, 1994; McBride and VanderWaal, 1997), evidence of program effectiveness was not as great in programs that lasted 12 months or longer⁵ (Marciniak, 1999). Marciniak (2000) found high rates of program termination for drug violations and rearrests. Several authors (Blomberg and Lucken, 1994; Marciniak, 1999; Tonry, 1990, 1997) have also expressed concerns of “net widening” since many offenders who would otherwise be sentenced to probation are placed in DRCs where they are watched more closely and are therefore more likely to be rearrested. Given the relatively recent emergence of this form of intermediate sanctioning, future studies should focus on success indicators such as program completion, drug use, rearrests, and cost-effectiveness, particularly in longer term programs. Program success indicators should be based on comparisons with offenders who would have been incarcerated as opposed to those traditionally found in probation to avoid a net-widening bias (Diggs and Pieper, 1994).

Outpatient and intensive outpatient treatment. Taxman (1998) notes that the location of drug treatment does not always relate to the intensity of services provided to the client. Instead, the number of service hours is often a better indicator. As such, community-based outpatient and intensive outpatient treatment services are often used as a transition from TCs and other more intensive corrections-based services. Such services are particularly important to drug courts, who primarily use treatment alternatives within the community. The setting is generally less important than the quality and quantity of services provided to clients, although

the organization providing the services must be supportive of delivering interventions to correctional populations (Pogrebin, 1978). The DATOS study introduced in the previous section (regarding long-term residential treatment) also included positive outcomes for outpatient drug-free treatment: self-reported cocaine use dropped from 42 percent before treatment to 18 percent at 1-year followup (see exhibit 1).

Treatment intervention approaches.

The previous section reviewed outcome studies on a variety of drug treatment settings, based on a range of restrictiveness. Each of these settings often includes such intervention approaches as life-skills training, group and individual counseling, relapse prevention training, and educational and vocational skills training. In addition, a variety of theoretical models influence the content and approach to such interventions. It is beyond the scope of this paper to review these approaches and theories. As mentioned earlier, however, NIDA has conducted a number of large-scale research evaluations on a variety of interventions (e.g. DARP, TOPS, DATOS), and readers are referred to those studies to review intervention effectiveness. In addition, NIDA is currently conducting controlled, multisite tests of emerging science-based drug abuse treatments such as the use of buprenorphine/naloxone treatments for detoxifying opiate-dependent patients and incorporating motivational enhancement therapy into standard treatments (Mathias, 2001). Motivational enhancements offer abstinent clients a chance to win small prizes such as candy bars, Walkmans, or gift certificates to local restaurants by testing negative for various illicit drugs. As the number of abstinent weeks increases, so do the number and value of the incentives. It is anticipated that such evaluations will provide preliminary evidence of effectiveness and efficacy so that knowledge about treatment effectiveness can be improved.

It is important to recognize the importance of matching the drug-using offender with the appropriate treatment.

Based on a comprehensive review of clinical and health services research on drug abuse, ONDCP (1996) made the following recommendations regarding critical elements for successful treatment in any setting (e.g. prison based, residential, or outpatient):

- Complete and ongoing assessment of the client.
- A comprehensive range of services, including pharmacological treatment (if necessary), counseling (either individual or group, in either structured or unstructured settings), and HIV-risk reduction education.
- A continuum of treatment interventions.
- Case management and monitoring to engage clients in services of appropriate intensity.
- Provision and integration of continuing social supports.

NIDA came to many similar conclusions in their research-based guide, *Principles of Drug Addiction Treatment* (NIDA, 1999). This guide also reviews scientifically based approaches to drug treatment and makes recommendations. A full listing of the NIDA recommendations is found in appendix C.

In addition to the recommendations and principles listed by ONDCP and NIDA, it is important to recognize the importance of matching the drug-using offender with the appropriate treatment. This simple concept is, at times, especially difficult to employ in jurisdictions that may lack adequate resources to provide a full continuum of services. Essentially, treatment matching recognizes that no single treatment is universally applicable. Levels of restriction and supervision, treatment modalities, and psychopharmacological treatment options (such as methadone) must be assessed on a case-by-case

basis. The ramifications of this issue include the need for training system personnel on treatment continuum issues, realistic expectations by both treatment and criminal justice systems regarding the potential impacts of available services, and the potential need to educate the community on what can be expected from available resources.

