

**A Cost-Benefit Estimate of North Dakota's Juvenile Drug Court: Recidivism
Cost Savings**

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Executive Summary

This analysis attempts to answer the question of whether there is a cost savings in reduced recidivism in operating North Dakota's Juvenile Drug Court. Data were gathered on 56 juveniles who participated in Juvenile Drug Court from May of 2000 to January of 2002. Forty-four comparison juveniles were also tracked to determine if there were recidivism differences between drug court participants and juveniles undergoing standard treatment and probation. Characteristics of both groups were comparable enough to merit confident comparisons.

An earlier analysis showed that juveniles participating in drug court had a recidivism rate of 36% compared with 68% for the 44 comparison group juveniles. The latter figure is consistent with an earlier juvenile court analysis of the recidivism rate of substance abusing juveniles. Breaking these re-arrests down by specific charges shows that drug court juveniles were charged with 47 new offenses while participating in drug court compared to 66 new charges levied against the comparison group. Using an accepted cost savings formula currently being used in criminology, the data reveals that the reduced recidivism rate among the drug court juveniles produced a court and victim cost savings of \$62,400. Over a five year period, we estimate that drug court has the potential to provide a cost savings of reduced court resources and victim harm of \$312,000.

There are other important re-arrest differences between the groups that could severely impact other juveniles. This includes a higher re-arrest rate among the comparison group for charges involving drug possession, drug paraphernalia possession, and intent to deliver drugs. The latter could have a wide reaching negative effect on the community.

Introduction

Background

As a result of a year and-a-half planning process, a juvenile drug court (JDC) was implemented in the East Central Judicial District (hereafter EC) and Northeast Central Judicial District (hereafter NEC), beginning May 1, 2000. The planning effort began with a statewide Juvenile Drug Court Study Committee in the fall of 1998, commissioned by the Juvenile Justice Policy Board. This committee was chaired by Justice Mary Muehlen Maring and consisted of representatives from juvenile court, law enforcement, the Department of Public Instruction, the Department of Human Services, the Division of Juvenile Services, the Department of Corrections, and the Turtle Mountain Adult and Juvenile Drug Courts.

The Study Committee recommended that a juvenile drug court be planned and implemented in North Dakota. Following this recommendation, the North Dakota Supreme Court applied for and received a planning grant from the Office of Justice, Drug Courts Program Office. This grant facilitated training for a juvenile drug court team. This second planning and implementation team was comprised of representatives from the schools, juvenile court, treatment agencies, the state court administrator's office, academia, the judiciary, public defenders office, and the state's attorney's office. A project coordinator assisted Justice Maring in coordinating the meetings and workshops for the drug court planning committee. Planning team members attended a number of federally planned and sponsored workshops throughout the year in order to properly implement the juvenile drug court. In addition, staff from both judicial districts observed and interacted with a mentor court in Las Cruces, New Mexico in February of 2001.

On May 1 2000, the first juveniles appeared in drug court. In the EC Judicial District, participation in drug court was initially voluntary. After receiving participation refusals from at least half of all eligible juveniles, the EC district began court-ordering juveniles into the program in February of 2001. In the NEC Judicial District, juveniles were court-ordered into the program. In both judicial districts, the drug court process/model was explained to each juvenile and his/her guardian(s). Juveniles participating in drug court signed a juvenile drug court contract, a consent for disclosure of confidential substance abuse information, and a confidentiality notification of alcohol and drug abuse patient records agreement.

In October of 2000, a juvenile drug court process evaluation was completed, delineating strengths and weaknesses of the current model. This document contained a series of recommendations for fortifying the drug court process. Some of these recommendations were quickly implemented such as hiring a drug court coordinator for the EC district.

It is important to acknowledge that the following evaluation is ongoing. The initial 18-month period was selected as an appropriate time period by which to determine the effectiveness of drug court. Data gathered over the next year however, may temper some of the findings and possibly recommendations of this report.

Structure of the North Dakota Juvenile Drug Court

The JDC was structured similarly to other JDC models. The JDC team is composed of a judge, treatment provider, school representative, probation officer, Drug Court Coordinator (NEC), defense counsel, states' attorney, and law enforcement representative. In the EC court, three paths were established to allow juveniles to progress after meeting certain JDC requirement criteria. It was estimated that a juvenile meeting all JDC requirements could graduate from drug court after roughly 6-9 months. The NEC district required participants to move through four

paths, spending roughly 7-10 months in drug court after meeting all criteria for graduation. Sanctions and incentives were established to motivate juveniles. Each path carried different expectations.

