Final Report

Outcome and Process Evaluation of Juvenile Drug Courts

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Executive Summary

On July 1, 2007, the University of Cincinnati, Center for Criminal Justice Research (CCJR), was awarded a grant from the Office of Juvenile Justice and Delinquency Prevention (OJJDP). The grant was awarded to fund a research study entitled "Outcome and Process Evaluation of Juvenile Drug Courts." The project was funded for four years, with funding set to expire on June 30, 2011. CCJR was granted a no-cost extension to facilitate a longer follow-up period. This extension was granted for 18 months, with the project expiring December 31, 2012.

This study adds to the existing juvenile drug court literature by providing a national multi-site outcome and process evaluation of nine juvenile drug courts from across the U.S. This study assesses the relative effect of each court, as well as their combined effectiveness in reaching the overall goal of reducing recidivism and improving youths' social functioning. It also identifies, where possible, the characteristics of youth and programs associated with successful outcomes.

The goals of this research are consistent with those stated in the OJJDP-approved grant proposal. There were six original goals. One additional goal was added at the request of OJJDP. The goals of this research are:

1) To determine if there is a reduction in recidivism and substance abuse associated with participation in a juvenile drug court program, relative to comparison groups.

2) To determine if there are increases in social functioning related to participating in juvenile drug court programs relative to comparison groups.

3) To identify the characteristics of successful juvenile drug court participants.

4) To determine if juvenile drug courts are operating in a manner consistent with evidence-based approaches.

5) To identify the programmatic characteristics of effective juvenile drug courts.

6) To provide policymakers with information about the effectiveness of juvenile drug courts.

7) To determine if the 16 strategies for juvenile drug courts recommended by the National Drug Court Institute (NDCI) are effective practices (Bureau of Justice Assistance, 2003).

The nine juvenile drug courts participating in this research study are located in: Ada County, Idaho; Clackamas County, Oregon; Jefferson County, Ohio; Lane County, Oregon; Lucas County, Ohio; Medina County, Ohio; Rhode Island (the state); San Diego County, California; and Santa Clara County, California. As discussed above, the study included both process and outcome evaluation components. The process evaluation component was completed by researchers at CCJR. All nine juvenile drug court programs were assessed using the Evidence-Based Correctional Program Checklist – Drug Court (CPC-DC), a tool that CCJR developed for assessing drug court programs. The tool is used to measure how closely drug courts (and other therapeutic courts) meet known principles of effective intervention. The CPC-DC consists of two components: one tool for the formal drug court and one tool for the major referral agencies involved in providing treatment and services to drug court participants.

Each of these tools is divided into two basic areas: capacity and content. The capacity area is designed to measure whether the drug court and its referral agencies have the capability to deliver evidence-based interventions and services for juvenile offenders. The content area focuses on the extent to which the drug court and its referral agencies meet the principles of risk, need, responsivity, and treatment. The Drug Court (CPC-DC) tool includes 41 indicators worth 43 total points. The Referral Agency (CPC-DC: RA) tool has 49 indicators worth a total of 51 points. Each area and all domains are scored and rated as either "highly effective" (65% to

100%); "effective" (55% to 64%); "needs improvement" (46% to 54%); or "ineffective" (less than 45%). The scores in all domains are totaled, and the same scale is used for the overall assessment score. It should be noted that not all of the domains are given equal weight, and some items may be considered "not applicable," in which case they are not included in the scoring.

All nine sites were visited during the summer and fall of 2009. Data were collected through structured interviews with selected program staff, program participants, and parents, as well as through observation of groups, services, and a drug court staffing session. Other sources of information included policy and procedure manuals; schedules; treatment materials and manuals; curricula; a sample of case files; and other selected program materials. Once the information was gathered and reviewed, each drug court and referral agency was scored. A report for each drug court was generated which highlighted the strengths, areas that need improvement, and recommendations for both the drug court and each of its referral agencies.

To complete the outcome portion of the study, a quasi-experimental design was utilized as random assignment was not feasible at any of the sites. In all but one site, Comparison groups were developed from youth who were placed on probation. At the remaining site, youth participating in a diversion Drug Court track were matched with non-drug court diversion youth. For simplicity, Comparison youth are referred to as youth on “probation." In all sites, youth were matched on risk, race, gender, and identification of alcohol/drug abuse or dependence.

