

Howard County District Court Drug Treatment Court Program

Outcome and Cost Evaluation



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Howard County District Court Drug Treatment Court Program Outcome and Cost Evaluation

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TABLE OF CONTENTS

EXECUTIVE SUMMARY.....	I
INTRODUCTION AND BACKGROUND.....	1
The Drug Court Model	1
Process Description: Howard County District Court, Adult Drug Treatment Court	2
OUTCOME/IMPACT EVALUATION	5
Outcome Evaluation Methods	5
Research Strategy.....	5
Outcome/Impact Study Questions	5
Data Collection and Sources	6
Sample Selection.....	7
Data Analyses	8
Limitations	10
Outcome Evaluation Results.....	11
Policy Question #1: Does participation in the drug court program reduce substance use? ..	12
Policy Question #2: Does participation in the drug court program reduce recidivism?	13
Policy Question #3: What Proportion of DTC Participants Complete the Program Successfully?.....	17
Policy Question #4: What predicts participant success?.....	18
Outcome Summary	21
COST EVALUATION	23
Cost Evaluation Methodology	23
Cost Evaluation Design.....	23
Cost Evaluation Methods	24
Cost Evaluation Results	25
Cost Evaluation Question #1: Program Costs.....	26
Cost Evaluation Question #2: Outcome/Recidivism Costs	29
Cost Evaluation Summary	34
DISCUSSION AND SUMMARY OF FINDINGS	35
REFERENCES	37

LIST OF TABLES

Table 1. Data Sources 7

Table 2. Howard DTC Admissions by Year 8

Table 3. DTC and Comparison Group Characteristics 11

Table 4. Average Number of Cumulative Re-Arrests by Charge Type at 24 Months by Group 17

Table 5. Number of DTC Graduates in Study Sample by Year 18

Table 6. Characteristics of DTC Graduates and Non-Graduates 19

Table 7. Demographic and Criminal Justice History-Related Variables That Predict Recidivism at 24 Months 20

Table 8. The Six Steps of TICA 25

Table 9. Average DTC Program Costs per Participant 28

Table 10. Average DTC Cost per Participant by Agency 29

Table 11. Average Number of Outcome Transactions per DTC and Comparison Group Member Over 24 Months 31

Table 12. Criminal Justice System Outcome Costs per DTC and Comparison Group Member Over 24 Months 32

Table 13. Criminal Justice System Outcome Costs by Agency per DTC and Comparison Group Member Over 24 Months 33

LIST OF FIGURES

Figure 1. Average Number of Drug Re-Arrests Over Time 12

Figure 2. Criminal Arrest Rate 2 Years Before & 2 Years After Program Entry 13

Figure 3. Criminal Re-Arrest Rate Over Time by Group 14

Figure 4. Number of Re-Arrests 2 Years Before & 2 Years After Program Entry 15

Figure 5. Cumulative Number of Re-Arrests Over Time 16

Figure 6. Criminal Justice Recidivism Cost Consequences per Person: DTC Participants and Comparison Group Members Over 24 Months 34

EXECUTIVE SUMMARY

What Are Drug Courts?

Individual drug courts are intensive interventions that involve coordination of multiple agencies and professional practitioners applying a variety of areas of expertise, intensive case management and supervision, and frequent judicial reviews. The purpose of drug courts is to guide offenders, identified as abusing substances, into treatment that will reduce drug use and criminality, and consequently improving the quality of life for participants and their families. In the typical drug court program, participants are closely supervised by a judge who is supported by a team of agency representatives that operate outside of their traditional, sometimes adversarial roles. Benefits to society take the form of reductions in crime committed by drug court participants, resulting in reduced costs to taxpayers and increased public safety.

How Was This Study Conducted?

NPC Research, under contract with the Administrative Office of the Courts of the State of Maryland, conducted an outcome and cost study of the Howard County District Court Drug Treatment Court (DTC) program. This program is a combined drug court and DUI court program, but this report will focus only on the participants who are served by the drug court side of the program. Another report will cover the DUI court participant outcomes and associated costs.

Howard County District Court Drug Treatment Court Program Description

Howard County District Court Drug Treatment Court (DTC) was formed in 2004, with the expansion into a dual program with DUI offenders beginning in 2005. The program has a capacity of 25 and since inception has served over 66 participants.