Juveniles were required to attend school while school was in session or complete summer school requirements. Juveniles who dropped out of school were encouraged by the judge to pursue a GED. Those who had dropped out were required to discuss their employment progress with the judge. Juveniles were required to undergo random drug/alcohol screens and maintain contact 1-2 times per week with their probation officer. Community service was ordered as part of participation in drug court. Finally, JDC participants were required to meet with treatment providers to establish and follow a treatment plan (e.g., individual therapy).

The JDC staff held weekly meetings to staff JDC cases. At staffing, new cases were scrutinized and discussed and existing cases were reviewed. Review hearings were then held immediately following staffing.

Currently, both courts maintain a drug court coordinator whose chief task involves information processing. The coordinators are responsible for providing the drug court teams with sufficient information regarding the progress of drug court participants. In so doing, they are responsible for maintaining adequate files and ensuring that proper services are rendered to participants.

Selection Process/Criteria

The JDC planning team established eligibility criteria for drug court (targeting). These guidelines are consistent with those recommended by federal authorities. In order to be eligible for drug court, juveniles had to meet the following criteria:

1. Referring offense may be either drug or non-drug related.

2. Juvenile must be between the ages of 14 and 18.
3. No prior violent felony level adjudications or pending petitions alleging violent felony level delinquent acts.
4. No dangerous anti-social behavior as determined by the Juvenile Drug team.
5. No previous referral to JDC.
6. No prior or pending charges of selling and/or manufacturing controlled substances.
7. Admission to the offense and/or a court order to the program.
8. An assessment must be completed indicating a drug and/or alcohol abuse problem.
9. The JDC team has some flexibility as to who is eligible depending on their age, drug and/or alcohol history and nature of their prior convictions, to enter the JDC program.

JDC is a post petition/post adjudication program with the option of dismissing the charges in the petition after the participant successfully completes the JDC program.

Research Design

A quasi-experimental design was chosen to evaluate the effectiveness of the JDC program over an 18-month period. JDC participants comprised the experimental group (N = 56). A comparison group was selected from juveniles referred to the South Central Judicial District (SC) and the East Central Judicial District. The SC juvenile court consented to participate in the project as part of the research evaluation. In so doing, the evaluator requested a court order from the district judge and was allowed access to juvenile court files. A copy of the JDC selection criteria was forwarded to the SC staff and described to them. Court services officers then selected juveniles for inclusion in the comparison group who met JDC eligibility criteria. These files were scrutinized by the research evaluator to further ascertain whether these juveniles met drug court eligibility standards.

Because the EC District Juvenile Drug Court was initially voluntary, a number of juveniles opted not to participate in the program who met JDC eligibility criteria. These juveniles were included as part of the comparison group with the SC district juveniles. A total of 44 juveniles were then tracked as part of the comparison group in both judicial districts. In order to meet criteria for inclusion in the recidivism analysis, juveniles were required to have been referred to juvenile court prior to January 1, 2002.

Records were tracked while participants and non-participants were both minors and adults. During the course of the study, some juveniles turned 18. The state's attorney's offices in each of the respective judicial districts facilitated recidivism tracking information on individuals who turned 18 during the course of the study. Thus, the recidivism, cost-benefit data consists of crimes committed by persons as minors and as adults.

Data gathered on the drug court and comparison groups showed that they did not differ on the basis of gender composition ($\chi^2(1, n = 99) = 2.04, p = .153$), family living arrangement ($\chi^2(2, n = 94) = .632, p = .729$), age at first referral ($t(1,97) = .497, p = .620$), or current age ($t(1,99) = -.027, p = .978$). The groups differed significantly however on ethnic composition ($\chi^2(1, n = 95) = 4.61, p < .05$) and number of prior referrals ($t(1,94) = 5.39, p < .05$). Ethnic minorities comprised 27% of the drug court group (primarily American Indians) compared to only 10% for the comparison group. This difference was likely due to a concerted effort on the part of the drug court teams to provide more intensive care for substance abusing American Indian youth. Drug court participants also recorded lengthier court histories than the comparison group ($M = 5.39$ referrals per child vs. $M = 4.23$ referrals per child). Because court history is positively associated with recidivism, this meant that any biases in the recidivism and cost-benefit study would work against the drug court group.

Recidivism Results

An earlier recidivism report was released that showed significant differences in the rates between drug court participants and the comparison group. In that study, we defined recidivism as any subsequent arrest for an offense committed in North Dakota classified as Class B misdemeanor or higher following inclusion in the study. Those results are briefly summarized below.