Gender differences in treatment.

Pelissier and her colleagues (2000) completed a comprehensive review of literature on gender differences among substance abusers (for supporting literature documentation of this summary paragraph, see Pelissier et al., 2000). Although much of the current increase in the number of incarcerated women is linked to substance abuse (Kassebaum, 1999), few studies have examined gender differences among substance-abusing inmates. Studies primarily on nonoffending substance abusers show that women generally have different social, psychological, and economic circumstances; different initiation and drug use patterns; and different criminal histories than men. Most discussions of treatment approaches for women include a strong focus on ancillary services such as health care, child care, and female treatment staff. Therapeutic recommendations include a focus on relationship issues, support, skill building, and identification of strengths as opposed to the confrontation strategies that are common for men (for a summary of treatment effectiveness studies for men and women, see Landry, 1997). Despite these differences, however, few treatment programs focus heavily on women's issues, particularly in correctional facilities. Not surprisingly, few studies have looked at outcomes of treatment programs designed specifically for women (Landry, 1997), in part due to the relatively small numbers of female drug treatment participants (Moras, 1998).

Aftercare

Aftercare (or continuing care) is defined as "a set of supportive and therapeutic activities designed to prevent relapse and maintain behavioral changes achieved in previous treatment stages" (Fortney et al., 1998, as cited in Inciardi et al., 2001). The aftercare phase of the treatment continuum is often neglected for drug-using offenders. As noted previously, most drug-using offenders have high relapse rates and therefore require extended periods of treatment exposure and ongoing support to achieve and maintain sobriety. In addition, most treatment graduates are ill equipped to integrate back into their old neighborhoods (Berman and Anderson, 1999). For these reasons, providing aftercare as a followup to more restrictive treatment may improve treatment effectiveness. Cross-systems case management and collaboration are critical at this phase in the treatment process to maintain an integrated continuum of care for clients as they transition back into the community.

Martin et al. (1999) recommend that treatment interventions at this stage include continued monitoring by previously involved treatment counselors (such as TC counselors). Interventions at this stage could include regular outpatient counseling, support groups such as Alcoholics Anonymous, group therapy, and family therapy sessions. In addition, Tauber (1994) calls for educational opportunities, job training and placement, and health and housing assistance.

Several studies (Lash, 1998; McKay et al., 1998; Rychtarik et al., 1992) with noncorrectional populations have suggested that improved treatment outcomes can result from aftercare (most of these studies are correlational in nature). In such settings, it is possible that selection bias is present,

since motivated clients may make better use of aftercare services (Inciardi et al., 2001). However, recent studies with corrections-based treatment followed by aftercare have also shown preliminary indications of success (DeLeon et al., 2000; Wexler et al., 1999). Offenders in the California-based Amity Right Turn Project received voluntary TC treatment followed by community-based aftercare programming. No-treatment control groups were compared with TC dropouts, TC graduates, and aftercare completers after 12, 24, and 36 months. Although recidivism rates increased for all groups as time increased, those who completed both the treatment and aftercare phases had the lowest rearrest rates. Inciardi and colleagues (2001; see also Martin et al., 1999) conducted a similar aftercare study with Key-Crest participants. Voluntary clients were randomly assigned and purposively sampled across four groups: a no-treatment comparison group, treatment dropouts, treatment graduates, and treatment graduates with aftercare. Researchers conducted followup interviews at 18 and 42 months and collected information on drug use (interview and urine screen) and rearrest rates (interview compared with official prison records). Eighteen-month followups indicated that treatment dropouts and graduates were twice as likely than the comparison group to be drug free, and treatment graduates with aftercare were three times more likely to be drug free. Preliminary data from the 42-month followup were even more impressive. Although only 25 percent of the comparison group were arrest free, more than half of the graduates with aftercare remained arrest free. Similarly, 25 percent of comparison cases remained drug free, compared with 36 percent of the treatment-with-aftercare group. Such studies could be further strengthened with larger sample sizes, evaluating suitability of clients for treatment, more careful

control of self-selection bias, and careful analysis of other intervening variables.

Summary

Current research suggests that successful programmatic efforts to intervene in the drugs-crime relationship are based on a continuum of integrated services stretching from assessment through aftercare. Although research has evaluated the various components that might be most beneficial for inclusion in a successfully integrated system, we know of no studies that have attempted to measure the success or lack of impact of such integrated approaches.

