EFFECTIVENESS OF DRUG TREATMENT COURTS: EVIDENCE FROM A RANDOMIZED TRIAL*

DENISE C. GOTTFREDSON
STACY S. NAJAKA
BROOK KEARLEY
The University of Maryland

Research Summary: *Study randomly assigned 235 offenders to drug treatment court (DTC) or "treatment as usual." Analyses of official records collected over a two-year follow-up period show that DTC is reducing crime in a population of drug-addicted offenders. DTC subjects who participated in treatment were significantly less likely to recidivate than were both untreated drug court subjects and control subjects.*

Policy Implications: *Continued enthusiasm for DTCs is warranted. Both sanctions and treatment are important elements of the DTC model. However, DTCs will not necessarily result in cost reductions because DTC and control cases are incarcerated for approximately equal numbers of days. Implementation fidelity is important, and DTCs can be strengthened if they engage a higher percentage of their clients in drug treatment.*

KEYWORDS: Drug Treatment, Drug Courts, Drug Use, Recidivism

Over the past decade, numerous jurisdictions have developed drug treatment courts to process offenders with drug and alcohol addictions. The basic premise underlying drug treatment courts is that addiction to expensive drugs leads to criminal involvement because the need for drugs

* Address all correspondence to Dr. Denise C. Gottfredson, 2220 LeFrak Hall, Department of Criminology and Criminal Justice, The University of Maryland, College Park, MD 20742. Support for this research was provided by the Maryland Department of Public Safety and Correctional Services and by Jerry Lee. We wish to thank the following individuals whose cooperation and assistance have made this study possible: Judith Sachwald, Thomas H. Williams, Patrick McGee, Raymond Sheaffer, Glendell Adamson, Dave Pinter, Robb McFaul, Scott Eastman, Ellen Talley, Gwen Rice, Gwendolyn Smith, Denise Smith, and John Eversley of the Maryland Division of Parole and Probation; Alan Woods, Deborah Herman, Paige Croyder, and Patsy Carson of the State's Attorney's Office; Leonard Kuentz and Gary Woodruff of the Office of the Public Defender; the Honorable Judges Jamie Weitzman and Thomas Noel; and the staff of the several treatment providers involved in the study. We also wish to thank Duren C. Banks, M. Lyn Exum, Qianwei Fu, Todd A. Armstrong, and John T. Ridgely for research assistance, and Peter Reuter, Gary D. Gottfredson, Shawn Bushway, David B. Wilson, and four anonymous reviewers for helpful advice.

causes addicts to engage in income-producing crime to support the drug habit. Simply put, if the craving for drugs can be reduced, the motivation to engage in crime will decline.

Drug treatment courts are designed to increase the likelihood that drug-addicted offenders will seek and persist longer in drug treatment, which is expected to help these individuals reduce their drug dependence and develop healthier, more productive, and crime-free lifestyles. These courts process drug-involved offenders either through a diversion or post-adjudication program. Diversionary programs typically enroll offenders in a drug treatment program and dismiss charges upon graduation from the treatment program. Post-adjudication programs defer or suspend sentences in exchange for successful completion of the treatment program but reserve the right to reimpose the initial sentence if the offender does not comply. After the initial "deal" has been made, drug court programs use a combination of frequent monitoring and supervision, including drug testing. Another element of the drug treatment court is frequent hearings with the drug treatment court judge, who uses a combination of praise, warnings, and sanctions in response to the offender's recent behavior to maintain pressure on the offenders to persist in drug treatment and avoid crime. This more intense relationship with the judge is also expected to increase offender perceptions of procedural justice, which is thought to provide an additional deterrent to crime and to counterbalance the negative perceptions of the judicial system that might undermine the process. This is thought especially helpful in light of the indignities often involved in a rigorous regimen of drug testing.

Since the first drug court was established in Florida in 1989, drug courts have grown both in number and in scope. Nearly 800 drug treatment courts were in existence in 2001 (U.S. General Accounting Office, 2002).

Despite the popularity and appeal of the drug treatment court model, there has been much debate about the underlying assumptions and the feasibility of the model. Kleiman (2001) has argued that drug treatment courts, which are generally voluntary, will not make a dent in the drug-crime problem because they are too limited in scope and duration. He argues that a more cost-effective model of drug testing and sanctions will be effective for curbing drug use for many offenders and that this more cost-effective model could reach a much larger proportion of the drug offender population. But others argue that the treatment component of the drug court model is the most essential element. According to this perspective, sanctions are not helpful for drug-addicted populations because addiction so compromises cognitive functioning that addicts cannot respond in a rational manner to the choice to abstain from drug use or accept a harsh punishment. The frequent drug testing, monitoring, and sanctions will not be effective unless the addiction is addressed first, and

these elements only serve to punish addicts for behavior that is in fact not under their control. Kleiman (2001) grants that the calculation of the expected value of punishment may be distorted for drug-using populations when weighed against the perceived pleasure of using one's favorite drug, but argues that even drug-addicted offenders make some sort of comparison of costs and benefits. The key is to adapt the penalty structure to the decision-making styles of the people whose behavior one is trying to influence. Whether the drug treatment court model increases the swiftness and certainty of punishment enough to alter the decision to use drugs for drug-addicted offenders is an open question.

The assumption that drug use is the only or even the primary cause of crime for drug addicted offenders has also been questioned. There can be no doubt that crime is elevated in drug-using populations. But how much crime is due to the drug use as opposed to other factors that predispose certain individuals to both drug use and crime is uncertain. Brownsberger (2001) points out that even if drug testing and sanctions are effective for stopping the offender from using heroin or cocaine, if the offender still "runs with the same dangerous crowd, perhaps drinking heavily while complaining about twice-weekly drug testing," his risk of recidivism will not be diminished. In order to change criminal behavior in the long run, the underlying factors that lead to both crime and substance use must change. Unless offenders can be persuaded to seek and persist in drug treatment, there is little chance that the factors that support the drug/crime lifestyle will be recognized and addressed. This argument favors treatment as a key element of the drug court model because most treatment programs address these lifestyle issues.

This paper tests the efficacy of the drug treatment court model for reducing crime in a population of offenders who are severely drug addicted. It focuses on the use of specific deterrence and drug treatment to assess the extent to which these two key components are effective for reducing crime in this population.

PRIOR RESEARCH

Recent reviews of drug court programs report a number of favorable outcomes. Drug use and criminal activity are substantially reduced for drug court participants while they are in the program (Belenko, 1998; 1999; 2001). Retention rates for drug courts are much higher than typically observed for offenders in treatment settings (Belenko, 1998; U.S. General Accounting Office, 1997). Drug courts have generated savings in jail costs, probation supervision, police overtime, and other criminal justice costs (Hora et al., 1999), and they have fostered savings outside of the criminal justice system as well. A recent meta-analysis of 41 independent

evaluations of drug courts (Wilson, et al., 2002) concludes that drug courts reduce crime and drug use to a practically meaningful degree, despite concerns about the unreliability of the evidence related to the performance and outcomes of federally funded drug treatment courts (U.S. General Accounting Office, 2002).