Data collected as part of the study were easily found through case reviews. In general, the information requested included offender demographics, current court case, prior criminal history, drug tests, treatment referrals, incentives, and sanctions. In addition, motivation surveys, satisfaction surveys, and follow-up surveys were given to both youth in drug court and youth on

probation. Motivation surveys were distributed at the time of consent and at six months; satisfaction surveys were distributed at three months and at termination. Both the motivation and satisfaction surveys were distributed on-site by either drug court staff, probation staff, or staff hired by CCJR. Follow-up surveys were distributed by CCJR to all youth at six-, 12- and 18-months post-termination from drug court or probation/diversion. Lastly, official recidivism data was collected in the summer of 2012. This data includes level and type of new referrals/arrests, level and type of new adjudications, and the type of sanction at the time of adjudication/conviction.

A summary of process evaluation findings include:

- Two of the nine drug courts scored "effective," four scored "needs improvement," and three scored "ineffective" on the CPC-DC. None of the courts scored in the "highly effective" category.
- Thirty-five referral agencies were assessed across the nine sites. Four scored "highly effective," six scored "effective," 12 scored "needs improvement," and 13 scored "ineffective" on the CPC-DC: RA.

A summary of baseline characteristics and intermediate outcomes for the full sample include:

- Across all of the sites, the Drug Court and Comparison groups were quite similar on the four matching characteristics (N=686 in each group). However, two significant differences were noted. Drug Court youth were lower risk to recidivate than the Comparison youth. Specifically, youth in the Drug Court (DC) group were more likely to be low risk than those in the Comparison (C) group (DC=17.4%, C=6.2%). Additionally, youth in the Drug Court group evidenced higher frequency of alcohol and drug use. For instance, youth in Drug Court were more likely to use drugs on a daily basis than the

Comparison youth (DC=31.7%, C=24.3%).

- There were significant differences between the Drug Court and Comparison groups on several other key baseline variables.
    - Drug Court youth were younger and were more likely to have drug and alcohol offenses as the current offense. Drug Court youth also had higher rates of previous drug charges, more out-of-school suspensions, greater truancy records, and higher past reports of drug and alcohol treatment and mental health treatment.
    - Comparison youth were more likely to have personal offense charges and felony level charges as the current offense. In addition, a higher percentage of Comparison youth identified marijuana as their drug of choice. Comparison youth also were more likely to evidence gang involvement.
- Not unexpectedly, youth in the Drug Court group differed significantly on some intermediary variables related to court processing and supervision. For example, youth in the Drug Court group had a higher frequency of case hearings, status reviews, treatment referrals, drug tests, incentives, and sanctions than youth on probation.
- Youth in the Drug Court group had significantly greater motivation levels than youth in the Comparison group.
- Fewer youth in the Drug Court group completed successfully (60.4% graduated from drug court) than youth in the Comparison group (63.0% successfully completed probation). This was a statistically significant difference.
- Time at risk for a new offense was defined in two ways. First, time at risk was calculated from the date that each youth was enrolled into the study to determine time to failure while under supervision. Second, time at risk was calculated from the date that each

youth was terminated from drug court or probation to determine time to failure after completion of formal supervision. Youth in the drug court had longer times at risk based on both calculations. Since these differences were statistically significant for the sample overall (and in several sites), the period during which a youth could have had a new referral/arrest or adjudication/conviction was controlled for in multivariate analysis.

A summary of baseline characteristics and intermediate outcomes by sites include:

- Sites varied in the number of youth enrolled in the study. This ranged from a low of 72 in Clackamas County to a high of 296 in San Diego County.
- Overall, the matching on key variables within sites was good. Six of the nine drug courts had no significant differences between the groups on the other key baseline variables. One site differed significantly on one matching variable (Clackamas County differed on drug use frequency), and two sites differed significantly on two matching variables (Rhode Island and Santa Clara County both differed on alcohol use frequency and drug use frequency). At these sites, the Drug Court youth had higher rates of substance use/abuse.
- The nine sites had more variation on other key baseline variables (see the full report for a description of these other variables). Out of 17 variables (e.g., age, offense level and type, prior adjudications, gang involvement, truancy), the number of significant differences within sites ranged from one to 11. The largest differences were found in Rhode Island (11 differences) and Santa Clara County (11 differences).