The DTC program has four phases that can be completed by participants in a period as short as 12 months. For the 44 drug court participants included in this study who had since exited the program, either successfully or unsuccessfully, the average number of days in the program was 380 (12.5 months). Graduates spent an average of 489 days in the program (approximately 16 months), whereas non-graduates spent an average of 318 days in the program (approximately 10.5 months).

Throughout the program, participants attend drug court sessions evaluating their progress, meetings with a case manager, and group and individual counseling sessions. The program requires that the individuals submit to drug testing. The DTC uses incentives and sanctions to encourage positive behaviors.

Three key policy questions of interest to program practitioners, researchers, and policymakers about drug courts were addressed in this study.



1. Does the DTC Reduce Substance Abuse Among Program Participants?

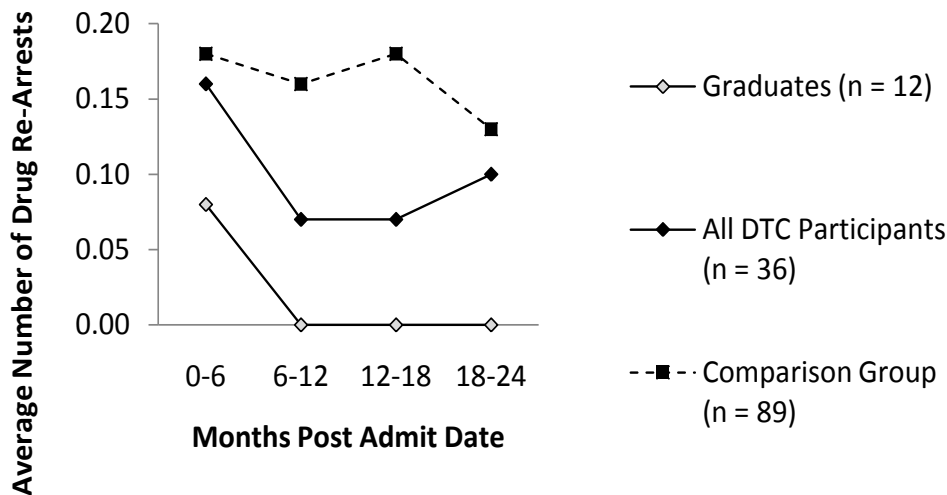
YES: DTC participants showed reductions in drug-related arrests following entrance into the program.

Because data on actual drug use, such as drug testing results, were not available, drug-related offenses was used as a proxy to help address this research question.

Drug-related Offenses

Figure A displays the mean number of drug re-arrests in the DTC and comparison groups during discrete, 6-month periods over 24 months after program entry. An examination of DTC and comparison group individuals showed an overall pattern of decreases in the number of drug re-arrests over 24 months, DTC participants showed a significantly lower number in the 12-18 month period, compared to the comparison group. This result may provide evidence of reductions in drug use for program participants.

Figure A. Average Number of Drug Re-Arrests Over Time



2. Does the DTC Program Reduce Recidivism in the Criminal Justice System?

YES: The re-arrest rate decreased from 100% at pre-DTC to 44% post-DTC admission. This difference is statistically significant.

Figure B shows the recidivism rate (the percentage of individuals re-arrested) using a 24-month pre-post comparison. The pre time period includes the 2 years leading up to DTC start or equivalent date for comparison individuals, which is compared to the post time period that begins at program start date or equivalent for the comparison group.

There was a significant decrease in the recidivism rate among DTC participants and graduates from pre to post.