Many studies of drug treatment courts, however, are small-scale evaluations that suffer from a number of limitations, including a reliance on pre-post designs for the treatment group only and post-only comparisons of the treatment group with dis-similar comparison groups (Belenko, 2001; U.S. General Accounting Office, 1997; Wilson et al, 2002). One major limitation of existing evaluations is that they frequently assess program effectiveness by comparing drug-court graduates to nongraduates. Not surprisingly, evaluations using this type of design have typically found that the "successes succeed and the failures fail" (Goldkamp et al., 2001:32). Such comparisons are problematic because clients self-select themselves into conditions. Nongraduates are likely to differ from program graduates in important ways and may be at an elevated risk for recidivism. In addition, nongraduates are likely to have received some services from the drug court program prior to leaving, and therefore, cannot be considered a true non-drug court comparison group. A rigorous test of the effectiveness of drug courts must consider the outcomes of offenders who enter the drug court (both completers and noncompleters) as compared to the outcomes of an equivalent group of offenders who do not enter the drug court.

The handful of more rigorous evaluations of drug treatment courts that examine effects on the entire targeted population as opposed to only graduates also generally produce evidence for a positive effect on crime. Studies that compare recidivism rates of drug court clients with those of similar groups of clients who did not receive drug court services generally report more favorable outcomes for drug treatment court clients (Finigan, 1998; Goldkamp and Weiland, 1993; Gottfredson et al., 1997; Peters and Murrin, 1998; Sechrest et al., 1998). Harrell et al.'s (2002) recent evaluation of the Birmingham Breaking the Cycle program, which involved judicial monitoring, drug testing, graduated sanctions, and drug treatment as needed for a sample of drug-involved offenders, showed that the intervention was effective for reducing both drug use and crime.

A few studies have randomly assigned clients to receive drug court services or not. Gottfredson and Exum (2002), reporting on the first year outcomes for the Baltimore City Drug Treatment Court (BCDTC), found that drug court clients were significantly less likely than control cases to be re-arrested and had significantly fewer arrests than did control cases. On the other hand, Deschenes, et al. (1995) compared randomly assigned drug court participants to three samples with varying levels of drug testing coupled with supervision and found that drug court participants recidivated at

approximately the same rates as the comparison group samples. In this study, the drug court participants were more involved in treatment and counseling during the one-year follow-up period, but less involved in other constructive activities such as employment, community service, payment of fines and restitution, and formal education than the controls, suggesting that the treatment component of the program was not highly effective. Harrell, et al. (1998) evaluated a pretrial drug court by comparing offenders who were randomly assigned to receive either drug treatment, drug testing, and judicial monitoring (the drug court); drug testing with graduated sanctions and judicial monitoring; or drug testing and judicial monitoring only. The defendants on both the drug court docket and the docket that included graduated sanctions were significantly less likely to test positive for drugs in the month before testing compared with offenders who were not subject to sanctions for noncompliance, suggesting that the graduated sanctions element of the drug court program may be as effective with pre-trial releasees regardless of whether it is coupled with drug treatment. These latter two studies suggest that drug testing and sanctions may be as effective as a program that also involves mandatory treatment, although in both studies, the treatment component was poorly implemented. In a study involving survival analysis, Peters and Murrin (1998) found that the length of time in drug treatment was significantly related to the number of arrests for both drug court graduates and nongraduates, suggesting that treatment is an important element of the drug court model.

These studies have raised important questions about the mechanisms contributing to the effectiveness of drug courts (Longshore et al., 2001). Although research has generally concluded that drug courts are effective, precisely why and for whom drug courts work remains largely unknown. The populations involved in the studies to date have varied considerably from moderate drug users to the seriously addicted. A recent study of drug courts in two sites assessed the impact of five drug court elements on four outcome measures (Goldkamp et al., 2001). Indicators of the drug court elements included two measures of participation in treatment, two measures of assignment of sanctions, and the number of court appearances. Outcome measures included graduation, any type of re-arrest, re-arrest for a drug offense, and re-arrest for a nondrug offense. Analyses controlling for risk-related participant attributes produced findings that were both site and outcome variable dependent. Clearly, additional research is needed to better understand the essential elements of the drug court model, and how these elements may differ for different populations.

THE BALTIMORE CITY DRUG TREATMENT COURT

The BCDTC was established in 1994, largely in response to a report by the Bar Association of Baltimore City (1990) that estimated that nearly

85% of all crimes committed in Baltimore were addiction-driven. Currently, drug court clients are referred from one of two tracks: (1) Circuit Court felony cases supervised by Parole and Probation and (2) District Court misdemeanor cases supervised by Parole and Probation. These two tracks are post-conviction tracts, whereby clients generally enter the drug court program as a condition of probation. Initially, the BCDTC also included a diversion track at the District Court level, but this third track was dropped in December of 1999. Clients referred from this track were diverted from prosecution, and their charges were dropped upon successful completion of the drug court program.

In order to be considered for the drug court program, defendants must satisfy several eligibility requirements. They must be at least 18 years of age, reside in Baltimore City, and cannot have any past or current convictions for violent offenses. Once these initial conditions have been met, the process of identifying drug court clients follows several steps. Eligible defendants who express an interest in the program meet with the Public Defender to discuss their possible participation. If after this meeting the defendant remains interested in the drug court program, record checks are completed and reviewed by the State's Attorney. The State's Attorney then meets with the Public Defender to determine which defendants would be best served by the program. Among this subset of defendants, the Psychopathy Checklist (Hare et al., 1990) is administered to evaluate the offenders' suitability for the program, and the Addiction Severity Index (McLellan et al., 1992) is administered to assess their motivation and need for treatment. Both tests are administered by personnel in the Drug Court Assessment Unit. Data regarding drug history, medical history, employment status, as well as other aspects of the defendants' families and social relations are also collected. Upon the completion of these assessments, the assessor recommends the defendants for the program, or not. The names of eligible defendants are submitted to the drug court docket. The State's Attorney, Public Defender, probation agent, and the defendant then appear before the drug court judge to discuss the case. The judge renders the final decision as to the offender's placement in the drug court program.

Program Components

The BCDTC program combines intensive supervision, drug testing, drug treatment, and judicial monitoring over the course of approximately two years. All defendants enter the program under intensive supervision. The guidelines of the drug court recommend (1) a minimum of three face-to-face contacts per month between defendants and probation officers, (2) two home-visits per month, and (3) verification of employment status once per month. In addition, agents frequently verify other special conditions

of probation and regularly review their clients' criminal records for recent violations. As defendants near graduation from the drug court program, their level of supervision is downgraded from "intensive" to "standard high," which requires fewer contacts.

