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Are Effective Drug Courts an Urban Phenomenon?

Considering Their Impact on Recidivism Among a Nonmetropolitan Adult Sample in Washington State

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Drug courts represent a significant development in criminal justice during the past 15 years, and a small but growing literature suggests they are effective in reducing drug use and criminal behavior. Most of these studies evaluate the effects of drug courts in urban areas, however. This study adds to this literature by considering the effects of this intermediate sanction among adult offenders in a small, nonmetropolitan county of northwest Washington. Using a retrospective comparison group of matched control participants, these results show that the prevalence and incidence of rearrest is significantly lower among drug court graduates than probationers. These differences in recidivism persist even when the age, race, gender, and number of days at risk in the community are statistically controlled. Among those who did recidivate, drug court graduates did not significantly differ from controls in duration to first arrest and arrest incidence. Policy implications are discussed.

Keywords: *drug court; nonmetropolitan; treatment effectiveness*

Since the nation's first drug court was established in 1989, the American criminal justice system has witnessed a dramatic increase in the development of this intermediate sanction (Aos & Barnoski, 2003; Belenko, 2001; Brewster, 2001; Burdon, Roll, Prendergast, & Rawson, 2001; Goldkamp, 2003). Such a trend is partly due to the passage of the 1994 Violent Crime Control and Law Enforcement Act, which led to increased federal support for the growth of drug courts (Burdon et al., 2001; Goldkamp, 2003). To date, there are approximately 1,600 drug courts in operation, 200 in the planning stages, and an additional 200 jurisdictions that have qualified for drug court implementation training (Huddleston, Freeman-Wilson, Marlowe, & Roussell, 2005). Clearly, the use of drug courts is a significant development in both crime control policy and mandated substance abuse treatment.

Rigorous evaluations of drug courts are not nearly as prevalent as drug courts themselves, however. In his reviews on drug court research, Belenko (1998, 1999, 2001) finds that most outcome studies focus on the implementation of drug courts and often lack a real understanding of their impact on the subsequent criminal behavior of offenders. It is only recently that a reasonably rigorous body of drug court outcome evaluations has emerged from the peer-reviewed academic literature (e.g., Banks & Gottfredson, 2004; Breckenridge, Winfree, Maupin, & Clason, 2000; Goldkamp, White, & Robinson, 2001; Gottfredson, Najaka, & Kearley, 2003; Spohn, Piper, Martin, & Frenzel, 2001). Taken together, they suggest that drug court programs significantly reduce recidivism among graduates, relative to control participants.

Although this evidence suggests that the drug court is one effective strategy for ameliorating crime, the studies above consider its effectiveness in urban population centers such as Baltimore, Maryland (Banks & Gottfredson, 2004; Gottfredson et al., 2003), Las Vegas, Nevada (Goldkamp et al., 2001), Omaha, Nebraska (Spohn et al., 2001), and Portland, Oregon (Goldkamp et al., 2001). Programs in these cities tend to represent large-scale courts that graduate between 250 and 500 persons per year (see Roman, Townsend, & Bhati, 2003, Appendix B). Thus, the peer-reviewed drug court evaluation literature shows the effectiveness of this intervention among large-scale urban programs, but these types of programs compose a little more than half of those in the United States (56%; Roman et al., 2003, p. 2).

The dearth of drug court evaluations assessing small, nonmetropolitan programs is a significant gap in our knowledge about this intermediate sanction. Approximately 40% of drug court graduates complete small- to middle-sized programs (e.g., those producing 50-200 graduates per year; Roman et al., 2003). In addition, the emergence of the methamphetamine problem has been as much a nonmetropolitan phenomenon as an metropolitan one, involving jurisdictions with fewer than 50,000 inhabitants in many of the drug problems that are common to those with more than 500,000 population (Office of National Drug Control Policy, 2003). Finally, from a methodological standpoint, the effectiveness of drug courts in nonmetropolitan areas needs to be known to better assess the validity of the drug court approach to curtailing substance abuse and criminal behavior. The greater the diversity of environments that can produce an effective drug court, the stronger the likelihood that it is the court's approach to addressing substance abuse and crime rather than the immediate environment of the court itself that produces results.

The following study seeks to broaden the literature on drug court evaluations by assessing drug court effectiveness in a nonmetropolitan county of northwest Washington State. For the purposes of this article, the term *nonmetropolitan county* refers to a county whose largest population center meets the United States Bureau of the Census' (2005b) definition of a micropolitan statistical area: "Each micropolitan statistical area must have at least 1 urban cluster of 10,000 but less than 50,000 population."[1] We have two simple but straightforward objectives: (a) to make a methodologically sound contribution to the drug court evaluation research literature by assessing its efficacy among a sample that is currently underrepresented in this literature and (b) to demonstrate the simplicity of such an approach in the hope that more researchers performing

drug court evaluations—particularly those in small programs located in nonmetropolitan areas—will make a sound contribution to the peer-reviewed drug court literature.