Figure B. Criminal Arrest Rate 2 Years Before & 2 Years After Program Entry

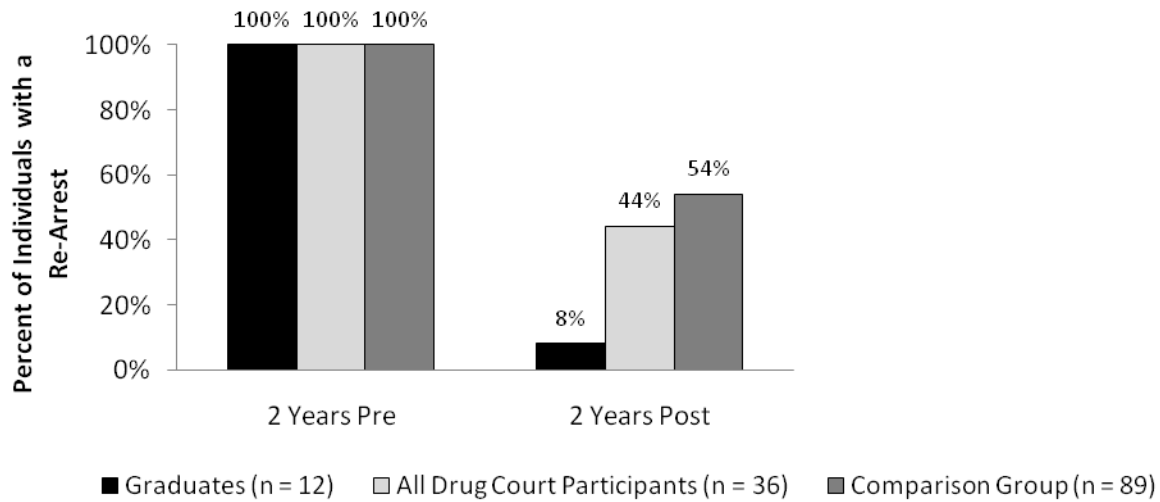
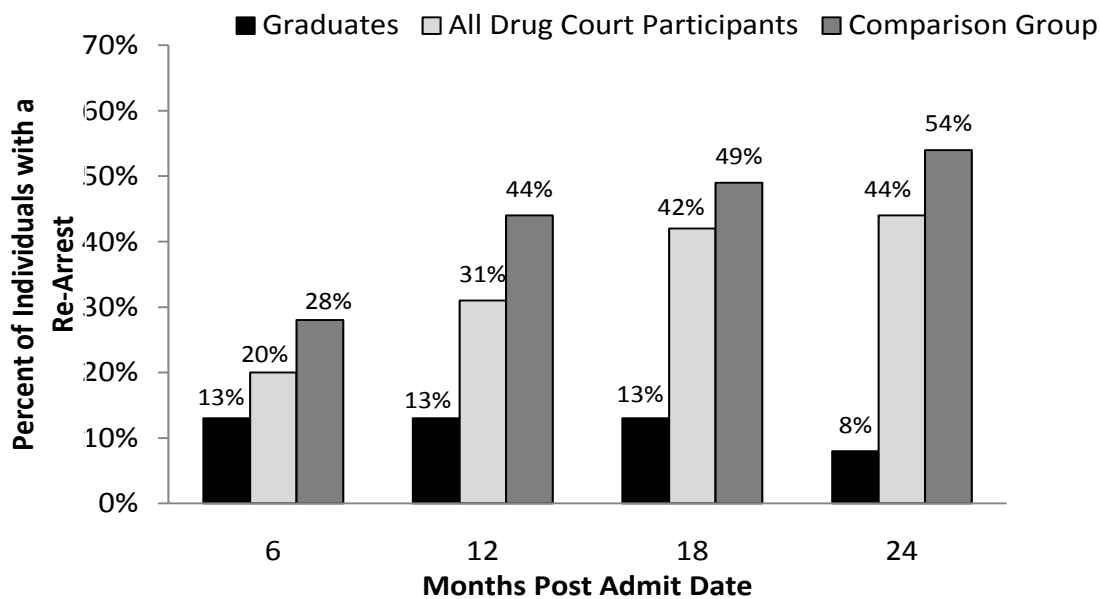


Figure C shows the percentage of individuals re-arrested, grouped by their amount of available follow-up time, for the program graduates, all DTC participants, and a matched comparison group of individual offenders who were eligible for the program but did not participate. Howard County Drug Treatment Court participants appear to be less likely to be re-arrested than the comparison group individuals at every time point, although these differences were not significant.

Figure C. Criminal Re-Arrest Rate Over Time by Group¹



¹ Sample sizes: Graduates with 6 months n = 16, 12 months n = 16, 18 months n = 16, and 24 months n = 12; All DTC participants with 6 months n = 50, 12 months n = 48, 18 months n = 43, and 24 months n = 36; Comparison group with 6 months n = 89, 12 months n = 89, 18 months n = 89, and 24 months n = 89.

In the 12 months following entry to the program, 31% of all DTC participants and 13% of graduates were re-arrested, while 44% of the comparison group members were re-arrested. At the 24-month time period, the pattern continued, with 44% of all program participants having been re-arrested and 8% of graduates and compared to 54% of comparison group individuals.