During the course of their supervision, drug court clients are frequently drug tested. Prior to October of 1998, the frequency of testing varied depending on the clients' test results. All clients were initially required to submit two urine samples per week (referred to as Phase I testing). After completing one month with no positive tests, clients generally graduated to Phase II testing in which tests were completed once every week. After two consecutive months of clean tests, clients progressed to Phase III testing. During Phase III, clients were required to complete one urinalysis every two weeks, and continued at this rate for the duration of the program. In October of 1998, the testing schedule was revised to reflect a more structured and less individualized schedule. As of that date, all clients are required to provide two urine samples per week for the first three months of the program. During the next three months, tests are completed once per week. Clients are then tested once per month for a period of six months. After that time, urinalyses are completed randomly for as long as the client remains under drug court supervision.

In addition to supervision and drug testing, drug court program participants are required to receive treatment from one of eight providers located in the city of Baltimore. Three of the programs provide intensive outpatient services, two provide methadone maintenance, two provide inpatient care, and one provides transitional housing. Drug court clients are assigned to a program based on the type of treatment required, the treatment center's availability, and the location of the treatment center relative to the client's residence.

Throughout the program, a drug court judge monitors the defendants' progress through regularly scheduled status hearings. Defendants are required to attend status hearings once every two weeks. At these hearings, the judge reviews reports from the probation agent regarding the defendants' compliance with the program. Based on these reports, the judge prescribes graduated sanctions as needed. Sanctions usually involve increased contacts with the probation agent, increased status hearings, or increased drug testing. Severe violations generally lead to a violation of probation hearing, during which the judge may re-impose the original sentence that was suspended pending successful completion of the drug court program.

Drug court clients become eligible for graduation upon satisfactory completion of the prescribed treatment and compliance with the requirements of supervision. The decision to graduate a defendant must be approved by the Court, the State's Attorney's Office, and the Office of the

Public Defender. A graduation ceremony is held to mark the occasion, and defendants' friends and family are encouraged to attend.

Comparison with Other Drug Courts

The BCDTC does not differ substantially from the "typical" drug court in terms of its components. According to recent self-reports of operating drug courts (Office of Justice Programs Drug Court Clearinghouse and Technical Assistance Project, 2001), 60% of adult drug courts involve participants both post-conviction and at some other point (e.g., pretrial, probation violators), as did Baltimore during the period covered by this study. Results from an earlier survey of drug courts (Cooper, 1997) showed that the typical drug court screens clients for substance use, assigns clients to treatment provided by community-based organizations, requires at least three contacts per week with the treatment provider, two urine tests per week, and weekly or biweekly contact with the drug court judge in the initial phases. The typical drug court uses increased frequency of court status hearings, urinalysis, and treatment as sanctions for relapse, and 60% use short periods of incarceration. Finally, the typical drug court imposes incarceration sentences on defendants who are unsuccessfully terminated from the program. The Baltimore drug court is like the typical drug court on these dimensions. It is atypical primarily in the type of population it serves (mostly African-American male heroin addicts), and the active involvement of the Division of Parole and Probation in the operation of the program. For example, initial screening for substance use problems is conducted by this division in Baltimore, but only in 16% of drug courts nationwide. Also, intensive probation supervision is an element of the BCDTC but is not generally found elsewhere. Other unusual aspects of BCDTC include its large size (as of Spring 2001, 1,218 clients had either graduated or were currently enrolled), and the extensive screening conducted prior to program participation.

METHODOLOGY

The evaluation of the BCDTC utilizes an experimental research design. Beginning in February of 1997, eligible drug court offenders were randomly assigned to the drug treatment court or to treatment as usual. Assignment occurred just prior to the appearance before the drug court judge. The randomization results were given to the judge as a recommendation and were followed in most cases because the judges had agreed to participate in the study. Randomization continued through August of 1998; at which time, 235 clients had been assigned randomly to one of the two conditions. Study participants were randomly assigned at a ratio of one treatment to one control for Circuit Court cases and at a ratio of two

treatment to one control for District Court cases. This was done at the request of the District Court judge who was concerned that all drug treatment court slots might not be filled if we kept with a one-to-one ratio. Of the 139 cases randomly assigned to the treatment group, we found records to indicate that 91% were actually dealt with in the drug treatment court.[1] In comparison, approximately 7% of the 96 cases randomly assigned to the control condition were dealt with in the drug treatment court.

All of the data for this study are from official records of the Maryland Department of Public Safety and Correctional Services and the Baltimore Substance Abuse Services (BSAS), an organization that coordinates drug treatment services in Baltimore. Data were collected on demographic characteristics and prior offense history, as well as recidivism, drug treatment, drug testing, probation supervision, judicial monitoring, and time spent behind bars through 24 months following randomization. For 35% of the cases assigned to drug treatment court, this 24-month period overlapped completely with the time they were receiving services, as they were still receiving services as of the 24-month cutoff date. For subjects who either graduated or dropped out of the program, the 24-month period includes between 12 and 18 months during which they were receiving program services. Graduates spent, on average, 18 months in the program, while dropouts spent one year.

In all analyses, subjects were treated as randomized, regardless of their actual treatment. That is, subjects randomly assigned to the drug court were analyzed as members of the treatment group regardless of their actual treatment, and subjects randomly assigned to the control group were analyzed as members of the control group regardless of their actual treatment. This conservative strategy was adopted to preserve the comparability of the study groups.

In addition, because the randomization procedure resulted in a disproportionate number of drug court sample members originating in the District Court, the data were analyzed two ways. First, all analyses were conducted using unweighted data, giving all sample members equal weight regardless of whether they originated in the District Court or the Circuit Court. Second, the data were weighted according to originating court. All subjects originating in the Circuit Court were given a weight of 1, as these cases were randomly assigned to the drug court and control conditions using a one-to-one ratio. In comparison, District Court cases were randomly assigned using a two-to-one ratio. Because this resulted in a drug court sample twice the size of the control sample, individuals in the control

1. The reasons for the mis-assignment in the 9% of cases are not known. Possibilities include judicial overrides of the randomization and clerical errors resulting in lost records for some cases who were in fact in the program.

sample were given twice as much weight in the weighted analyses. Specifically, control subjects were given a weight of 1.5, and drug court subjects were given a weight of .75. These weight values were used (as opposed to 2 and 1) because they produced a weighted sample size equal to the unweighted sample size ($N = 235$) while creating roughly equal numbers in the drug court ($N = 118$) and control ($N = 117$) samples.