Drug Courts: Overview and Outcome Evaluations

The drug court is an intermediate sanction that blends the goals of rehabilitation (Walker, 2001) with the pleasure-seeking and pain-avoidance conception of human nature found in deterrence theory (Cullen & Agnew, 2003). It tends to have two primary goals: reduction of substance use and reduction of criminal behavior. In this process, the criminal justice system is used as a lever to get people into treatment, the rehabilitative approach in substance abuse counseling attempts to keep them engaged in treatment, and jail is used as a mechanism for addressing offender noncompliance with the drug court protocol. The hope with drug court intervention is that offenders recognize the potential benefits that can be gained from the opportunity to make positive changes in their lives and are deterred from noncompliance with the program's demands by sanctions such as jail.

In a typical drug court program, offenders who qualify will enroll in a substance abuse treatment program implemented by a drug court work group (the drug court officers, coordinator, and judge) and substance abuse treatment professionals (who may work for an outpatient provider that is contracting with the court). The program is typically structured in phases, with the most intensive monitoring occurring at the early stages. Such monitoring is accomplished through drug court hearings, which frequently give the judge and drug court team an opportunity to lavish praise or admonish an offender, depending on the offender's behavior. Other types of monitoring include random urinary analysis tests that screen for contraband. Offenders who successfully complete the program will have either their drug charges dropped or their sentences suspended, depending on whether the program is a diversion or post-adjudication program.

Because of the rapid increase in the number of drug courts and the variance in program design, the Office of Justice Programs Drug Court Program Office crafted an implementation guide to future and existing drug courts in 1997. This guide, titled "Defining Drug Courts: The Key Components," has helped to establish some uniformity in drug court structure and process across jurisdictions (Office of Justice Programs, 1997). Such consistency in drug court implementation provides an opportunity to assess the validity of such an approach to dealing with drug-abusing offenders. If researchers are able to execute methodologically sound outcome evaluations showing that drug courts decrease criminal activity, and if these studies include a wide variety of jurisdictions, then it suggests that this hybrid model of crime control and rehabilitation works.

Unfortunately, the number of drug court evaluations has not kept pace with the increase in the implementation of drug courts, nor has the quality of the existing

research (Aos, 1999; Belenko, 2001). One of the most cited limitations of the existing research is that many evaluations fail to use comparison groups (Belenko, 2001; Goldkamp et al., 2001; Wolfe, Guydish, & Termondt, 2002). Of the research utilizing comparison groups, most compare graduates to contemporaneous groups of nongraduates, a design that only capitalizes on the motivational differences between these offenders present at the outset of the evaluation (Cox, Brown, Morgan, & Hansten, 2001; Goldkamp et al., 2001; Wolfe et al., 2002). Other limitations include relatively brief follow-up periods, poor data quality because of missing information or lack of collaboration in gathering information and integrating information systems, and lack of inclusion of program services and their effect on success or failure (Belenko, 2001; Burdon et al., 2001; Cox et al., 2001; Goldkamp et al., 2001; Listwan, Shaffer, & Latessa, 2002; Wolfe et al., 2002).

It has only been in the past few years that a core group of studies with strong methodological designs has emerged from the peer-reviewed drug court literature. As previously mentioned, these more sophisticated experimental designs have shown drug courts to be effective in metropolitan areas. For example, Gottfredson et al.'s (2003) random assignment of eligible drug court offenders to treatment and control conditions showed that the prevalence of rearrest was significantly lower for the program graduates after a 2-year follow-up period. Their study focused on the Baltimore City Drug Treatment Court, existing in one of the largest cities in the United States. Breckenridge et al. (2000) also used an experimental design to assess a drug court program, randomly assigning first-time driving while intoxicated (DWI) offenders to treatment and control conditions. Although the recidivism measure used was quite conservative (reconviction for an alcohol-related or other serious offense), they did find that drug court participation reduced postprogram prevalence among DWI offenders in the Las Cruces, New Mexico, metropolitan area.