A summary of major outcomes include:

- Given the differences in baseline factors described above, multivariate models were utilized to assess the effects of drug court on recidivism. Controls included months at

risk of a new offense (calculated two ways as described above), youth age, youth gender, youth race (coded as white/nonwhite), and risk level (coded as low, moderate, high).

- The results for official recidivism—(a) while the youth was still in Drug Court or on standard probation, (b) after termination, and (c) both—suggest that Drug Court youth had worse outcomes than those in the Comparison group. These findings illustrate that drug courts did not meet their intended objectives and, instead, actually had increased risk of new referral and adjudication for its participants.
- The finding that youth who participate in drug court have worse outcomes than youth on probation hold up across numerous analyses including risk level, time at risk, race, gender, substance of choice, frequency of substance use, previous drug and alcohol treatment, parental substance use, and mental health problems.
- There was significant variation in treatment outcomes by site, with only two drug courts showing a positive effect on recidivism in initial multivariate models.
- Self-report follow-up data from both groups indicate a high rate of substance use post-program (drug court or probation) completion. The associated Odds Ratio value suggest that those youth in the Drug Court group had significantly lower odds of substance use at follow up relative to those in the Comparison group. For alcohol use, the Drug Court group had lower prevalence of use (78%) relative to the Comparison group (86%). The Drug Court group (63%) had a significantly lower prevalence on the self-report drug use measure compared to the Comparison group (83%).
- Youth who were successfully terminated from either Drug Court or probation had significantly lower odds of a later referral and/or adjudication than those who did not successfully complete those processes.

- The courts in this study are not adhering to many of the recommended 16 strategies from NDCI. Since only two of the nine drug courts were effective in reducing recidivism, this may be a result of their lack of adherence to these strategies.
- Differences in effectiveness across the nine sites did not correlate with site CPC-DC and CPC-DC: RA scores.

A summary of goal findings include:

- *Goal 1:* Drug Court youth recidivated at significantly higher rates than the Comparison group in the full sample analysis. Formal modeling results, which included several important control variables (e.g., risk level, age, gender, time at risk for a new offense), confirmed these findings and show that when the two sites with the highest failure rates are removed, results still favor the comparison group (although the results were not statistically significant). When these analyses are broken down by site, outcomes continued to favor Comparison youth. Two of the sites, Jefferson and Lane, evidence lower rates of post-program referrals and post-program adjudications for Drug Court youth, however. Results from the self-report survey indicate that alcohol and drug use was highly prevalent for youth in both the Drug Court and Comparison groups during the follow-up time period. Youth in Drug Court had lower rates of reported alcohol use (nonsignificant) and lower rates of reported drug use (significant) when compared to youth in the Comparison Group, however.
- *Goal 2:* Self-report data limitations hindered a full exploration of this goal. Although the differences were not statistically significant, Drug Court youths reported lower rates of engaging in criminal behavior, higher rates of employment, and lower rates of running away from home.

- *Goal 3:* There was little evidence that Drug Court youth outcomes varied by risk levels. Race and gender were both determining factors in post-program referrals and adjudications. Nonwhite youth were significantly more likely to have post-program referrals and adjudications, although the assessment of a race-treatment interaction effect was not statistically significant. Similarly, while the gender interaction was nonsignificant, female drug court participants evidenced a greater prevalence of post-program referrals and adjudications than female comparison youth and the relative gaps appear to be wider for females than males. Analyses suggest that older youth tended to have worse outcomes than younger ones. Youth with alcohol as the drug of choice had higher rates of new referrals and adjudications than youth who used marijuana or other substances. Similarly, those who had previous drug or alcohol treatment appeared to be more likely to recidivate.
- *Goal 4:* The CPC-DC and CPC-DC: RA results indicate that the majority of the drug courts assessed for this project were not in a good position to deliver effective services. Most of the courts *and* treatment agencies were not adhering to risk, need, and responsivity principles in a way that is consistent with evidence-based practice. The treatment approaches used by the agencies providing services to Drug Court youth were predominantly talk therapy and education based. These two approaches have been proven ineffective in changing offender behavior. The body of research on juvenile offender rehabilitation overwhelmingly supports cognitive-behavioral treatment approaches for offenders (see Lipsey, 2009 for a review).
- *Goal 5:* Only two of the drug courts evidenced better outcomes for youth compared to youth on probation: Jefferson and Lane. Both of these courts were developed in