Chi-square tests and t-tests were used to compare the drug court and control subjects. In addition, analysis of variance (ANOVA) was used to test for interaction effects between experimental condition (drug court or control) and originating court (District or Circuit). Doing so allowed for a determination of whether program outcomes differed by originating court. The results of the unweighted and weighted analyses were for the most part similar, and thus, the unweighted results are presented here. The one instance in which the two sets of analyses produced meaningfully different results is noted.

RESULTS

TABLE 1. DEMOGRAPHIC CHARACTERISTICS AND OFFENSE HISTORY

	Experimental Status			
	Treatment		Control	
Percentage African-American	89.2	(139)	89.6	(96)
Percentage Male	74.1	(139)	74.0	(96)
Age as of 2/1/97				
Mean	34.8	(139)	34.7	(96)
S.D.	7.5		7.9	
Prior Arrests				
Mean	12.0	(139)	11.3	(95)
S.D.	8.8		7.1	
Prior Convictions				
Mean	5.3	(137)	4.6	(95)
S.D.	4.3		3.4	

NOTE: Numbers in parentheses are the number of cases for which valid data are available. No differences between groups are statistically significant at $p < .05$.

TABLE 2. DRUG HISTORY OF DRUG COURT PARTICIPANTS FOR WHOM INTAKE RECORDS WERE AVAILABLE

	%	*N*
Percentage Whose Primary Drug of Choice is:		
Alcohol	3.3	92
Cocaine	18.5	92
Heroin	77.2	92
Marijuana	1.1	92
Percentage Whose Primary or Secondary Drug of Choice is:		
Alcohol	15.2	92
Cocaine	66.3	92
Heroin	89.1	92
Marijuana	12.0	92
Percentage Who Are Daily Users of Crack, Cocaine, or Heroin	52.7	93
Percentage Who Use Crack, Cocaine, or Heroin Three or More Times per Week	60.2	93
Percentage Who Have Participated in Prior Treatment	65.2	92

STUDY PARTICIPANTS

The participants in this study include the 235 arrestees who were assigned randomly to receive either BCDTC services ($N = 139$) or treatment as usual in the traditional court ($N = 96$). Of the 139 cases assigned to the treatment condition, 84 were handled in the District Court and 55 were handled in the Circuit Court. Of the 96 cases assigned to the control condition, 42 were handled in the District Court and 54 were handled in the Circuit Court. Table 1 shows the demographic characteristics and criminal histories of the sample. Comparisons between the two groups on these background characteristics produced no statistically significant differences, indicating that the randomization procedure produced similar groups.

Table 2 shows intake data from the Addiction Severity Index[2] based on

2. Pre-program assessment data were available only for 94 (68%) of all drug treatment court cases, with most of the missing data due to the cases from the diversion track. Fifty-two (52) of the 84 drug treatment court participants handled by the District Court were part of a diversionary program, in which charges were dropped upon successful completion of the program. These cases were not prosecuted, and records of their intake were not systematically kept. Neither were intake records consistently maintained for the members of the comparison group. Of the 94 available Addiction Severity Indices, 55 were obtained from assessment staff and 39 from treatment staff.

an interview conducted either by assessment staff prior to randomization or by the treatment provider upon entry into drug treatment. The table shows that most of the drug court participants named heroin or cocaine as their primary drug of choice. Only small percentages of the population named alcohol and marijuana as their drugs of choice. More than half of the population reported daily use of crack, cocaine, or heroin, and 60% used these drugs three or more times per week. Gottfredson and Exum (2002) reported that drug treatment court cases included in the post-conviction group also had weak social ties and poor prognoses for successful integration into society. Unlike some drug treatment courts that serve lower risk offenders, some of whom may not have a serious drug problem, the BCDTC serves a drug-addicted population that is at high risk for continued substance use and criminal involvement. Questions about the effectiveness of sanctions and the importance of treatment raised in critiques of drug treatment courts are relevant for this population.

PROGRESSION THROUGH THE PROGRAM

As of two years after entry into the program, 26 (19%) of the drug court sample had graduated from drug court after spending, on average, about 18 months (547 days) participating in the drug court program. Of the remaining 113 cases randomized to the drug court condition, 48 (35%) were still participating; 46 (33%) had been terminated from the drug court program due to noncompliance after spending, on average, about a year (370 days) participating in the drug court program; and 4 (3%) died prior to completing the drug court program. The status of 2 subjects (1%) could not be determined; and, as noted above, the remaining 13 subjects (9%) were not treated by the court as drug court cases. Additional cases graduated subsequent to the 24-month cutoff date. As of the three-year point post-randomization, 31% had graduated and 11% were still participating in the program.

These data make clear that a fairly large proportion of the individuals targeted for the program are terminated from the program due to noncompliance.[3] Many of the program failures occur shortly after random assignment. A survival analysis showed that approximately one-third of both the treatment and control samples were re-arrested during the first four months following randomization into the study (Banks and Gottfredson, 2003). These early program failures are included in all subsequent

3. The behaviors that led to unsuccessful termination are not known to the researchers, but we do know that nearly half (46%) of the drug treatment court cases for whom a probation record linked to the initial arrest was found violated their probation during the two year follow-up period. Presumably, the behaviors that led to the violation also resulted in termination from the program in most cases.

analyses because removing them would render the groups nonequivalent. Subsequent investigations will explore factors that contribute to failure in the BCDTC.

TABLE 3. OUTCOME OF THE INITIAL ARREST

	Experimental Status			
	Treatment		Control	
Percentage Sentenced to Incarceration	85.1†	(121)	77.9	(95)
Percentage Sentenced to Incarceration After Disposition	18.3*	(120)	30.5	(95)
Percentage Actually Incarcerated	87.1	(139)	79.2	(96)
Actual Days Incarcerated				
Mean	102.1	(139)	114.7	(96)
S.D.	147.3		162.2	

NOTE: Numbers in parentheses are the number of cases for which valid data are available.
†Difference between groups is significant when data are weighted based on originating court, $p < .05$.
*$p <$. 05; **$p < .01$.

TABLE 4. MEAN DAYS OF INCARCERATION, BY REASON FOR INCARCERATION

	Experimental Status			
	Treatment		Control	
Days Incarcerated as a Result of:				
Pre-disposition Commitment				
Mean	16.8**	(139)	39.5	(96)
S.D.	42.1		57.2	
Assigned Sentence				
Mean	6.7*	(139)	32.3	(96)
S.D.	50.1		106.9	
Response to Noncompliance				
Mean	55.0*	(139)	26.6	(96)
S.D.	109.8		80.6	
Reason Unknown				
Mean	23.6	(139)	16.4	(96)
S.D.	63.9		67.3	

NOTE: Numbers in parentheses are the number of cases for which valid data are available.
*$p < .05$; **$p < .01$.