Less sophisticated but still rigorous evaluations of drug courts have also been used to evaluate its efficacy on postprogram law-violating behavior. Several of these studies have used a nonequivalent control group research design with a retrospective comparison group because random assignment of participants to treatment and control conditions was not possible (Brewster, 2001; Goldkamp et al., 2001; Spohn et al., 2001; Wolfe et al., 2002). Put another way, these designs matched drug court graduates to individuals who were similar to them in terms of their demographics and criminal histories but whose current (and qualifying) drug offense occurred before the existence of the jurisdiction's drug court.

Generally speaking, these studies have also shown that completing a drug court program significantly reduces the prevalence of postprogram criminal behavior, compared to similar offenders who do not receive drug court (Brewster, 2001; Goldkamp et al., 2001; Spohn et al., 2001; Wolfe et al., 2002). These quasiexperimental evaluations are also made of large-scale drug courts in metropolitan areas, however. Goldkamp et al.'s (2001) research focused on Las Vegas and Portland, and Spohn et al's. (2001) study covered the Omaha metropolitan area (Douglas County). All three of these cities have populations at or around 500,000 people. County-level eval-

uations of drug courts also have centered on places with 400,000 to 700,000 people (Brewster, 2001; Wolfe et al., 2002).[2]

Although urban or metropolitan samples are well represented in the peer-reviewed drug court literature, there are few evaluations using nonmetropolitan samples. An explicit consideration of the drug court's efficacy among such samples is warranted for several reasons. From a methodological standpoint, the validity of the drug court approach to addressing criminal offending will be enhanced if it is shown to be effective across a wide variety of environments. Nonmetropolitan drug courts are of particular interest because one of the most significant developments in the illicit drug economy—the rise of methamphetamine—has involved both nonmetropolitan and rural areas (Herz, 2000, 2003; Office of National Drug Control Policy, 2002, 2003).

It is also possible that the drug court approach to addressing law-violating behavior simply differs in sparsely versus densely populated areas. For example, drug courts may be more efficacious in nonmetropolitan versus metropolitan areas because smaller drug court programs may have greater program expenditures per client than do large urban programs. This may enable nonmetropolitan clients more intensive drug court program exposure that results in greater recidivism reductions than those for urban program graduates. The social context of the postprogram period also may be distinct in nonmetropolitan areas because small county programs may have stronger surveillance and/or support networks because of either overlapping social circles between drug clients and court personnel or highly centralized service facilities (grocery stores, post offices, etc.). Finally, some evidence indicates that a drug court is not as efficacious for African American clients (Brewster, 2001; Goldkamp & Weiland, 1993). If this is the case, then nonmetropolitan drug court programs may be more effective at reducing crime than are large city programs because they are largely composed of nonminority offenders.

These considerations about the possible differential efficacy of drug courts in metropolitan versus nonmetropolitan areas are to merely underscore the need for drug court outcome evaluation research in the latter. The goal of the current study is to address this shortcoming in the literature by answering the more basic question of whether or not the drug court is an effective way to reduce recidivism among offenders in a sparsely populated county of Washington State.

Evaluating the Effectiveness of a Nonmetropolitan Drug Court: The Case of Mariner County[3]

Mariner County is located in northwest Washington State, about 2 hours driving distance from Seattle. According to recent United States Bureau of the Census (2005a) data, it has an estimated population of approximately 70,000. The population is 50.3% female and predominantly Caucasian (89.1%). Approximately 5.0% of the area's residents are Native American, whereas 3.4% indicate Hispanic origin. Regarding education, of the population aged 25 or older, 85.5% report receiving a high school

diploma, including by means of equivalency tests, whereas only 20.8% report obtaining a bachelor's degree or higher. Census data for 1999 show median household income at $36,449 and per capita income at $19,517, lower than Washington State figures of $45,776 and $22,973, respectively.

Between 1992 and 1995, Mariner County witnessed increases in drug-related crime, court system workload, and jail overcrowding. Between 1983 and 1993, the county averaged only 25 controlled substance prosecutions per year, but in 1995, 87 adults were charged with felony drug offenses (MM Bell, Inc., 2000). Between 1992 and 1995, adult felony charges increased 232%, and prosecutors saw indications of substance abuse in half of both the adult and juvenile court filings (MM Bell, Inc., 2000). As the felony charges increased, so did the associated judicial workload. In 1995, Mariner County Superior Court had two judges, whereas the state's workload formula called for three. The county also experienced an increase in the percentage of adult felony cases going to trial. Between 1992 and 1995, trial length for the average drug possession case doubled from 2 days to 4 (MM Bell, Inc., 2000).