Suggestions for future research

In any field of scientific inquiry, one of the easiest things to do is to call for more research. Not surprisingly, that is exactly the most appropriate thing to do with regard to the drugs-crime relationship. New conceptual and mathematical models have emerged recently in the social sciences that will allow a fresh perspective on many of the questions that have been addressed in the past and provide a new baseline for the 21st century. Human cultures change, some fairly rapidly, and even a brief review of the past 25 years in the United States with regard to drugs and crime would indicate that ours has changed dramatically. In the area of the drugs-crime relationship, one illustration of this change is the apparent reduction in the violence associated with cocaine/crack distribution. Such changes require fresh examinations of previously collected data and more rigorous evaluations of current programs and policies. Although there are certainly many areas of potential further inquiry, the following areas are suggested:

Using secondary data analyses to provide a new empirical baseline for understanding the drugs-crime relationship

The Federal Government, other agencies, and universities have collected enormous amounts of data that are directly relevant to many key drugs-crime questions. These data include the National Household Survey on Drug Abuse (NHSDA), the Monitoring the Future (MTF) study, the Arrestee Drug Abuse Monitoring Program, and the Treatment Episode Data Set (TEDS). These data could be used to provide a new baseline of knowledge about certain statistical elements of the drugs-crime relationship across the lifespan and in many different segments of the population. In addition, these data could be used to demythologize many policy and popular conclusions about the drugs-crime relationship. For example, data from some of these systems call into question some beliefs about the cocaine-violence connection as well as suggest that the criminal justice system may primarily direct marijuana users to the treatment system to the exclusion of other drug users.

Further studying the nature and complexity of the drugs-crime relationship using the latest interdisciplinary conceptual and analytical models

Many of the interventions that have been applied to breaking the drugs-crime cycle have involved a fairly narrow focus on drug treatment and have not sufficiently recognized the complex origins of both behaviors. Further, there is increasing evidence of a need to include multilevel variables in order to understand how crime and drugs are connected. This was not possible previously due to the statistical precision needed. In addition, the 2000 Census and geocoding provide an opportunity to add another data dimension to drugs-crime analyses. For example, if we

could obtain parallel geocoding data for the ADAM dataset, the number of questions that could be addressed about the drugs-crime relationship would expand geometrically. We need to integrate advances in analytical models with advances in neurobiology, personality, family systems, and peer influence studies as well as include broader contextual variables (including ecosystems theory, social capital, economic opportunity, drug prices and market variables, drug laws/policy, and geographical data).

Consider using computer simulation modeling to examine key research questions

Some of the etiological ideas that researchers are examining may be applicable to computer modeling in the future. For example, it might be useful, in a simulated model, to manipulate reductions in supply, increases in price, changes in policy (such as treatment on demand and/or marijuana decriminalization/medicalization) to examine how such issues would affect drug use, crime, and their interrelationship. Although the data entered in a simulation would be based on the types of research previously noted, and the pitfalls and complexities of undertaking this approach have not been thought out, it may be time for the drugs-crime field to begin considering the use of computer simulation technology to address the critical issues facing many communities.

Evaluating State changes in drug policy to examine different attempts to address the drugs-crime relationship at a macro but yet subnational level

Throughout this document, it has been noted that while there has been relatively little modification of drug law and policies at the national level, there has been considerable legislative action in many States

and communities. Model State drug laws have been proposed. Many States are moving towards allowing medical marijuana, and many States have decriminalized marijuana possession (or at least removed incarceration penalties for the first marijuana possession conviction). Other States are changing club-drug laws to increase scheduling and penalties. In addition, there are significant differences between States (and communities) regarding treatment availability and budgets. For many years, there have been calls for international research comparing the impact of different national drug policies. However, given significant differences between national cultures, these comparisons are difficult. Variance in State law and policy provides a more readily available opportunity to examine variance between entities (the 50 States) with differing laws and policies. These changes suggest a number of possible research areas. For example, comparing differences in marijuana use (or drug use in general), perceptions of risk, and peer disapproval in States that have medical marijuana and/or marijuana decriminalization with States with high-deterrence prohibition policies could provide an excellent foundation for evaluating changing drugs-crime policies.