THE USE OF SPECIFIC DETERRENCE: RESPONSE TO THE INITIAL ARREST

Drug courts attempt to create a specific deterrent effect for participants by imposing a strict sentence, suspending it, and threatening to reimpose it

if the offender fails to comply with the expectations of the court. The use of graduated sanctions, particularly short incarceration stays, is also expected to deter crime. The utility of setting up specific deterrent mechanisms such as these with addicted offenders has been questioned because of the presumed compromised ability of these offenders to weigh the costs associated with possible punishment against the perceived benefits of drug use. This section describes the extent to which the handling of the initial arrest (i.e., the arrest that led to participation in the study) was successful at establishing a threat of future incarceration, and the use of subsequent incarceration as a response to noncompliance.

Gottfredson and Exum (2002) reported that BCDTC study participants received harsher sentences as a result of their initial arrest than did the control study participants, both in terms of incarceration and probation sentences. But a greater proportion of the incarceration days were suspended for the BCDTC study participants. That report also made clear that the threat of future incarceration was much greater for Circuit Court than for District Court cases due to the generally longer sentences imposed in the Circuit Court. The average length of the suspended sentence was 2,431 days (about 6.7 years) in the Circuit Court, and only 397 days (1.1 years) for post-adjudication District Court cases. Both courts were therefore successful at imposing a threat of future incarceration, but the threat was greater for Circuit Court cases.

Table 3 extends those findings by showing the actual days incarcerated as a result of the initial arrest. The table shows again that drug court clients were slightly more likely than controls to be sentenced to incarceration at the initial hearing.[4] Consistent with the earlier report, the table also shows that drug court participants were significantly more likely to have their incarceration sentences suspended. For only 18.3% of drug court subjects (compared to 30.5% of control subjects) did the sentence include additional time to be served after the disposition.

Measures of actual time behind bars suggest that a slightly higher percentage of cases than were sentenced to incarceration ended up spending time behind bars as a result of their initial arrests. Specifically, 87.1% of drug court cases spent time in either jail or prison, as compared to 79.2% of control cases. However, drug court clients on average spent slightly fewer days behind bars than did controls (102.1 vs. 114.7). These estimates include all periods of incarceration occurring during the two-year follow-up period that were associated with the initial arrest, including time served due to probation violations and temporary incarceration periods resulting

4. Weighted analyses showed that a significantly greater proportion of drug court clients was sentenced to incarceration as a result of the initial arrest, as compared to controls (86.7% vs. 75.0%, $p < .05$).

from failure to comply with the requirements of the drug court (e.g., failure to appear for status hearings).

Table 4 breaks down the number of days incarcerated by reason. It shows that although drug court and control cases spent a similar amount of time behind bars as a result of the initial arrest, the two groups differed with regard to the reason for incarceration. Among drug court participants, response to noncompliance accounted for the largest number of incarceration days. This pattern is again consistent with the intent to use the threat of short incarceration stays in response to noncompliance as a means to deter future crime.

DRUG TREATMENT

Table 5 summarizes the level of drug treatment services received by the study groups during the two-year follow-up period. As noted earlier, short jail stays are used as a sanction for relapsing subjects. While in jail, these subjects are offered a jail-based acupuncture program as a means of transitioning them back to their regular treatment program. This acupuncture program, although considered a treatment, is not recognized as a certified drug treatment program by BSAS, the organization that coordinates drug treatment services in Baltimore. Therefore, it is separated in the table from the other certified drug treatments. The table shows that during the two years following entry into the study, 68.3% of the drug court group received some form of treatment, as compared with 24.0% of the control group. When only certified drug treatment is considered, the figures are 51.8% and 21.9%. After jail-based acupuncture, the most common types of treatment for drug court participants were outpatient (29.5%) and intensive outpatient (20.1%), with drug treatment court cases receiving these types of treatment four to five times more often than the controls. Not surprisingly, both the number of days in treatment and the number of treatment episodes were substantially higher for drug court cases. Among drug treatment court participants who received treatment, the average number of days in treatment as of the end of the 24-month follow-up period was 178, or approximately six months.

The relatively low percentage of drug treatment court cases on methadone maintenance (6.5%) also deserves mention, as it is somewhat surprising given the large percentage of heroin addicts in the sample. Given the relative success of methadone maintenance in treating heroin addicts, this seems a lost opportunity.

Somewhat surprising is that fact that in the population of addicted offenders targeted by the program, only about half received certified drug treatment services. Recall, however, that approximately 33% of the cases targeted are classified as "terminated unsatisfactory," and that one-third

TABLE 5. DRUG TREATMENT EXPERIENCES, TWO YEARS AFTER ENTRY INTO STUDY

	Experimental Status			
	Treatment		Control	
Percentage Receiving:				
Any Treatment	68.3**	(139)	24.0	(96)
Certified Drug Treatment	51.8**	(139)	21.9	(96)
Methadone Maintenance	6.5	(139)	9.4	(96)
Outpatient	29.5**	(139)	6.3	(96)
Residential	8.6	(139)	6.3	(96)
Correctional	2.2	(139)	0.0	(96)
Detoxification	2.2	(139)	0.0	(96)
Intensive Outpatient	20.1**	(139)	5.2	(96)
Other Treatment	1.4	(139)	0.0	(96)
Jail-Based Acupuncture	46.8**	(139)	6.3	(96)
Duration of Treatment				
All Subjects				
Mean	121.7**	(139)	34.4	(96)
S.D.	150.9		90.7	
Treated Subjects				
Mean	178.1	(95)	143.7	(23)
S.D.	152.5		138.3	
Number of Treatment Episodes				
All Subjects				
Mean	1.4**	(139)	0.3	(96)
S.D.	1.4		0.7	
Treated Subjects				
Mean	2.0*	(95)	1.4	(23)
S.D.	1.2		0.7	

NOTE: Numbers in parentheses are the number of cases for which valid data are available.
*$p < .05$; **$p < .01$.

of the treatment cases are re-arrested within the first four months following randomization. Another 9% of the cases randomly assigned to receive the program were not treated as randomized. Because record-keeping is not perfect, it is also likely that some individuals who received treatment services are not counted as having done so. Although we have no record of the reasons for unsuccessful termination, we can assume that many of these cases chose not to comply with the treatment requirement of the program. Anecdotal evidence suggests that some individuals assigned to

the program, particularly those with lighter suspended sentences, chose to "do the time" rather than to undergo the rigorous treatment protocol.