Table 1 shows the bi-variate association between group membership and recidivism. The drug court recidivism rate reflects the rate for all juveniles admitted to drug court during the 18-month time frame. This figure includes juveniles who completed the drug court program as well as those who were dismissed from drug court due to non-compliance with program objectives. The rate for both groups includes juvenile as well as adult recidivism. During the time frame of the study, drug court participants recorded a recidivism rate of 36.4% compared to 68.2% for the comparison group. This difference was significant at the $p < .05$ level ($\chi^2(1, n = 99) = 10.1, p < .05$). Restricting the time frame to one year after last referral, the drug court group recorded a recidivism rate of 27.3% while the comparison group recorded a rate of 54.5% ($\chi^2(1, n = 99) = 7.76, p < .05$). These results are consistent with recidivism rates reported by other juvenile drug courts over a comparable period of time. A drug court evaluation conducted in Fairfield, Ohio reported that 21% of their drug court participants were reconvicted on new charges during the first year of operation. A site in Ogden, Utah reported a recidivism rate of 30% after one year of tracking. Our one-year rate of 27% falls between these two estimates.

Table 1. Percentage of recidivists among Drug Court and Comparison Group.

<i>Recidivated</i>	<i>Group Membership</i>	
	Drug Court Group ^a	Comparison Group
<i>No</i>	35 (63.6%)	14 (31.8%)
<i>Yes</i>	20 (36.4%)	30 (68.2%)

$\chi^2 = 10.08, 1df, p = .001$

^a Cell counts may not add up to n = 56 due to missing values.

Among the 31 subjects in the study who turned 18, only 1 out of the 15 (6.7%) drug court juveniles was arrested as an adult compared to 7 of 16 (43.8%) for the comparison group ($\chi^2(1, n = 31) = 6.12, p < .05$). The small number of juveniles who reached the age of majority however, compels us to treat this difference as preliminary.

Because it is possible that differences between the groups could be a function of pre-existing differences (e.g., gender court history), these data were re-analyzed using logit regression analysis. Logit regression allows us to predict how well group membership (drug court vs. comparison) predicts a binary variable (i.e., recidivism) after controlling for other factors that might be associated with recidivism. Table 2 shows that demographic variables (e.g., gender, age) entered at step 1 were not significantly associated with recidivism. Adding court history information at step 2 significantly improved upon the fit of the model ($\chi^2(6, n = 92) = 9.28, p < .05$) with the number of priors reaching significance and age at first referral

approaching significance at the .05 alpha level. This means that having a deeper court history and being older were likely contributors to recidivism. At step 3 we entered the drug court membership variable. Adding the drug court variable improved upon the fit of model 2 ($\chi^2(7, n = 92) = 6.42, p < .05$). The drug court membership variable was positive and significant, suggesting that *not* being in drug court significantly elevated the odds of recidivating. Taking the product of the coefficient ($\beta = 1.34$) and the variance of the recidivism variable (.252) gives us the proportional difference in recidivism between the two groups, controlling for other variables. This proportion is .338, indicating that being in the drug court group reduced the probability of recidivism by roughly 34% relative to not being in drug court.

Table 2. Factors Predicting Recidivism.

		N of			
Step 1		df	Cases	Model chi-square	Intercept
Ethnicity	-.017 (.529)	3	92	1.13	-.323 (.351)
(whites = 0)					
Gender	.040 (.463)				
(males = 0)					
Family living arrangement	.454 (.430)				
(1 parent = 0)					
		N of			
Step 2		df	Cases	Model chi-square	Intercept
Ethnicity	.054 (.567)	6	92	10.41	6.77 (3.96)
(whites = 0)					
Gender	-.221 (.495)				
(males = 0)					
Family living arrangement	.778 (.473)				
(1 parent = 0)					
Age @ first referral	-.314 (.170)				
Current age	-.080 (.267)				
Number of prior referrals	-.294* (.135)				
		N of			
Step 3		df	Cases	Model chi-square	Intercept
Ethnicity	.468 (.624)	7	92	16.82	5.57 (.4.09)
(whites = 0)					
Gender	-.375 (.529)				
(males = 0)					
Family living arrangement	.835 (.496)				
(1 parent = 0)					
Age @ first referral	-.156 (.185)				
Current age	-.206 (.285)				
Number of priors	-.168 (.139)				
Drug Court Measure	1.34* (.548)				
(Drug Court Group = 0)					

* p < .05 (two-tail test)

Cost- Benefit Recidivism Results

For the cost-benefit analysis, we counted *all* charges brought against those re-arrested during the 18-month period to determine how costly these new crimes were to the court and community. This meant that we also counted charges such as status offenses (e.g., runaway), tobacco violations, and any offenses that were charged out as less than Class B misdemeanors.