3. Does the DTC Result in Savings of Taxpayer Dollars?

YES: Outcome costs for DTC graduates showed significant savings, when factored against the comparison group. When non-graduates were also factored in, however, the cost rose significantly and the average cost did not show a savings over the comparison group for the 24 months following program entry.

The program investment costs are \$13,890 per DTC participant. When program costs are divided by the average number of days in the program, the cost per day per participant for the DTC program is \$36.53.

The cost due to recidivism over 24 months from program entry was \$14,953 per DTC participant compared to \$10,327 per comparison individual. The vast majority of the cost in outcomes for DTC participants over the 24 months from DTC entry was due to time in jail (\$9,103).

Recommendations for Program Improvement

The Howard County Drug Treatment Court program demonstrates promise in reducing negative behaviors, in particular, criminality. The small number of individuals who had 24 months of time after program entry may have limited this study's ability to find significant differences in some of the recidivism analyses; however, future studies may be able to demonstrate additional positive recidivism outcomes.

There are several areas that the program could focus on that have the potential to benefit participants and improve outcomes.

1. Review the services available for participating individuals, to make sure that the intensity of services matches the need as indicated by the substance abuse assessment and criminogenic risk assessment.
2. Talk to program participants, particularly those who are not as successful, about the challenges they face and their unmet needs, to inform the team about how best to address the barriers to their success and increase the proportion of individuals who graduate.
3. Assess reasons for participants' high number of outcome jail days (for example, are the jail days due to sentences for participants who were unsuccessful in the program, or are they due to other judges imposing sentences on former participants who re-offend?), and discuss whether there are alternatives that could be utilized with equivalent effectiveness, to reduce outcome costs. Additionally, participants may need additional supports or supervision to be able to avoid these subsequent arrests and jail stays.
4. Consider adding law enforcement and/or probation representatives to the drug court team.
5. Review drug testing procedures to ensure that participants cannot use without detection. It may be necessary to increase the number of tests conducted each week, especially during Phase 1.
6. Consider adding additional rewards or incentives to the program, to help engage and encourage participants to comply with program requirements and to make these very difficult behavioral changes.

INTRODUCTION AND BACKGROUND

The Drug Court Model

In the last 20 years, one of the most dramatic developments in the movement to reduce substance abuse among the criminal justice population in the United States has been the spread of drug courts across the country. The first drug court was implemented in Florida in 1989. As of October 2009, there were over 2,300 adult, juvenile, family and other specialized drug courts active in all 50 states, the District of Columbia, Northern Mariana Islands, Puerto Rico, and Guam with another 214 being planned (National Association of Drug Court Professionals, 2009).

Drug courts are designed to guide offenders identified as drug-addicted into treatment that will reduce drug dependence and improve the quality of life for them and their families. Benefits to society often take the form of reductions in crime committed by drug court participants, resulting in reduced costs to taxpayers and increased public safety.

In the typical drug court program, participants are closely supervised by a judge who is supported by a team of state and local agency representatives who operate outside of their traditional roles. The team typically includes a drug court coordinator, addiction treatment providers, prosecuting attorneys, defense attorneys, law enforcement officers, and parole and probation officers who work together to provide needed services to drug court participants. Prosecuting attorneys and defense attorneys hold their usual adversarial positions in abeyance to support the treatment and supervision needs of program participants. Drug court programs can be viewed as blending resources, expertise, and interests of a variety of state and local jurisdictions and agencies.

Drug courts have been shown to be effective in reducing recidivism (GAO, 2005) and in reducing taxpayer costs due to positive outcomes for drug court participants (Carey & Finigan, 2004; Carey, Finigan, Waller, Lucas, & Crumpton, 2005). Some drug courts have even been shown to cost less to operate than processing offenders through traditional “business-as-usual” court processes (Carey & Finigan, 2004; Crumpton, Brekhus, Weller, & Finigan, 2004a & 2004b; Finigan, Carey, & Cox, 2007).

In 2001, NPC Research, under contract with the Administrative Office of the Courts of the State of Maryland, began cost studies of adult, juvenile and family drug courts across the state. The results presented in this report include the costs associated with the Howard County District Court Drug Treatment Court program and the outcomes of participants as compared to a sample of similar individuals who received traditional court processing. This program is a combined drug court and DUI court program, but this report will focus only on the participants who are served by the drug court side of the program. Another report will cover the DUI court participant outcomes and associated costs.