TABLE 6. TWO YEAR RECIDIVISM OUTCOMES

	Experimental Status	
	Treatment (n = 139)	Control (n = 96)
Percentage Re-arrested	66.2*	81.3
	(58.2 - 74.2)	(73.3 - 89.2)
Percentage Re-convicted	48.9	53.2
	(40.3 - 57.5)	(42.9 - 63.5)
Average Number of New Arrests	1.6**	2.3
	(1.2 - 1.9)	(1.9 - 2.8)
Average Number of New Charges	3.1*	4.6
	(2.4 - 3.8)	(3.5 - 5.7)
Average Number of New Convictions	0.9	1.0
	(0.6 - 1.1)	(0.7 - 1.4)
Percentage Of Subjects With At Least One New		
Violent or Sex Charge	10.9	17.0
	(5.7 - 16.2)	(9.3 - 24.8)
Property Charge	25.5	33.7
	(18.2 - 32.9)	(24.0 - 43.4)
Drug Charge	40.6*	54.2
	(32.3 - 48.9)	(44.0 - 64.3)
Prostitution/Solicitation Charge	5.1	6.4
	(1.4 - 8.8)	(1.3 - 11.4)
Public Order Charge	29.7	39.6
	(22.0 - 37.4)	(29.6 - 49.5)
Weapons Charge	2.2	3.2
	(-0.3 - 4.7)	(-0.4 - 6.8)
Other Charge	0.7	1.1
	(-0.7 - 2.2)	(-1.1 - 3.2)

NOTE: 95% confidence intervals appear in parentheses. Number of treatment subjects with valid data ranges from 130 to 139. Number of control subjects with valid data ranges from 90 to 96.
*$p < .05$; **$p < .01$.

RECIDIVISM

Table 6 shows the comparisons between treatment and control cases on recidivism outcomes during the two-year period following the date of randomization into the study. The table also provides 95% confidence

intervals[5] around each estimate. Although the confidence intervals overlap for the treatment and control cases, the mean values favor the treatment cases on every measure. Drug court subjects were significantly less likely than control subjects to be re-arrested. Specifically, 66.2% of drug court and 81.3% of control subjects were re-arrested. The number of new arrests (1.6 vs. 2.3) and new charges (3.1 vs. 4.6) were also significantly lower for treatment than control group members. Once re-arrested, however, drug court subjects were as likely as control subjects to be re-convicted. The most common type of offense for which study participants were re-arrested was a drug offense, followed by public order and property offenses. Finally, drug court participants were far less likely than controls to be re-arrested for a drug offense (40.6% vs. 54.2%). This finding is particularly encouraging, given the nature of the population.[6]

To address the questions (summarized earlier) about the utility of the drug court model — particularly its reliance on sanctions for noncompliance — for drug-addicted offenders, we tested for the presence of statistical interactions by drug addiction status. Recall that among treatment subjects for whom we had intake data, 49 (53%) subjects were daily users of crack, cocaine, or heroin. We found no significant differences in re-arrest or re-conviction for these 49 cases compared with the treatment subjects who were less frequent drug users. We also checked to see if the threat of sanctions applied to the two groups was similar. It was. The percentages of subjects with a suspended sentence and the length of the suspended sentence were not significantly different for the two groups. To the extent that the use of specific deterrents was effective for reducing future crime, the effects appear to have been equally effective regardless of the level of substance use at intake.

DRUG TREATMENT AND RECIDIVISM

The fact that only about half of the drug court participants received service from a certified drug treatment program permits a comparison of the recidivism outcomes of treated and untreated drug court clients. Intake data suggest that a high proportion of the individuals targeted by the program were in fact addicted to cocaine or heroin and therefore in need of treatment. How important is treatment in explaining the reduced recidivism for this population?

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5. Confidence intervals show the range of scores that we can be reasonably certain contain the true value for the recidivism outcome.

6. Analyses were also conducted using the arrests and convictions per days free in the community in an attempt to control for group differences in opportunity to re-offend. This correction did not change any of the results, most likely because the actual days incarcerated did not differ substantially by treatment status (see Table 3).

TABLE 7. TWO YEAR RECIDIVISM OUTCOMES, BY TREATMENT STATUS

	Treatment Status		
	Drug Court Treated (n = 67)	Drug Court Not Treated (n = 72)	Control (n = 96)
Percentage Re-arrested	56.7 (44.5 – 68.9)	75.0_a (64.8 – 85.3)	81.3_a (73.3 – 89.2)
Average Number of New Arrests	0.9 (0.7 – 1.1)	2.2_a (1.6 – 2.7)	2.3_a (1.9 – 2.8)

NOTE: 95% confidence intervals appear in parentheses. Means and proportions having the same subscript are not significantly different at $p < .05$.

In order to the assess the impact of treatment on re-offending, the drug court group was divided into two groups according to treatment status, where treatment was defined as participation in a certified drug treatment program for at least ten consecutive days. Of the 139 cases assigned to the drug court condition, 67 participated in a certified program for at least ten days while the remaining 72 did not. Comparisons among (1) the drug court "treated" group, (2) the drug court "not treated" group, and (3) the control group, on race, gender, age, and prior criminal history produced no significant differences, indicating that the three groups were similar with regard to these background characteristics. Also, among the subset of cases for whom intake data were available, no significant pretreatment differences were found between the "treated" and "untreated" drug treatment court groups for any of the measures of drug use reported on Table 2. Comparisons among the groups on recidivism outcomes during the two-year follow-up revealed that treated drug court subjects were far less likely than both untreated drug court subjects and control subjects to be re-arrested (56.7% vs. 75% and 81.3%). Furthermore, similar percentages of untreated drug court subjects and control subjects were re-arrested. The number of new arrests was lowest for treated drug court participants, even after taking into account time not at risk during the follow-up due to incarceration.

DISCUSSION

The findings indicate that the BCDTC program is reducing criminal offending in a population of drug-addicted chronic offenders. During the two-year follow-up, 66.2% of the drug court subjects and 81.3% of the control subjects were re-arrested and the number of new arrests was 30% lower for the treatment than for the control subjects. The effect on re-arrest observed in this study is slightly higher than the fourteen percentage

point average recidivism differential reported in a meta-analysis of 41 drug court studies (Wilson et al., 2002). This study provides the strongest test to date of the impact of the BCDTC program on re-offending. The study employed an experimental design with random assignment of subjects to conditions, thereby diminishing the likelihood that pre-existing group differences can account for the observed differences in recidivism outcomes.

The program appears to have been successful at establishing a credible threat of future punishment for the drug court clients, and sanctions for noncompliance were clearly applied at a higher rate in the treatment group than in the control group. The threat of future punishment seems to have been equally applied to subjects regardless of their drug addiction status, and no differences in recidivism were observed for more and less frequent users of hard drugs. These results imply that programs that make use of sanctions can be effective, even for drug-addicted individuals. Although the cognitive functioning of these clients may be impaired as a result of their heavy substance use, they seem nevertheless to be capable of restraining their behavior in the face of the threat of legal sanctions. In addition, treatment appears to be an important intervening mechanism in explaining the success of the program for reducing recidivism. Drug court subjects who participated in ten or more consecutive days of certified drug treatment were much less likely to recidivate than were both untreated drug court subjects and control subjects.