The county also experienced jail overcrowding because of the increase in felony prosecutions. The jail's capacity was 60 in the main facility, with an additional 30 in work release, but the jail's average daily population was 116 (MM Bell, Inc., 2000). Sentencing guidelines recommended that the typical nonviolent controlled substance offender get an average initial sentence of 56 days in jail with 12 to 24 months of community supervision (MM Bell, Inc., 2000). The increase in criminal justice workload because of drug-related offenses prompted local officials to apply for federal drug court planning assistance. The Mariner County Adult Drug Court began operation in late 1999.

Currently, the Mariner County Adult Drug Court accepts both preconviction and postconviction offenders, although most of the population (95%) is preconviction. Preconviction offenders charged with an eligible offense enter into an agreement with their attorney and the prosecutor's office. During participation in the program, an offender may choose to opt out at any time, and the court reserves the right to terminate the offender as well. If an offender opts out or is terminated by the court, the offender is returned to the regular court docket, where his or her guilt or innocence is determined solely by the judge (Mariner County, 2003).

To qualify for drug court intervention, the individual must be willing to participate in the program, have been diagnosed as chemically dependent or addicted by a treatment provider, be amenable to treatment, have no prior violent felony offenses, have no prior sexual offenses, and have no current offenses involving the use of force against another or during which the offender carried, possessed, or used a firearm or during which there occurred death or serious bodily injury to any person. The offender also must not have successfully completed a drug court program before and must be a U.S. citizen or legally reside in the United States. The program lasts an average of 12 months (Mariner County, 2003).

The terms and conditions of the Mariner County Drug Court encompass both legal and extralegal behaviors. For example, offenders are required to obey all Washington State laws and the conditions of probation or pretrial release. They must also pledge to

remain drug and alcohol free and tell the truth at all times. Participants are required to submit to random drug testing, waive rights to a jury trial, waive objections to search and/or seizures by law enforcement, and attend all drug court sessions. Following the treatment providers' sobriety plan and participating in personal and/or vocational counseling services (if so ordered by the court) are also requirements. Offenders who fail to comply with the terms and conditions of the court are processed by the traditional criminal justice system, which usually means custody and probation.

Method

The optimal research design is to randomly assign a group of offenders to either drug court or probation to be certain that any observed differences in recidivism are solely because of the effect of the program. An experimental design was not possible for this study because of the voluntary nature of the program. As such, this study used a matched comparison group to enable legitimate comparisons between the drug court graduates and controls. Matching is an alternative method to random assignment to ensure the offenders in the comparison group are as similar as possible to the drug court group. Drug court offenders were matched to the comparison group offenders with respect to age, gender, and race. These demographic characteristics were selected as matching variables based on data that suggests age, gender, and race are important predictors of criminal behavior (Federal Bureau of Investigation, 2002).

The treatment group for the study was composed of all offenders who entered and graduated from the drug court between October 1999 and December 2002 ($n = 41$). These 41 graduates represent all persons who completed the program during the period under study and approximately 32% of the total number of persons who enrolled in the program during that time frame (41 of 129). Although a national graduation rate for drug court has yet to be calculated, the Mariner County court graduation rate is within the range of larger programs in the area. For example, the six county drug court evaluation program conducted by the Washington State Institute for Public Policy showed a cumulative program graduation rate of 35% (range: 29%-58%; Aos & Barnoski, 2003). Such variation is not unusual: A United States Government Accountability Office (2005) study found a graduation rate range of 27% to 66% for a sample of 39 adult drug courts.

To measure the drug court's impact on postprogram criminal activity, we compared the group of drug court graduates to a group charged with possession of a controlled substance between January 1, 1999, and June 30, 1999. The latter group was sentenced to 12 to 24 months of probation ($n = 54$). This retrospective comparison group enabled us to assess the drug court's effectiveness by comparing our graduates to similar probation-only offenders who did not have the opportunity to participate in the drug court (it was not implemented until October 1999). Although the retrospective comparison group is an appropriate methodological technique, its use cannot completely predict whether an offender would have participated in drug court intervention if given the chance. Therefore, the effects of motivation are not entirely controlled in

this quasiexperimental design. In addition, using retrospective comparison groups can often lead to effects that may be explained by historical changes in environment (Singleton & Straits, 1999), although throughout the data collection period we encountered no such events.

The initial comparison group significantly differed from the treatment group in terms of its gender distribution (the former was overwhelmingly male). This difference between the graduates and probationers could potentially bias the results toward the drug court group because males engage in criminal behavior more frequently than do females (Federal Bureau of Investigation, 2002). To make the gender distributions between the two groups more comparable, we truncated the end date for inclusion into the comparison group from June 30, 1999, to June 1, 1999. This decision reduced the probationer sample size to 30 but reduced the gender differences between the drug court graduates and the probationers to nonsignificance (data not shown). Although a total *N* of 71 is not optimal for statistical purposes (drug court graduates = 41, probationers = 30), it is acceptable (Fox, 1998).