Process Description: Howard County District Court, Adult Drug Treatment Court

HOWARD COUNTY, MARYLAND

Howard County is considered to be part of the Baltimore, MD-Washington, DC, metropolitan area. According to the 2008 U. S. Census Bureau estimate,² it had a population of 274,995, with 75% over age 18. Howard County's racial/ethnic composition in 2008 was estimated at 68% White, 17% Black or African American, 12% Asian, less than 1% American Indian and Alaska Native, and less than 1% Native Hawaiian and other Pacific Islander. Those individuals of Hispanic or Latino origin (of any race) comprised 5% of the county's population. The Census found that the 2007 median household income in the county was \$100,744, with 4.5% of families living below federal poverty level.

The Howard County Drug Treatment Court (DTC) is located in Ellicott City, the county seat, which had an estimated population of 56,397 in 2000.³

BACKGROUND AND TEAM

The Howard County DTC consists of two components—the drug court and the DUI court, though this report focuses on the drug court side of the program. The DTC is designed to serve 25 participants at a time. The drug court program began serving participants in June 2004. As of June 2009, 66 participants have been served by the drug court component since inception. Team members include the Judge, Drug Court Coordinator, Case Manager (CM)—Drug Court (Health Department), Assistant State's Attorney, and Public Defender. Law enforcement agencies, including Parole and Probation, are not represented on the Drug Court Team. The CM is responsible for the overall monitoring of compliance with all aspects of the treatment plan and drug court probation conditions. Approximately 60% of participants receive alcohol and drug treatment through the Health Department, while the remainder is served by private providers, who keep the CM informed about participants' progress. The DTC team makes all policy decisions.

ELIGIBILITY AND DRUG COURT ENTRY

Eligibility is determined by the court after consideration of a number of factors, including—but not limited to—the eligibility criteria listed below, the seriousness and circumstances of the pending case, the individual's prior record, amenability to treatment, and public safety. An eligibility hearing takes place, at which the state and the defendant present any information or arguments regarding eligibility for the drug court program. Eligibility is initially determined by the State's Attorney's Office and ultimately by the drug court judge.

Eligibility requirements, drug court program:

1. 18 years of age or older
2. Howard County resident (an exception may be made if the defendant agrees to and is available to undergo treatment and supervision in Howard County)
3. No pending sentencing, warrants, or detainers
4. Not currently on parole
5. Not currently on probation unless sentencing judge agrees to participation

² <http://quickfacts.census.gov/qfd/states/24/2467675.html>

³ <http://censtats.census.gov/data/md/1602426000.pdf>

6. Only charges pending in Howard County are eligible for inclusion in plea negotiations, unless parties involved in cases from other jurisdictions agree
7. The defendant has not previously been convicted of any crime of violence, abduction, child abuse, rape or sexual offense, kidnapping, robbery, robbery with a deadly weapon, carjacking, use of a weapon in commission of a felony or crime of violence, arson, or attempts at any of the above offenses. An exception may be made if the offense occurred more than 10 years earlier.
8. Charged with possession of a controlled dangerous substance (CDS), possession of CDS paraphernalia, prescription fraud, theft, bad checks, 4th degree burglary, credit card fraud, prostitution, Violation of Probation (with consent of sentencing judge)
9. Prior history of drug abuse and/or convictions, as determined by the Judge, State's Attorney's office or defense counsel

The ADC began as a pre-sentence program, but has been a post-plea, post conviction program since February 2007.

When individuals are arrested, the SAO receives the police reports, and the Assistant State's Attorney working with the drug court looks for cases that would be appropriate for the DTC program. Referrals may also be made by the court/Judge, defendants, and the Health Department. Referrals are forwarded to the DTC Coordinator, who refers the case to the SAO for eligibility screening.

The ASA conducts a background check, including information about time(s) on probation, if any. If an individual is determined to be eligible, the program is explained to the potential participant by the defense attorney or the DTC Coordinator. If an individual wishes to participate in the program, he/she receives a packet of information and agreements to complete (e.g., release of information form, policy manual), and is notified of the date and time to attend first drug court session, at which time the plea is entered.