Costs were estimated on the basis of Cohen's work (1998) in which he estimated victim and court costs for Index I crimes (e.g., theft, robbery). The Cohen study was recommended by the Federal Drug Court evaluators as a credible document by which to estimate juvenile recidivism costs. This study was published in one of the flagship journals in criminology and has been used repeatedly to estimate costs of re-arrest in other jurisdictions.

Because Cohen examined only Index I offense costs, I have adjusted some of the court estimates by using Cohen's lowest juvenile justice system costs. To estimate costs of other charges not covered in Cohen's work (e.g., criminal mischief, disorderly conduct), I have relied on court estimates for theft (\$610 for juvenile justice system costs). For drug and alcohol offenses, Cohen estimated these costs as being equivalent to the costs associated with robbery, motor vehicle theft, and burglary. Consequently, I have averaged the costs of these three offenses which are reflected in the drug estimates in the table (\$1,161 per offense).

In some cases, juveniles were re-arrested for crimes resembling those in Cohen's study but charged out as a lesser offense. For instance, simple assault resembles aggravated assault but is considered a lesser offense. Likewise, unlawful entry of a motor vehicle is a less serious charge than motor vehicle theft. In these instances, I estimated the court and victim costs to be half of the costs estimated by Cohen for the more serious offenses. Some of the crimes

committed by juveniles in this study directly affected victims. Cohen estimated both tangible (i.e. direct loss) and intangible (i.e. pain and suffering) costs attributable to the crime. For drug court participants, 10 out of 47 offenses (21%) involved a victim. For the comparison group, 11 out of 66 offenses involved a victim (17%).

Table 3 shows the cost savings in reduced recidivism for the drug court participants relative to the comparison group. The drug court participants recorded 47 new charges over the 18 month tracking period or roughly .85 new charges per juvenile. The most common charge for this group was minor in possession-consumption with 18 juveniles being charged with this offense. The 44 comparison group juveniles were charged with 66 new offenses over the same time period or roughly 1.5 new charges per juvenile. Sixteen of the new offenses for the comparison group involved either drug paraphernalia/possession or intent to deliver compared with only three drug possession or paraphernalia charges for the drug court participants. None of the drug court participants were charged during this period with intent to deliver.

Costs estimated from these charges show that the drug court participants accumulated \$55,508 in victim and court costs over the 18 month period as a result of committing new crimes. Each juvenile averaged \$991 in victim and court costs as a result of committing new offenses. The comparison group accumulated \$92,646 in victim and court costs over the same period. Each juvenile here averaged \$2,105 in victim and court costs. Thus, the new crimes committed by the comparison group juveniles were on average about twice as costly to the state as those committed by the drug court juveniles. Pro-rating this cost to equalize the two groups (so that each group has 56 juveniles) we see that the comparison group accumulated \$117,880 in victim and court costs due to new offenses. Using this pro-rated strategy, the comparison group

accumulated \$62,400 more in court and victim costs than drug court juveniles. Assessed over a period of five years, we estimate that the drug court group would accumulate \$277,000 in court and victim and costs compared to \$589,000 for the comparison group. On this basis, the drug court group would realize a recidivism cost savings to the state of \$312,000 over five years.

It might be interesting to assess the victim and court cost savings if North Dakota had 100 juveniles in drug court per year. On this basis, drug court participants would cost the state roughly \$100,000 (\$99,100) in court and victim costs. Juveniles not participating in drug court would accumulate \$210,500 in victim and court costs on the state. This is a difference of \$111,400 per year. Annualized over five years, we can estimate that drug court participants will yield a victim and court cost savings of roughly \$557,000.

Table 3. Victim and Court Costs Accumulated by Drug Court Participants (May 2000 – January 2002).

	Juvenile Drug Court Participants (N = 56)	Comparison Group (N = 44)	Difference – Cost Savings (over 18 months)
Number of charges brought (May 2000-January 2002)	47 ^a	66 ^b	
Total Victim & Juvenile Justice System Costs	\$55,508	\$92,646	\$37,138
Victim and Court Costs per Juvenile	\$991.21	\$2105.59	\$1,114.38/juvenile
Pro-rated to equalize the group sizes (e.g., if the comparison group had 56 juveniles)	\$55,508	\$117,880	\$62,372
Pro-rated for five years	\$277,540	\$589,400	\$311,860
Pro-rated for 100 juveniles per year	\$99,100	\$210,500	\$111,400

^a See Appendix A for a breakdown of charges and costs

^b See Appendix B for a breakdown of charges and costs

Conclusion

This study sought to assess the recidivism cost savings of being in juvenile drug court. Our data show that juveniles participating in drug court were less likely to re-offend than juveniles undergoing standard treatment and probation. Over a span of 18 months, drug court juveniles were brought up on 47 new charges compared to 66 new charges for the comparison group. This difference amounts to a cost savings of \$62,000 in terms of reduced court and victim costs. Assuming somewhat constant re-arrest rates, we could possibly anticipate a cost savings of \$311,000 over a period of five years attributable to juvenile drug court.