Recidivism was measured as whether a participant was rearrested, the number of rearrests, and the number of convictions. Only violations of the criminal code, including drug crimes, property crimes, and/or person crimes, were included as rearrests; technical violations of probation were only counted as recidivism if they were the result of new crimes. The Washington State Judicial Information System was used to measure recidivism for both groups. The minimum follow-up period for the study was 6 months. Some of the control participants were followed up for 4 years, and drug court graduates had an average observation period of about 2.8 years.

After a brief description of the two groups, we will evaluate the bivariate relationship between drug court participation and arrest prevalence (measured dichotomously). If there are significant differences in recidivism between the drug court graduates and probationers, then we will use regression analyses to control for additional variables that may explain the differences between the two groups. The number of days free in the community is a critically important variable that will be considered in these models. If the drug court graduates had fewer chances to commit crimes in the community because they were there for shorter periods of time than were the probationers, then the relationship between drug court and reductions in recidivism may be spuriously associated with these differential time frames. We will also control for the offender's race (0 = non-White, 1 = White) and gender (0 = female, 1 = male).

Results

Descriptive data for the graduate and probationers groups are shown in Table 1. The two groups do not significantly differ from one another in terms of their gender and age distributions (e.g., the chi-square statistic for gender is .01, and the *t*-score for mean differences in age is –.22).

Both groups are predominantly White, which means that the sample is consistent with census statistics for the county (United States Bureau of the Census, 2005a). The

Table 1
Demographics of Group Membership

	Group			
	Drug Court		Probation	
	%	*n*	%	*n*
Race[a]				
White	93	38	87	26
Non-White	7	3	13	4
Gender[b]				
Male	49	20	50	15
Female	51	21	50	15
Age[c]				
M	35.4	40	35.8	30

Note: $N = 71$.
Source: State of Washington Judicial Information System (2003).
a. Fisher's exact = .45 (0 = non-White, 1 = White).
b. $\chi^2 = .01$ (0 = female, 1 = male).
c. $t = -.22$; one respondent has missing data for the age variable.

drug court group is more homogenous than is the probationer group, with 93% of the treatment group being White, as opposed to only 87% of the comparison participants. These differences were not statistically significant, however (Fisher's exact = .45). Because the two groups are similar in their race, age, and gender composition, any differences in recidivism observed between the drug court graduates and the control participants are not likely to be because of demographic differences.

Recidivism: Bivariate Results

Table 2 compares the recidivism prevalence for drug court graduates and probationers. Of the 41 drug court graduates in the sample, 12.2% (5) were rearrested within the observation period, whereas 60.0% (18) of the probationers were rearrested. These differences are statistically significant ($\chi^2 = 18.08$, $p < .001$). These results are consistent with most of the evaluations of drug courts in the peer-reviewed academic literature (e.g., Banks & Gottfredson, 2004; Belenko, 2001; Brewster, 2001; Gottfredson et al., 2003; Spohn et al., 2001; Wolfe et al., 2002). The prevalence of rearrest in this study is also comparable to a nationally representative sample of drug court graduates. In their analyses of these graduates, Roman et al. (2003, p. 30) compiled recidivism rates from graduates of 95 drug courts. When evaluated by program size (measured as number of graduates per year), their results showed that smaller programs had a 22% two-year recidivism rate, and larger programs a 31% rate. Smaller programs graduated anywhere from 50 to 200 persons per year, whereas larger programs graduated 500 or more people per year. Thus, in the national scope, Mariner County drug court

Table 2
Recidivism by Group Membership

	Group			
	Drug Court		Probation	
Recidivism	%	*n*	%	*n*
Yes	12.2	5	60.0	18
No	87.8	36	40.0	12
Total	100	41	100	30

Note: $\chi^2 = 18.1$; $p < .01$.
Source: State of Washington Judicial Information System (2003).

graduates have a lower recidivism rate than do programs of comparable size or larger programs.

Among those study respondents who had reoffended, the incidence of rearrest and reconviction did not significantly differ between drug court graduates and control participants. For drug court graduates, the mean number of arrests was 1.6; for probationers it was 3.8 ($n = 23$; $t = –1.159$, $p = .260$). In terms of reconvictions, drug court graduates have an incidence of 1.5 and probationers 2.4 ($n = 17$; $t = –0.814$, $p = .426$). Therefore, among recidivists, drug court graduates are no more prolific than are probationers with respect to their criminal activity. Because of the small numbers involved in both these analyses, these results should be interpreted with caution.