Prior to entry of the guilty plea, the participant is referred to the Howard County Health Department for a bio/psycho/social evaluation and development of a treatment plan. The Health Department (or private provider) conducts a drug and alcohol assessment using the Addiction Severity Index and determines the level of care through use of the American Society of Addiction Medicine-Placement Criteria 2. Persons with co-occurring substance abuse and mental health issues may be accepted into the program, if the assessment determines they are able to benefit from treatment and control their behavior. The Court makes the final decision regarding entry after consideration of the recommendations of the State's Attorney's Office and the Defendant or his/her counsel.

DRUG COURT PROGRAM PHASES AND REQUIREMENTS

The DTC program has four phases, lasting a minimum of 10 months. (On average, participants remain in the program 12 months.) During Phase I, drug court participants have urine analyses (UAs) twice per week plus a random test (or as directed), develop and begin a treatment plan with the provider, attend court sessions every 2 weeks, and have regular contact with the case manager. During Phase II, they have scheduled UAs once per week and random UAs at least once per week (or as directed), attend court sessions 1 to 2 times per month, and continue with the treatment plan and with regular contact with the case manager. For Phase III, UAs are on a random basis (or as directed), participants attend court monthly, complete their treatment goals and treatment plan, and continue to have regular contact with the case manager. Phase IV partic-

ipants have UAs on a random basis (or as directed), attend court monthly, comply with court aftercare, and have regular contact with the case manager. Breathalyzer tests and/or patch tests (to determine drug use) may also be used.

INCENTIVES AND SANCTIONS

Participants in the DTC program receive rewards (applause and a gift certificate) when they move to a new phase of the program. A participant who is clean and sober for 6 months receives a certificate and a \$10 gift certificate to Giant Food Store, Payless Shoes, Target, Wal-Mart, or McDonald's. An individual who has been fully compliant with program requirements may ask the Coordinator for permission to skip reporting for one week.

Participants are sanctioned if they do not comply with drug court requirements. The range of sanctions differs depending on the behavior. Sanctions for general violations or failure to pay restitution include warnings, community service, and jail time (which escalates for each offense). Appearing in court under the influence may result in being taken into custody, being sent to jail or detoxification, receiving a relapse evaluation/intervention, or an adjustment in treatment plan. Absconding could result in jail time, being returned to an earlier phase, or being released from the program. An individual may also be released from the program for having a new arrest or conviction.

GRADUATION AND UNSUCCESSFUL COMPLETIONS

In order to graduate from the drug court program, participants must complete all program requirements. Participants who are not meeting program requirements and/or those who reoffend or violate conditions of probation several times may be removed from the program. The graduation rate (the number of people who have graduated the program divided by the number of people who have exited the program, of those participants who have had enough time to have completed the program) is 38%.⁴

⁴ The method for calculating this rate is located on p. 16 and does not include all recent participants (it includes all participants through the study cohort ending in 2007). Preliminary observation of all program participants through June 30, 2009, indicates a comparable graduation rate of 39%.

OUTCOME/IMPACT EVALUATION

Outcome Evaluation Methods

RESEARCH STRATEGY

The primary criminal justice system outcome of interest to drug court programs is criminal justice recidivism of participants after beginning, or completing, the programs. Re-arrests are defined in this study as any new criminal arrest after program entry and this study does not include non-criminal events, such as traffic citations.

This study examines outcomes over a 2-year period for Howard County Drug Treatment Court (DTC) program participants and a matched comparison group. This program is a combined drug court and DUI court program, but this report will focus only on the participants who are served by the drug court side of the program. Another report will cover the DUI court participant outcomes and associated costs.

NPC Research staff identified a sample of DTC participants who entered the program between August 2004 and September 2008. This time frame included all DTC participants since the program's inception and allowed for the availability of at least 6 months of recidivism data post-program entry for all sample participants. Although it is generally advisable to leave out participants in the first 6 months to a year of program implementation (due to typical program adjustments when starting out) that was not feasible for this study due to the small number of participants.

Many of the outcome results present data for different groups of individuals who had 6, 12, 18 and 24 months of available follow-up time, with the 6-month group being the largest and the 24-month group being the smallest. The shorter follow-up period has the advantage of larger numbers but the disadvantage of representing time that most individuals were still in the program and with little time to demonstrate program impact. The longer follow-up periods allow for more time to see program impact but the group sizes become too small in some cases to be able to measure significant differences between the program and comparison groups. The cost study section of this report uses the 24-month follow-up period to balance the need for a large enough group but also enough time to measure program impacts.

Graduation rates were calculated for the DTC by dividing the number of participants who graduated by the total number who exited the program during the study time period. The graduation rate does not include active participants.