adherence to core drug court practices (e.g., having a program coordinator and providing sufficient case management/supervision) and were sufficiently funded. Both courts offered an adequate length of treatment and had set completion criteria which ensured that youth progressed through the courts accordingly. The Lane drug court also provided exceptional treatment services to youth, with the average category of the CPC-DC: RA categorized as "highly effective." This suggests that, while the structure of the drug court and its processes matter considerably, the referral agencies with whom drug courts contract for services are important in affecting individual youth outcomes, as well.

- *Goal 6:* These findings are consistent with past research (e.g., Belenko, 1998; Blenko, 2001; Hartmann and Rhineberger, 2003; Mitchell et al., 2012; Wright and Clymer, 2001), generally suggesting that policymakers, practitioners, and researchers need to seriously consider the question of whether drug court programs should be used with juveniles—at least as presently constituted. The intensity and inherent structure of drug courts may be resulting in the poor outcomes identified in this study. Youth in Drug Court had considerably more status reviews, case hearings, and drug tests than youth on probation. As such, they had much more opportunity to fail. The Drug Court group had greater prevalence of technical violations related to substance use, treatment noncompliance, and school-related problems, as well. That group also had a far greater volume of these violations. One result of the current study is that Drug Court youths who used substances other than alcohol and marijuana tended to show better outcomes, but the majority of youth included in the study use only alcohol and marijuana. This presents a question with respect to whether youth who only use alcohol or marijuana should be placed in intensive services modeled after treatment regimens given to criminal addicts in the adult

system. These results may be related to the nature of substance abuse in general. Adult offenders are much more entrenched in their use (i.e., longer duration of use, more variation in the substances used). As such, these results may diverge from those found in adult drug courts, because adults are often further along in their substance abuse and have likely received more negative consequences for their substance use and associated criminal behavior.

- *Goal 7:* Overall, the courts in this study were not adhering to many of the NDCI recommended strategies. Therefore, the lack of success found in this study may be partly a result of the drug courts' lack of adherence to the NDCI strategies.

Conclusion

This study provides valuable insight regarding juvenile drug court practices and performance with respect to individual youth outcomes. On the whole, the key study findings raise important questions about the effectiveness of drug court for juveniles. Given the findings of the outcome analysis and results from the CPC-DC assessment of the courts involved in the current study, it is clear that there is a need for further discussion around the underlying theory and actual practice of juvenile drug courts in terms of potential effectiveness with the target population.

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Appendix F: Statistical Models

Table 1. Multivariate Logistic Regression Models with Recidivism

	Supervised		**Follow Up**		**Any**	
	Referral b (se) Odds Ratio	Adjudication b (se) Odds Ratio	Referral b (se) Odds Ratio	Adjudication b (se) Odds Ratio	Referral b (se) Odds Ratio	Adjudication b (se) Odds Ratio
Drug Court vs. Comparison	0.66 (0.12)* 1.95	0.53 (0.13)* 1.70	0.46 (0.12)* 1.59	0.58 (0.14)* 1.78	0.56 (0.12)* 1.75	0.58 (0.12) 1.78
Risk Level	0.31 (0.09)* 1.36	0.22 (0.10)* 1.25	0.22 (0.10)* 1.24	0.41 (0.11)* 1.51	0.41 (0.09)* 1.51	0.41 (0.09) 1.50
Time at Risk (Months)	0.01 (0.01) 1.01	-0.01 (0.01) 0.99	0.02 (0.01)* 1.02	0.03 (0.01)* 1.03	0.01 (0.01)* 1.03	0.01 (0.01) 1.01
Age at Intake	-0.21 (0.05)* 0.81	-0.23 (0.05)* 0.79	-0.11 (0.05)* 0.90	0.04 (0.06) 1.04	-0.27 (0.05)* 0.77	-0.16 (0.05)* 0.85
Sex (1=Female)	-0.30 (0.14)* 0.74	-0.24 (0.16) 0.79	-0.38 (0.15)* 0.68	-0.37 (0.17)* 0.69	-0.43 (0.14)* 0.65	-0.30 (0.14)* 0.74
Race (1=White)	-0.37 (0.12)* 0.69	-0.35 (0.14)* 0.71	-0.64 (0.13)* 0.53	-0.55 (0.14)* 0.58	-0.42 (0.12) 0.66	-0.41 (0.12)* 0.66
Constant	2.01 (0.92)	2.60 (1.01)	0.31 (0.94)	-3.54 (1.11)	3.57 (0.93)	1.11 (0.92)
Model x^2 (df)	92.80 (6)*	53.45 (6)*	93.92 (6)*	94.05 (6)*	129.61 (6)*	95.49 (6)*
Nagelkerke R^2	0.09	0.06	0.10	0.11	0.12	0.10
N	1320	1292	1316	1316	1316	1300