Recidivism: Regression Results

The significantly lower prevalence of rearrest among drug court graduates (relative to controls) suggests that completing this intermediate sanction diminishes criminal behavior (Table 2). These results may be because of differential opportunities for criminal activity between the treatment and control groups, as discussed earlier. Indeed, the drug court graduates have a significantly lower mean number of days at risk (1,043.24, 2.8 years) than do the probationers (1,454.33, 3.9 years; $t = –7.067$, $p < .01$).

To assess whether the effects of the drug court were a function of the control group's greater opportunities for criminal behavior, we compared recidivism statistics between the two groups, net of the days at risk, offender's race, and offender's gender. Because of the fact that the number of days at risk in the community is a continuous variable, contingency tables were no longer possible. Rather, we used logistic regression to model program effects on the prevalence of rearrest and linear regression to model the effects of the drug court on the number of arrests and number of convictions. The results are shown in Table 3.

The results of the regressions are consistent with those of the cross-tabulation shown in Table 2. Graduating from a drug court significantly decreases the odds of being rearrested, even after controlling for the days at risk (B = –2.9; $p < .01$). Results

Table 3
Recidivism Activity on Group Membership, Offender Demographics, and Days at Risk: Logistic and Linear Regression Results

	Rearrest		Number of Arrests		Number of Convictions	
	B	Odds Ratio	B	*b*	B	*b*
Male	–0.85	.42	–0.39	–.07	–0.24	–.08
Age	–0.01	.99	0.01	.05	0.01	.04
Non-White	–0.68	.50	–1.02	–.11	–0.75	–.15
Days at risk	–0.01	.99	–0.01	–.04	0.00	.03
Drug court	–2.90**	.05	–2.27**	–.43	–1.19**	–.40
Model χ^2	21.02**		—		—	
Nagelkerke R^2	.36		—		—	
Adjusted R^2	—		.11		.14	

Note: $N = 70$. Categorical coding: 0 = non-White, 1 = White; 0 = female, 1 = male.
Source: State of Washington Judicial Information System (2003).
*$p < .05$. **$p < .01$.

of the linear regression results also show that drug court intervention significantly decreases the incidence of rearrest (B = –2.27; $p < .01$) and the incidence of convictions (B = –1.19; $p < .01$). In each equation, the presence of drug court intervention explains a modest amount of the recidivism variance (e.g., 36%, 11%, and 14%, respectively). Taken together, the bivariate and multivariate analyses show that graduating from the Mariner County drug court significantly reduces postprogram criminal behavior.

Discussion

Drug courts have been a significant development in the administration of American criminal justice during the past 15 years. To date, there are approximately 1,600 drug courts operating in the United States, with another 400 jurisdictions involved in drug court planning (Huddleston et al., 2005). As previously mentioned, rigorous outcome evaluations assessing the efficacy of this intermediate sanction have not kept pace with their implementation. The few (but growing) number of methodologically sound evaluations focus primarily on large-scale drug court programs in urban areas. Although these types of programs tend to graduate large numbers of offenders, they represent only half of the drug court programs operating in the United States (Roman et al., 2003). Smaller, nonmetropolitan drug courts, which represent about 40% of drug courts, are generally absent from the peer-reviewed literature. The preceding study makes a contribution to our knowledge about drug courts by assessing its effectiveness among an underrepresented sample in the academic literature: a nonmetropolitan, predominantly White group of offenders in the Pacific Northwest.

Our results show that the Mariner County Adult Drug Court program has a statistically significant reduction on recidivism among this sample of offenders. As is common in drug court evaluations, a true experimental design was not possible because program participation was voluntary. Instead, we matched drug court graduates to a general probation sample of offenders whose current offense was similar to the graduates but whose probation sentence preceded the drug court's existence (i.e., they did not have the opportunity to participate in the program). This is a methodologically acceptable way of controlling for the motivational differences that are a common threat to the internal validity of evaluations using program dropouts or program failures as a comparison group (Belenko, 2001). Recidivism was measured as the prevalence of rearrest, the number of rearrests, and the number of reconvictions. Observation periods for drug court graduates and probationers ranged from 6 months to 4 years, with drug court graduates having an average observation period of about 2.8 years. These variable observation periods did not explain away the effect of the drug court program once they were statistically controlled in regression analyses.