Evaluating attempted interventions in the drugs-crime cycle for net widening

As noted, the increasing availability of drug courts and other mandatory treatment programs may encourage law enforcement to intervene earlier and more formally in the lives of individual drug users. This change in strategy and tactics could begin a formal criminal justice labeling process that may exacerbate, rather than ameliorate, the relationship between drug use and crime. It may also result in changing definitions of law violation and increase the number of those arrested and incarcerated due to new placement

criteria and options. It is critical that we evaluate such changes early so that lessons learned from them may be used strategically to change later interventions.

Considering the need to establish research field stations in high-risk communities

One idea that has been discussed episodically in the drug field for the past two decades involves the use of a research field station approach. Although there have been some attempts to undertake such an endeavor, these efforts generally have been limited in time and/or place. Existing data (combined with geocoding) could be used to identify communities with high rates of drug use and crime. Theoretically based multivariate research projects could then be conducted in these targeted communities from a qualitative, on-the-ground perspective. Such an approach might permit researchers to understand some of the changes in violence associated with crack distribution that seem to have occurred in recent years.

Examining the relationship between particular enforcement strategies and drug markets

Recent modifications to the ADAM study (including asking subjects about access to drugs and conditions that they perceive as affecting access) provide the possibility of empirically modeling the effects of specific enforcement strategies on specific drug markets (cocaine, crack, and heroin) and drug prices. In particular, researchers may be able to evaluate a particular enforcement strategy's impact on drug market location (moving it indoors or to more urban settings), the number of dealers typically used, the amount of time searching for drugs, or the price of that drug (from STRIDE [System to Retrieve Information from Drug Evidence] or other sources) and

more. This could provide researchers with very important information about how drug markets operate in local areas in response to enforcement strategies.

Comprehensively evaluating current programs designed to intervene in the drugs-crime cycle

Many programs exist that attempt to intervene in the drugs-crime cycle from the juvenile to adult level. Although there have been significant attempts to evaluate these programs, most of these efforts have been descriptive or have used fairly simple analytical designs (often quasi-experimental). What is needed are large-scale, carefully controlled studies that focus on long-term program outcomes using multiple indicators of success and that identify program elements related to outcomes. These evaluations should focus on what the literature might call best-case program models that generally involve comprehensive assessment, needed service provision based on that assessment, case management, graduated sanctions, and aftercare. Most outcome studies examine such factors as rearrest rates or drug relapses. Additional successful outcome measures might include such non-crime-related outcomes as payment of child support, family formation and stability, employment stability, and residential stability. In addition, it is important to examine how these programs vary in their impact by gender, ethnicity, and age as well as provision context (prison to community). Finally, it is crucial to examine program costs relative to the cost of incarceration and the cost of no intervention. Although specific recommendations for further research were included at the end of each program intervention section in this chapter, the following research questions are of high priority:

- Which drug testing methods offer the best combination of accuracy, privacy,

and feasibility? How does drug monitoring alone compare with more comprehensive systems and treatment interventions in terms of outcomes such as drug use and recidivism?

- What assessment protocols can most accurately be used to place offenders in the safest, least restrictive, and most effective treatment settings?
- What level and intensity of drug treatment services are most appropriate for which offender types and settings?
- What forms and mixtures of the reviewed programmatic interventions (e.g. graduated sanctions, supervision/monitoring, various drug treatment services and settings, aftercare, etc.) predict program completion or termination (or other specific outcomes) with which populations and under which conditions?

Using interdisciplinary teams to conduct research on the drugs-crime relationship

A review of the literature shows that individuals from a variety of disciplines have examined the drugs-crime relationship. Each discipline has approached the relationship from its particular perspective, and each discipline likely has an important and unique perspective on understanding the relationship. Some of the critical reviews of conceptualization, methodology, and conclusions in drugs-crime research are often based on particular disciplinary perspectives. To broaden the perspectives of these disciplines, the types of research issues/questions that have been proposed require the efforts of an interdisciplinary team. If there is to be clear definition, development, and operationalization of treatment program elements, treatment providers must provide input. Researchers trained in experimental or quasi-experimental design are crucial in developing and carrying out the needed scientific designs.

Social scientists (survey researchers, geographers, and ethnographers) are needed if issues of gender, ethnicity, and other sociocultural and spatial characteristics are to be included in the design and data interpretation. Given today's strong social concern relative to cost-benefit outcomes, it is crucial to include economists on research teams. Drugs-crime research has clearly reached the stage where interdisciplinary research teams are required.