* $p < .05$

Table A2. Hierarchical logit models assessing individual and program effects on youth recidivism (Referral)

	Unconditional Model b (se)	*Level 1 Model* b (se)	*Random Slope Model* b (se)	*Full Model* b (se)
Intercept, γ_{00}	0.24 (0.21)	5.13 (0.93)	5.67 (0.97)	5.67 (0.97)
Fixed Effects				
Individual Level (n =1345)				
Drug Court vs. Comparison	--	0.48 (0.12)*	0.43 (0.30)	0.41 (.30)
Risk Score	--	0.05 (0.04)	0.04 (0.04)	0.04 (0.04)
Time at Risk (Months)	--	0.02 (0.01)*	0.013 (0.01)*	0.013 (0.01)*
Age at Intake	--	-0.31 (0.05)*	-0.33 (0.05)*	-0.34 (0.05)*
Sex (1=Female)	--	-0.46 (0.14)*	-0.46 (0.14)*	-0.47 (0.14)*
Race (1=White)	--	-0.24 (0.10)	-0.23 (0.10)*	-0.23 (0.10)*
Program Level (n = 9)				
CPC Score	--	--	--	0.002 (0.02)
Interaction DC/Comparison, CPC	--	--	--	0.02 (0.03)
Random Effects				
Recidivism Mean,u_{0j} Variance	0.35 (0.18)	0.33 (0.17)	0.42 (0.23)	0.42 (0.23)
Drug Court/Comparison, u_{1j} Variance	--	--	0.64 (0.37)	0.61 (0.36)
Model x^2 (df)	--	83.16 (6)*	66.70 (6)*	67.11 (8)*

* $p < .05$;

Table A2. Hierarchical logit models assessing individual and program effects on youth recidivism (Adjudication)

	Unconditional Model b (se)	*Level 1 Model* b (se)	*Random Slope Model* b (se)	*Full Model* b (se)
Intercept, γ_{00}	-0.46 (0.26)	2.22 (0.96)	2.95 (1.00)*	2.94 (0.99)*
Fixed Effects				
Individual Level (n =1345)				
Drug Court vs. Comparison	--	0.53 (0.12)*	0.50 (0.32)	0.46 (0.31)
Risk Score	--	0.07 (0.04)	0.06 (0.04)	0.06 (0.04)
Time at Risk (Months)	--	0.014 (0.01)*	0.01 (0.01)	0.01 (0.01)
Age at Intake	--	-0.19 (0.05)*	-0.22 (0.05)*	-0.22 (0.05)*
Sex (1=Female)	--	-0.39 (0.15)*	-0.41 (0.15)*	-0.41 (0.15)*
Race (1=White)	--	-0.17 (0.08)*	-0.15 (0.09)	-0.15 (0.09)
Program Level (n = 9)				
CPC-DC Score	--	--	--	0.02 (0.03)
Interaction DC/Comparison, CPC-DC	--	--	--	0.03 (0.03)
Random Effects				
Recidivism Mean,u_{0j} Variance	0.56 (0.28)*	0.52 (0.26)*	0.64 (0.35)	0.69 (0.39)
Drug Court/Comparison, u_{1j} Variance	--	--	0.77 (0.43)	0.58 (0.32)
Model x^2 (df)	--	54.14 (6)*	35.97 (6)*	37.57 (8)*

* $p < .05$ based on z test;