The inhibiting effect of the Mariner County drug court on postprogram recidivism is consistent with outcome evaluations from large-scale drug court programs (Breckenridge et al., 2000; Brewster, 2001; Goldkamp et al., 2001; Gottfredson et al., 2003; Spohn et al., 2001; Wolfe et al., 2002). In addition, the 12% recidivism prevalence in this study is substantially below the recidivism rates for some of these urban programs (e.g., Portland—37%, Las Vegas—53%, Omaha—42%). These differences diminish when the size of the drug court program is taken into account. Among programs with fewer than 250 graduates per year, the national 1-year rearrest prevalence is approximately 14%, and the 2-year arrest prevalence is 22% (Roman et al., 2003, p. 28). Taken as a whole, our study and the others in the peer-reviewed literature suggest that the drug court approach to addressing criminal offending is a valid strategy for reducing crime across a variety of environments. In short, our results contribute to the collective weight of the evidence that drug courts work.

Despite the study's contribution, it is not without its limitations. As previously mentioned, the retrospective comparison group technique cannot entirely control for the effects of motivational differences between the treatment and control groups. In addition, these results should be considered preliminary because of the small sample size used in the analyses and the relatively brief follow-up period. Observation periods for drug court graduates and probationers ranged from 6 months to 4 years, with drug court graduates having an average observation period of about 2.8 years, which is a relatively short follow-up period. A final limitation concerns the truncated regression models that we used to explain the drug court's effectiveness on recidivism. Measures of other factors that may have affected recidivism between these two groups—namely marital status, parenthood, employment, and drug of choice—were available for many drug court graduates but not for the probationers. This was also the case for criminal history information. Thus, it is difficult for us to form more specific conclusions about the similarities between the two groups or to examine whether recidivism is related more specifically to any of these factors. Nevertheless, our results are consistent with prior studies that have taken these variables into account when assessing the effective-

ness of drug court (e.g., Brewster, 2001; Goldkamp et al., 2001; Spohn et al., 2001; Wolfe et al., 2002).

In spite of these limitations, our results suggest that drug courts can be an effective way to reduce criminal offending in nonmetropolitan environments. The longer term effects of this program and the mechanism(s) at work reducing the graduates' recidivism are left to future research, however. Goldkamp et al. (2001) argue that to understand how drug courts inhibit criminal offending, exogenous factors such as offender attributes (prior arrests, pending charges) and drug court attributes (court appearances, treatment attendance, and jail sanctions) should be taken into account. Future studies on drug courts also should explore how these offender and court characteristics may affect the efficacy of drug court functioning in both metropolitan and nonmetropolitan environments. Such differences (if any) could further enhance our understanding of the black box treatment phenomenon that is the drug court.

Notes

1. Our characterization of a county as nonmetropolitan differs from that of a rural county. We define a rural county as one containing neither a metropolitan (population center of 50,000 or more) nor a micropolitan (population center of 10,000 to less than 50,000) population center (United States Bureau of the Census, 2005b).

2. An outcome evaluation of five county-level drug courts in Washington State showed significant reductions in recidivism, measured as reconvictions for new offenses. These programs also were located in populous counties, two of which had a population of 400,000 or greater, two of which had a population of 200,000 or greater, and one of which had approximately 100,000 persons (Aos & Barnoski, 2003).

3. Because of its sparse population, the centralized nature of the drug court, and the sensitive nature of the study, the county will be referred to in this article by the fictitious name of Mariner County.

References

Aos, S. (1999). *Can drug courts save money for Washington State taxpayers?* Olympia: Washington State Institute for Public Policy.

Aos, S., & Barnoski, R. (2003). *Washington state's drug courts for adult defendants: Outcome evaluation and cost-benefit analysis*. Olympia: Washington State Institute for Public Policy.

Banks, D., & Gottfredson, D. C. (2004). Participation in drug treatment court and time to rearrest. *Justice Quarterly*, *21*, 637-657.

Belenko, S. (1998). *Research on drug courts: A critical review.* Alexandria, VA: National Drug Court Institute.

Belenko, S. (1999). *Research on drug courts: A critical review*, *1999 update*. Alexandria, VA: National Drug Court Institute.

Belenko, S. (2001). *Research on drug courts: A critical review*, *2001 update*. New York: National Center on Addiction and Substance Abuse, Columbia University.

Breckenridge, J. F., Winfree, L. T., Maupin, J. R., & Clason, D. L. (2000). Drunk drivers, DWI, "drug court" treatment, and recidivism: Who fails? *Justice Research & Policy*, *2*, 87-105.

Brewster, M. P. (2001). An evaluation of the Chester County (PA) drug court program. *Journal of Drug Issues*, *31*, 177-206.