Differences in demographics and criminal history between DTC graduates and non-graduates were examined to determine if there were indications that specific groups would need additional attention from the program to increase successful outcomes.

OUTCOME/IMPACT STUDY QUESTIONS

The outcome evaluation was designed to address the following study questions:

1. Does the DTC reduce substance abuse among program participants?
2. Does the DTC program reduce recidivism?
3. To what extent are participants successful in completing the DTC program?

4. What participant and program characteristics predict successful outcomes (i.e., program completion, decreased recidivism)?

DATA COLLECTION AND SOURCES

NPC staff members adapted procedures developed in previous drug court evaluation projects for data collection, management, and analysis of these data. The data collected included days spent in prison and local jail, criminal justice histories in the form of arrest records, local court case information, substance abuse treatment services and program data from multiple sources.⁵ Once data were obtained for the participant and comparison groups, the data were compiled, cleaned and moved into SPSS 15.0 for statistical analysis. The evaluation team employed univariate and multivariate statistical analyses using SPSS, which is described in more detail in the data analysis section. The majority of the data necessary for the outcome evaluation were gathered from the administrative databases described below and in presented in Table 1.

Howard County Drug Treatment Court

Data were provided by the DTC office that included names, demographic information, program acceptance status, time spent in DTC, and discharge status for DTC participants only.

Maryland Department of Public Safety & Correctional Services

The Maryland Department of Public Safety & Correctional Services (DPSCS) provided data for DTC participants and the comparison group from their management information system that stores Maryland adult criminal justice information in the OBSCIS I & II and Criminal Justice Information System (CJIS) systems, including arrest information, charges, prison and local jail stays and probation and parole episode information through July 2009.

Maryland Judicial Information System

The Maryland Administrative Office of the Courts provided data from their JIS system on court cases heard in Howard County for DTC participants and the comparison group from January 2002 through September 2009.

Substance Abuse Management Information System (SAMIS)

Substance abuse treatment data for the DTC participants were obtained from administrative records at the Maryland Alcohol and Drug Abuse Administration (ADAA). These records included dates of treatment episodes, level of care for services provided (e.g., individual counseling session, intensive outpatient session, detoxification) and drug testing conducted by treatment facilities.

Statewide Maryland Automated Record Tracking (SMART) operated by the University of Maryland, Institute for Governmental Services and Research

Data were extracted from SMART, a client tracking system for state agencies and private treatment providers, for DTC participants. These data include the results of urinalysis tests, dates of court hearings, and contacts with probation officers for individuals in the program from May 2009 (when the program began using this data system) to August 2009.

⁵All data were gathered for this study with appropriate Institutional Review Board approval, including HIPAA waivers. Memoranda of Understanding (MOUs) with individual data sources were also obtained as needed.

Table 1. Data Sources

Database	Source	Example of Variables
DTC Program Coordinator's List of Participants	Program Coordinator	Acceptance status, time spent in DTC, discharge status.
Offender Based State Correctional Information System (OBSCIS II) [electronic data]	Maryland Department of Public Safety & Correctional Services (DPSCS)	Demographics, prison data.
Criminal Justice Information System (CJIS) [electronic data]	Maryland Department of Public Safety & Correctional Services (DPSCS)	Adult arrest history, arrest charges.
Judicial Information Systems (JIS) [electronic data]	Maryland Judiciary, on behalf of the State court systems (including the Motor Vehicle Administration and DPSCS)	District Court case management (e.g., case dates)
Maryland Judiciary Case Search (online electronic data)	Maryland Judiciary	DTC court hearing information for District Court cases
Substance Abuse Management Information System (SAMIS)	Maryland Department of Health and Mental Hygiene (DHMH); Alcohol and Drug Abuse Administration (ADAA)	Number of treatment episodes; time spent in treatment; level of care; drug of choice

SAMPLE SELECTION

Drug Court Participant Group

This study examines outcomes over a 2-year period for program participants and a matched comparison group. All DTC participants who entered the program from August 2004 to September 2008 were selected for this study (27 individuals were not found in the statewide criminal justice databases or did not have enough follow-up time and were excluded from the study). DTC participant information was obtained from a list kept by the DTC Program Coordinator. The number of DTC participants in this study's cohort is presented in Table 2 by the year of their admission.