LIMITATIONS

Several limitations of the research deserve mention. First, the findings regarding the role of treatment in reducing recidivism should be interpreted with caution, because it is possible that they are the result of selection bias. It is possible that the relationship between participation in drug treatment and reduced recidivism is due to unmeasured variables predicting both.

An additional limitation of the research is that it does not differentiate between in-program recidivism and post-program recidivism. Distinguishing between the two is important because post-program client behavior may notably differ from client behavior during drug court supervision (Belenko, 2001). The 24-month follow-up period overlapped completely with the receipt of program services for some subjects included in this study, but can be considered "post-program follow-up" for others. Data on program outcome are currently being collected to pinpoint when members of the drug court sample left the drug court (whether due to graduation or unsuccessful termination) so that in-program and post-program outcomes can be differentiated in future analyses.

A final limitation concerns the focus of the evaluation on recidivism

outcomes. Although reducing criminal activity is clearly a priority of the drug court model, drug courts are expected to impact other outcomes as well (e.g., drug use and employment). Because this study utilizes data taken from official records of the Maryland Department of Public Safety, it is limited to explaining the impact of the drug court program on recidivism. Currently underway, however, is an extension of the official records study that tracks and interviews the 235 study participants to obtain client perception of how the drug treatment court experience affected their lives. This extension will assess the effectiveness of the BCDTC for improving a variety of outcomes, including criminal activity and substance use (according to client self-reports), welfare status, employment status, education level, mental health, physical health, and family and social relationships.

POLICY IMPLICATIONS

Drug treatment courts are generally thought of as alternatives to incarceration inasmuch as the services are intended to be delivered in the community. Most BCDTC subjects receive a long incarceration sentence, most of which is suspended but can be reimposed at a later time (Gottfredson and Exum, 2002). This study showed that although the point at which offenders are incarcerated is different for the drug treatment court and control cases, the total number of days incarcerated is only slightly smaller for the treatment subjects than for subjects not handled in the drug court. Drug treatment court clients spend fewer days behind bars prior to their disposition and as a result of the initial sentence, but about twice as many days behind bars as a result of sanctions for noncompliance as do control subjects. These incarcerations are a result of formal violation of probation sentences as well as informal incarcerations in response to failure to comply with an expectation of the court. An important policy implication is therefore that although the drug treatment court model is effective for reducing crime, the dollar savings expected to accrue from less incarceration time for drug court clients are not necessarily realized. This fact may reduce the popularity of the drug court model in the long run.

The heavy use of incarceration in response to noncompliance also raises an equity issue that deserves further debate in the criminal justice community: Is it ethical to incarcerate drug treatment court cases for noncompliant behavior that would likely go unnoticed and unpunished in the absence of the program? Would clients agree to participate in a drug treatment court program if they realized that they would likely spend as many days incarcerated as they would have if they accepted the traditional sentence for their crime?

This study attempted to peek inside the "black box" of drug treatment courts to discover which elements might be critical to the success of such

courts. It showed that the BCDTC uses a combination of suspended sentences that can be reimposed and less severe but more immediate sanctions in response to noncompliance. Although the effect on crime of this component relative to the other drug court components is not known, it is clear that this component was implemented, and was at least partially responsible for the observed reduction in crime in the drug court sample. Further, the fact that no significant differences in recidivism were found for more and less frequent hard drug users despite similar levels of implied sanctions suggests that the deterrent mechanisms are equally effective for reducing recidivism regardless of the level of substance use at intake. Sanctions appear effective, even for drug-addicted populations.

Kleiman (2001) has recently argued that even if drug treatment courts are effective, they are impractical as a policy tool because they are too limited in scope and duration to make a dent in the drug consumption of the huge numbers of drug-addicted offenders moving through the courts daily. He suggests instead a system of "coerced abstinence" involving screening of probationers and parolees for drug use, frequent drug testing, and automatic sanctions in response to positive drug test results. Judicial monitoring and drug treatment would not be elements of this model. Our results suggest that drug treatment is an important ingredient in the success of the program, at least for the seriously addicted offenders included in this study. Recidivism rates for drug treatment court cases who did not receive drug treatment were not significantly different from recidivism rates for the control subjects (75% vs. 81%), despite the use of drug testing and sanctions. But for those who did receive treatment, recidivism rates were much lower (57% vs. 81%). Although the effects of uncontrolled variables in addition to drug treatment may have contributed to the effects found for the treated group, the results suggest that treatment is a critical element of the drug court model. Additional research is needed to assess the importance of drug treatment in programs that target offenders who are not addicted, but the results to date suggest that funding agencies and policy makers should not abandon the treatment component of the drug court model, despite its high cost.

The study also found that the treatment component of the program was implemented unevenly across the intended population. Sixty-eight percent of the group randomly assigned to treatment received some form of treatment and only 52% received certified drug treatment. Also, a high percentage of clients failed in the program, and many did so early on. Although many individuals targeted by the program persisted with the program and eventually succeeded, a large group also participated sporadically. One possible explanation of the lower-than-anticipated participation in drug treatment is the emphasis on treatment modalities other than methadone maintenance. Only 6.5% of drug treatment court cases

received this type of treatment. Perhaps if it had been offered to more clients, more would have participated in treatment. Client characteristics and circumstances are also undoubtedly responsible for their low levels of participation in treatment. Unfortunately, pretreatment assessments were not available for many of the cases included in this study, limiting our ability to explore potential client characteristics that predict their level of involvement and eventual success. An implication for practice is therefore that it is necessary to attempt to build a knowledge base to guide the early identification of clients at high risk for early failure and to experiment with methods to keep them more involved in the program. Future research endeavors should attempt to identify characteristics of offenders and the services provided to these offenders that predict failure. Armed with this information, practitioners can target those at elevated risk for failure with appropriate services aimed at increasing program retention.

This study began to illuminate the "black box" of drug treatment courts by documenting the establishment of a credible threat of subsequent imprisonment that might have served to deter crime and by exploring the impact of drug treatment on recidivism. Much more work is needed along these lines. More detail on the characteristics of treatment is needed so that more effective designs can be identified. More work is needed to fully assess the range of deterrent mechanisms that might be effectively used in a drug treatment court model, and to understand how their effects might be conditioned by the level of offender addiction. And more research is also needed to understand relative effects of the other elements of drug treatment courts — intensive supervision, drug testing, and judicial monitoring.

REFERENCES

Banks, Duren and Denise C. Gottfredson

2003 The effects of drug treatment and supervision on time to re-arrest among drug treatment court participants. Journal of Drug Issues. In press.