Burdon, W. M., Roll, J. M., Prendergast, M. L., & Rawson, R. (2001). Drug courts and contingency management. *Journal of Drug Issues*, *31*, 73-91.

Cox, G., Brown, L., Morgan, C., & Hansten, M. (2001). *NW HIDTA/DASA Washington State Drug Court evaluation project: Final report*. Seattle: Alcohol and Drug Abuse Institute, University of Washington.

Cullen, F. T., & Agnew, R. (2003). Part VII: Reviving classical theory: Deterrence, rational choice, and routine activities theories. In F. T. Cullen & R. Agnew (Eds.), *Criminological theory: Past to present* (2nd ed., pp. 263-271). Los Angeles: Roxbury.

Federal Bureau of Investigation. (2002). *Crime in the United States: Uniform crime reports*. Washington DC: U.S. Department of Justice.

Fox, W. (1998). *Social statistics*. Bellevue, WA: MicroCase.

Goldkamp, J. S. (2003). The impact of drug courts. *Criminology & Public Policy*, *2*, 197-205.

Goldkamp, J. S., & Weiland, D. (1993). *Assessing the impact of Dade County's felony drug court*. Philadelphia: Crime and Justice Research Institute.

Goldkamp, J. S., White, M. D., & Robinson, J. B. (2001). Do drug courts work? Getting inside the drug court black box. *Journal of Drug Issues*, *31*, 27-73.

Gottfredson, D., Najaka, S., & Kearley, B. (2003). Effectiveness of drug treatment courts: Evidence from a randomized trial. *Criminology & Public Policy*, *2*, 171-196.

Herz, C. (2000). *Drugs in the heartland: Methamphetamine use in rural Nebraska* (NCJ 180986). Washington, DC: National Institute of Justice.

Herz, C. (2003). Exploring arrestee drug use in rural Nebraska. *Journal of Drug Issues*, *33*, 99-118.

Huddleston, C. W., III, Freeman-Wilson, K., Marlowe, D. B., & Roussell, A. (2005). *Painting the current picture: A national report card on drug courts and other problem solving courts in the United States*. Washington, DC: Office of National Drug Control Policy.

Listwan, S. J., Shaffer, D. K., & Latessa, E. J. (2002). The drug court movement: Recommendations for improvements. *Corrections Today*, *64*, 52-54.

Mariner County. (2003). *Mariner County Adult Drug Court policies and procedures manual–revised*. Mariner County, WA: Author.

MM Bell, Inc. (2000). *Mariner County Juvenile Drug Court evaluation: Final report*. Seattle: Author.

Office of Justice Programs. (1997). *Defining drug courts: The key components*. Washington, DC: U.S. Department of Justice.

Office of National Drug Control Policy. (2002). *Pulse check: Trends in drug abuse, November 2002* (NCJ 197242). Washington, DC: Government Printing Office.

Office of National Drug Control Policy. (2003). *ONDCP Drug policy information clearinghouse fact sheet: Methamphetamine* (NCJ 197534). Washington, DC: Government Printing Office.

Roman, J., Townsend, W., & Bhati, A. S. (2003). *Recidivism rates for drug court graduates: Nationally based estimates* (NCJ 201229). Washington, DC: National Institute of Justice.

Singleton, R. A., & Straits, B. C. (1999). *Approaches to social research* (3rd ed.). Oxford, UK: Oxford University Press.

Spohn, C., Piper, R. K., Martin, T., & Frenzel, E. D. (2001). Drug courts and recidivism: The results of an evaluation using two comparison groups and multiple indicators of recidivism. *Journal of Drug Issues*, *31*, 149-177.

State of Washington Office of the Administrator of the Courts. (2003). *Judicial information system*. Olympia: Author.

United States Bureau of the Census. (2005a). *Census Bureau quick facts: Washington*. Retrieved January 18, 2005, from http://www.quickfacts.census.gov

United States Bureau of the Census. (2005b). *Statistical abstract of the United States*, *2004-2005*. Washington, DC: Government Printing Office.

United States Government Accountability Office. (2005). *Adult drug courts: Evidence indicates recidivism reductions and mixed results for other outcomes* (GAO 05-219). Washington, DC: Government Printing Office.

Walker, S. E. (2001). *Sense and nonsense about crime and drugs: A policy guide*. Belmont, CA: Wadsworth.

Wolfe, E., Guydish, J., & Termondt, J. (2002). A drug court outcome evaluation comparing arrests in a two-year follow-up period. *Journal of Drug Issues*, *31*, 155-171.