There may be important qualitative differences between the re-arrests among these two groups as well. One glaring qualitative difference appears in the stronger likelihood among the comparison juveniles to reappear on charges stemming from drug possession or consumption and intent to deliver drugs. The latter charge is particularly troubling given the possibility of exposing other juveniles to drugs through distribution. Another difference is revealed in evidence that four new charges of simple assault were brought against juveniles from the comparison group while no new assault charges were levied against the drug court group. Nevertheless, while we can broadcast that the drug court group was less likely to recidivate and therefore, accumulated a cost savings to the state, this group's level of re-offending involved more victims than the comparison group. More research needs to be done to assess why this rate is higher than the comparison group.

It is important to reiterate that this outcome evaluation is ongoing. More research is being gathered with a new comparison group and new drug court juveniles. While we are

confident in the validity of these findings, further research is needed to determine whether these differences can be sustained.

Appendix A (Drug Court Group Charges)

Charge	# of Charges	Avg. Victim Cost	Total	Avg. Court Cost	Total	Total Victim + Court Costs
DUI	2			\$1,161^a	2,322	\$2,322
MIP-MIC	18			1,161	20,898	20,898
Poss. Drug Para.	2			1,161	2,322	2,322
Poss. Cont. Substance	1			1,161	1,161	1,161
Criminal Trespassing	1	\$825^b	825	610	610	1,435
Shoplifting	1	440	440	610	610	1,050
Theft	4	440	1,760	610	2,440	4,200
Fleeing law enforcement officer	4			610	2,440	2,440
Resisting Arrest	1			610	610	610
Runaway	1			610	610	610
Disorderly conduct	2			610	1,220	1,220
False Information to law enforcement	1			610	610	610
Tobacco violation	1			610	610	610
Obstruction	1			610	610	610
Driving w/o license	2			1,161	2,322	2,322
Burglary	3	1,650	4,950	835	2,505	7,455
Motor Vehicle Theft	1	4,450	4,450	1,675	1,675	6,125
Curfew Violation	1			610	610	610

Total 47 \$7,805 \$12,425 \$15,025 \$43,083 \$55,508

^a Estimate derived from Cohen, “The Monetary Value of Saving a High-Risk Youth.” *Journal of Quantitative Criminology*, 14:5-33.

^b Estimate is one-half of tangible + intangible cost to victim for burglary (Cohen, 1998, p. 16)

Appendix B (Comparison Group Charges)

Charge	# of Charges	Avg. Victim Cost	Total	Avg. Court Cost	Total	Total Victim + Court Costs
DUI	1			\$1,161 ^a	1,161	\$1,161
MIP-MIC	18			1,161	20,898	20,898
Poss. Drug Para.	8			1,161	9,288	9,288
Poss. Cont. Substance	6			1,161	6,966	6,966
Criminal Mischief	3	\$825	2,475	417	1,251	3,726
Driving w/o a license	2			610	1,220	1,220
Theft	1	440	440	610	610	1,050
Fleeing law enforcement officer	1			610	610	610
Delivery controlled substance	2			1,161	2,322	2,322
Runaway	1			610	610	610
Disorderly conduct	1			610	610	610
Unruly	2			610	1,220	1,220
Tobacco violation	3			610	1,830	1,830
Simple Assault	4	5,500	22,000	507	2,028	24,028
Curfew violation	3			610	1,830	1,830
Breaking & Entering	1	825	825	835	835	1,660
Motor Vehicle Theft	1	4,450	4,450	1,675	1,675	6,125
Disobeying Court Order	1			610	610	610
Driving w/o insurance	2			610	1,220	1,220
Menacing	1	900	900	610	610	1,510
Truancy	2			610	1,220	1,220
Open container	2			610	1,220	1,220

Total	66	\$12,940	\$31,090	\$17,169	\$61,556	\$92,646
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^a Estimate derived from Cohen, "The Monetary Value of Saving a High-Risk Youth." *Journal of Quantitative Criminology*, 14:5-33.

^b Estimate is one-half of tangible + intangible cost to victim for burglary (Cohen, 1998, p. 16)