Establishing interagency cooperation in funding research

An examination of the various governmental reports and our conversations with colleagues about this project suggest that many different agencies focus on and issue reports about the drugs-crime relationship. It appears that the authors of many of these reports are not aware of the excellent research funded by other agencies. Given the limited resources in any given funding agency and the different research traditions in various agencies, integrated research will require significant interagency cooperation. Such cooperation could make sufficient resources available to address the types of complex research needed in drugs-crime analysis.

Notes

1. For economists, the term "open market" has a very precise meaning. In this paper, however, we use the term in a general sense to indicate low levels of government regulation.
2. The companion papers to this work discuss the psychopharmacological and economic components of the drugs-crime relationship.
3. The focus will be primarily on adult intervention strategies since other recent reports have completed a comprehensive literature review and offered program guidelines focusing specifically on juveniles (McBride et al., 1999).
4. Although Pelissier and her colleagues did not find a significant treatment effect on postrelease drug use and crime for women, further analyses indicated

no significant differences between the coefficient for men and women. This lack of significance for women is likely a reflection of the smaller sample size for this population (Pelissier, 2001; personal communication).

5. The issue of length of time in treatment as indicative of stronger gains in treatment was raised previously in this paper. This issue is debated in the field. Marciniak (1999) argues that longer may be better only up through 9 to 12 months; treatment deterioration may then begin. Other researchers argue that this outcome needs more study.

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Appendix A. Model State drug laws and policies

The President's Commission on Model State Drug Laws' (1993) model legislation specified five main policy areas. Following is a more complete list of the laws and policies within each general policy area.

Economic remedies

Forfeiture reform; money laundering; financial transaction reporting; money transmitter licensing and regulation; on-going criminal conduct.

Community mobilization

Expedited eviction of drug traffickers; drug nuisance abatement; crimes code provisions to protect tenants and neighbors; antidrug volunteer protection; community mobilization funding; alcohol/other drug abuse policy and planning coordination.

Crimes code enforcement

Prescription accountability; State chemical control; Uniform Controlled Substances Act controlled substance analogs; continued access by law enforcement to wire and electronic communications; wiretapping and electronic surveillance control; driving while under the influence of alcohol and other drugs.

Treatment

Addiction cost reduction; Medicaid addiction cost reduction; managed care consumer protection; family preservation;

early and periodic screening; diagnosis and treatment services; health professionals training; criminal justice treatment; caregiver's assistance.

Drug-free families/schools/workplaces

For drug-free families, underage alcohol consumption reduction; preventive counseling services for children of alcoholics and addicts; sensible advertising and family education; tobacco vending machine restriction; revocation of professional or business licenses for alcohol and other drugs.

For drug-free schools, drug-free school zones; ban on tobacco use in schools; intervention for students with substance abuse problems; State safe schools; alcohol- and drug-free colleges and universities; truancy, expulsion, and children out of school.

For drug-free workplaces, drug-free private-sector workplaces; drug-free workplace workers' compensation premium reduction; employee assistance programs and professionals; drug-free public workforce; drug-free workplace; employee addiction recovery.

Reference

President's Commission on Model State Drug Laws (1993), *President's Commission on Model State Drug Laws: Executive summary*, Washington, DC: President's Commission on Model State Drug Laws.

Appendix B. Critical elements for collaborative success

As noted in the main body of this paper, reviews of collaborative efforts have identified several critical elements for success.¹ These elements are specified and discussed below.

Leadership

There is a need for one or more key agencies to start the collaborative process, preferably bringing experienced leadership and/or supervision to the table. This body must be willing to take the responsibility to identify problems and help other members to envision solutions, maintain the support and involvement of other members, and work toward helping build an atmosphere of equality. Because in many communities the relationship between the treatment and criminal justice systems is often strained, there is a need to recognize differing primary responsibilities. Within the context of the courts, the justice system has the primary role in monitoring offenders along the graduated sanctions continuum; treatment systems have the primary role in providing appropriate and effective treatment services. Some evidence indicates that the optimum structure might place in the position of managing partner a “neutral” group that does not provide direct services (such as TASC) to ensure unbiased service organization referrals, case management, and collaborative organization. No matter who holds the leadership role, this individual/agency/group must seek consciously to actively involve all stakeholders from the beginning of design and implementation of the proposed program(s) or initiative(s).