Bar Association of Baltimore City

1990 The Drug Crisis and Underfunding of the Justice System in Baltimore City. Report of the Russell Committee 9.

Belenko, Steven

1998 Research on drug courts: A critical review. National Drug Court Institute Review I:1–42.

1999 Research on drug courts: A critical review. 1999 update. National Drug Court Institute Review II:1–58.

2001 Research on Drug Courts: A Critical Review. 2001 Update. New York,: The National Center on Addiction and Substance Abuse at Columbia University.

Brownsberger, William N.
2001 Limits on the role of testing and sanctions. In Philip Heymann and Willian N. Brownsberger (eds.), Drug Addiction and Drug Policy: The Struggle to Control Dependence. Cambridge, Mass.: Harvard University Press.

Cooper, Caroline S.
1997 1997 Drug Court Survey Report: Executive Summary. Available online: http://www.american.edu/academic.depts/spa/justice/publications/execl.htm

Deschenes, Elizabeth P., Susan Turner, and Peter W. Greenwood
1995 Drug court or probation? An experimental evaluation of Maricopa County's drug court. The Justice System Journal 18:55–73.

Finigan, Michael W.
1998 An Outcome Program Evaluation of the Multnomah Count S.T.O.P. Drug Diversion Program. Portland, Ore.: NPC Research, Inc.

Goldkamp, John S., and Doris Weiland
1993 Assessing the Impact of Dade County's Felony Drug Court: Research in Brief. Washington, D.C.: U.S. Department of Justice, National Institute of Justice.

Goldkamp, John S., Michael D. White, and Jennifer B. Robinson
2001 Do drug courts work? Getting inside the drug court black box. Journal of Drug Issues 31:27–72.

Gottfredson, Denise C. and M. Lyn Exum
2002 The Baltimore City Drug Court: One-year results from a randomized study. Journal of Research on Crime and Delinquency 39:337–356.

Gottfredson, Denise C., Kristen Coblentz, and Michele A. Harmon
1997 A short-term outcome evaluation of the Baltimore City Drug Treatment Court program. Perspectives (Winter):33–38.

Hare, Robert D., Timothy J. Harpur, A. R. Hakstian, Adelle E. Forth, Stephen D. Hart, and Joseph P. Newman
1990 The revised Psychopathy Checklist: Reliability and factor structure. Psychological Assessment 2:338–341.

Harrell, Adele, Shannon Cavanagh, and John Roman
1998 Findings from the Evaluation of the D.C. Superior Court Drug Intervention Program: Final Report. Washington, D.C.: The Urban Institute.

Harrell, Adele, Ojmarrh Mitchell, Alexa Hirst, Douglas Marlowe, and Jeffrey Merrill
2002 Breaking the cycle of drugs and crime: Findings from the Birmingham BTC demonstration. Criminology and Public Policy 1:189–216.

Hora, Peggy F., William G. Schma, and John T.A. Rosenthal
1999 Therapeutic jurisprudence and the drug treatment court movement: Revolutionizing the criminal justice system's response to drug abuse and crime in America. Notre Dame Law Review 74:439–537.

Kleiman, Mark A. R.
2001 Controlling drug use and crime with testing, sanctions, and treatment. In Philip Heymann and William N. Brownsberger (eds.), Drug Addiction and Drug Policy: The Struggle to Control Dependence. Cambridge, Mass.: Harvard University Press.

Longshore, Douglas, Susan Turner, Suzanne Wenzel, Andrew Morral, Adele Harrell, Duane McBride, Elizabeth Deschenes, and Martin Iguchi
2001 Drug courts: A conceptual framework. Journal of Drug Issues 31:7–26.

McLellan, A. Thomas, Harvey Kushner, David Metzger, Roger Peters, Iris Smith, Grant Grissom, Helen Pettinati, and Milton Argeriou
1992 The fifth edition of the Addiction Severity Index. Journal of Substance Abuse Treatment 9:199–213.

Office of Justice Programs Drug Court Clearinghouse and Technical Assistance Project
2001 Drug Court Activity Update: Summary Information on All Programs and Detailed Information on Adult Drug Courts, June, 2001. Available online: http://www.american.edu/academic.depts/spa/justice/publications/allcourtactivity.pdf.

Peters, Roger H., and Mary R. Murrin
1998 Evaluation of Treatment-Based Drug Courts in Florida's First Judicial Circuit. Tampa, FL: Department of Mental Health, Law and Policy, Louis de la Parte Florida Mental Health Institute, University of South Florida.

Sechrest, Dale K., David Shichor, Kim Artist, and Georgette Briceno
1998 The Riverside County Drug Court: Final Research Report for the Riverside County Probation Department. Riverside County, CA: California State University, Criminal Justice Department, San Bernadino, CA.

U.S. General Accounting Office
1997 Drug Courts: Overview of Growth, Characteristics, and Results. Washington, D.C.: U.S. General Accounting Office.
2002 Drug Courts: Better DOJ Data Collection and Evaluation Efforts Needed to Measure Impact of Drug Court Programs. Washington, D.C.: U.S. General Accounting Office.

Wilson, David B., Ojmarrh Mitchell, and Doris MacKenzie
2002 A systematic review of drug court effects on recidivism. Paper presented at the annual meeting of the American Society of Criminology, Chicago.

Denise C. Gottfredson is a Professor at the University of Maryland Department of Criminal Justice and Criminology. She received a Ph.D. in Social Relations from The Johns Hopkins University. Gottfredson's research interests include delinquency and delinquency prevention, and particularly the effects of school environments on youth behavior. She currently directs evaluations of Baltimore City's Drug Treatment Court and Maryland After School Opportunity Grant Fund Program, both of which address important policy questions for the state of Maryland. She is Co-PI on an evaluation of the Strengthening Washington D.C. Families Program and directs a grant to work with the prevention community in the State of Maryland to increase the use of research-based prevention practices.

Stacy S. Najaka is a Research Associate at the University of Maryland Department of Criminal Justice and Criminology. Her research interests include crime and delinquency prevention, program evaluation, and research methods. Currently, she is managing a follow-up study of the Baltimore City Drug Treatment Court as well as a meta-analytic study of prevention programs and activities throughout the state of Maryland. Recent publications include a meta-analysis of the literature on school-based prevention to

assess the relationship between selected risk factors and problem behavior (Prevention Science, 2001).

Brook Kearley is a graduate student in the Department of Criminology and Criminal Justice at the University of Maryland. She currently works on a follow up study of the Baltimore City Drug Treatment Court. Kearley's primary research interests include drug policy and treatment, program evaluation, and research methods. She has recently co-authored papers in the areas of follow-up difficulty, validity of self-reported drug use and criminal history, and the relationship between client services and client outcomes.