Membership

As noted previously, membership should be broad based, representing key agencies in the justice, law enforcement, and treatment systems, and a broad range of other community agencies.

Goals

Collaboratives should design specific goals that are clear, useful in the minds of participants, and achievable within specified timeframes, including both short- and long-term goals, and with specified priorities. Successful collaborative groups have reported the existence of a strategic plan, including specific goals, an outline of programs related to achieving those goals, evaluation methods, and regular public progress updates. A description of goal and program review and change was related to successful formation and structure.² Performance measures can be especially useful for evaluation and thus the possibility of obtaining continued funding.

Team approach

Collaborative efforts should seek a team approach for both decision planning and making. Leader agencies and/or organizations should seek to maintain civility at meetings and encourage flexibility. Decisionmaking should strive to use consensus-building methods. Efforts toward developing a team approach can be assisted by making sure that each collaborative member has a clearly defined role and responsibilities; this can be aided by early cross-training for collaborative members in the activities and responsibilities of the systems involved.

Long-term view

Members should recognize the complexity of collaborative goals and strategies, that neither substance abuse nor crime has a single solution. Realistic timelines for all efforts should be set.

Research and evaluation

Communities considering collaborative work should use available information on best practices from the literature to guide collaborative and program development. In addition, methods should be developed to systematically collect objective data for monitoring and evaluating collaborative projects.

Broad support

The need to gain the support of the community at large is essential for sustainability; active efforts to seek community input can gain support, and regular communication about the goals and accomplishments of the partnership can help maintain that support.

Funding

Long-term funding sources are crucial for the viability of any coalition. External funding sources may assist in providing incentives for development of successful partnerships³ such as through block grants or private foundations; in addition, communities may have the possibility of pooling funds from various agencies. However, efforts should be made to gain line-item legislative support for sustainability.

Notes

1. Sigmon, J., Nugent, M., Goerdts, J., and Wallace, S. (1999). *Key elements of successful adjudication partnerships* (BJA Bulletin, NCJ 173949) pp. 2–4 [Online], available: <http://www.ncjrs.org/pdffiles1/bja/173949.pdf>; see also McBride, D.C., VanderWaal, C.J., Terry, Y.M., and VanBuren, H. (1999), *Breaking the cycle of drug use among juvenile offenders: Final technical report* (NCJ 179273) [Online], available: <http://www.ojp.usdoj.gov/nij/drugdocs.htm>.
2. Join Together (1999). *Results of the fourth national survey on community efforts to reduce substance abuse and gun violence* [Online]. Available: www.jointogether.org/sa/files/pdf/survey98.pdf.
3. Kraft, M., and Dickinson, J. (1997). Partnerships for improved service delivery: The Newark Target Cities Project. *Health & Social Work*, 22(2), 143–148.

Appendix C. Principles of drug addiction treatment*

NIDA (1999) developed a list of scientifically based recommendations for drug treatment applicable for use across the entire system of service delivery. These principles are listed below:

1. No single treatment is appropriate for all individuals.
2. Treatment needs to be readily available.
3. Effective treatment attends to multiple needs of the individual, not just his or her drug use.
4. An individual's treatment and services plan must be assessed continually and modified as necessary to ensure that the plan meets the person's changing needs.
5. Remaining in treatment for an adequate period of time is critical for treatment effectiveness.
6. Counseling (individual and/or group) and other behavioral therapies are critical components of effective treatment for addiction.
7. Medications are an important element of treatment for many patients, especially when combined with counseling and other behavioral therapies.
8. Addicted or drug-abusing individuals with coexisting mental disorders should have both disorders treated in an integrated way.
9. Medical detoxification is only the first stage of addiction treatment and by itself does little to change long-term drug use.
10. Treatment does not need to be voluntary to be effective.
11. Possible drug use during treatment must be monitored continuously.
12. Treatment programs should provide assessment for HIV/AIDS, Hepatitis B and C, tuberculosis, and other infectious diseases; and counseling to help patients modify or change behaviors that place themselves or others at risk of infection.
13. Recovery from drug addiction can be a long-term process and frequently requires multiple episodes of treatment.

Reference

*National Institute on Drug Abuse (1999), *Principles of drug addiction treatment: A research-based guide* (DHHS Publication No 00-4180), pp. 1-3 [Online], available: <http://165.112.78.61/PODAT/PODATindex.html>.