Table 2. Howard DTC Admissions by Year

Year	Admissions
2004	10
2005	10
2006	12
2007	11
2008	7
Total	50

Comparison Group

A comparison group was created for this study based on the eligibility criteria used by the program to select its participants. Potential participants must be adult residents of Howard County at the time of their violation and have had no history of violent offenses. These criteria were established in consultation with the DTC coordinator in accordance with the program eligibility criteria.

Possible comparison individuals were identified from a list of people arrested or on probation in Howard County through the District Court for an DTC-eligible charge and who also had an DTC-eligible criminal history. The DTC program participants and comparison group individuals were matched on age, gender, race/ethnicity, indication of a drug issue by their probation officer and criminal history. Any differences in the data used for matching between the DTC participants and comparison group individuals were controlled for in the subsequent outcome analyses. The final sample included 50 Drug Treatment Court participants and 89 comparison individuals.

DATA ANALYSES

Once the comparison group was selected and all data were gathered on all study participants, the data were compiled, cleaned, and imported into SPSS 15.0 for statistical analysis. The analyses used to answer specific questions were:

1. Does the DTC reduce substance abuse among program participants?

As a measure of subsequent drug use, the 2-year means for re-arrests with drug charges were calculated for DTC and comparison groups. Univariate analysis of variance was performed to compare the mean number of re-arrests for all DTC participants with the comparison group. The means comparing the DTC to the comparison groups were adjusted for differences between the groups on gender, age at eligible arrest, race/ethnicity, number of prior arrests, type of prior arrests present, type of eligible arrests present, and time at risk to re-offend. Time at risk was calculated by summing the total number of days the individual was incarcerated during each follow-up period and then subtracting that number from the total possible time during the follow-up period, resulting in the total amount of time in each follow-up period that the individuals was potentially in the community to re-offend.

The non-adjusted means for graduates within each group are included for reference but should not be compared directly with the comparison group as the comparison group includes an unknown number of individuals who, had they participated in drug court, may have been discharged from the program and are therefore not equivalent to drug court graduates.

2. Does the DTC program reduce recidivism?

Univariate analysis of variance was performed to compare the mean number of re-arrests for DTC and comparison groups. The means comparing the DTC and comparison groups were adjusted for any differences between the groups on gender, age at eligible arrest, race/ethnicity, number of prior arrests, type of prior arrests present, type of eligible arrests present, and time at risk to re-offend. Time at risk was calculated by summing the total amount of days the individual was incarcerated during each follow-up period and then subtracted that number from the total possible time during the follow-up period, resulting in the total amount of time in each follow-up period that the individual was potentially in the community to re-offend.

The non-adjusted means for graduates within each group are included for reference but should not be compared directly with the comparison group as the comparison group includes an unknown number of individuals who, had they participated in drug court, may have been discharged from the program and are therefore not equivalent to drug court graduates.

Crosstabs were run to examine differences in recidivism rates, i.e., the percentage of individuals re-arrested, between DTC and comparison groups. Chi-square analyses were used to identify any significant differences in re-arrest rates between DTC and comparison groups.

3. To what extent are participants successful in completing the DTC program and within the intended time period?

To measure the programs' level of success at graduating participants, graduation rates and average lengths of stay were calculated. Graduation rates were calculated by dividing the number of participants who were no longer active in the DTC program by the number of graduates, i.e., participants who completed the program successfully. Average length of stay was calculated as the mean number of days between the program start date and program end date for each participant, to determine if, on average, participants graduated within the intended time period.

4. What participant and program characteristics predict successful outcomes, i.e., program completion and decreased recidivism?

Graduates and non-graduates from the DTC were compared on demographic characteristics and number of arrests during the 2 years prior to program entry to determine whether any characteristics predicted program graduation or recidivism. In order to best determine which demographic characteristics were related to graduation, Chi-square and independent samples t-tests were performed to identify which factors were significantly associated with program success.

Participant characteristics were also examined in relation to subsequent re-arrests following program entry. Chi-square and independent samples t-test were performed to identify which factors were significantly associated with recidivism. Logistic regression was also used, including all variables of interest in the model, to determine which characteristics were significantly related to being re-arrested, above and beyond other characteristics.

Ultimately, the DTC and comparison groups were examined through data provided by DPSCS for a period up to 2 years from the date of DTC program entry or equivalent. The evaluation team utilized the arrest history data to determine whether there was a difference in re-arrests, placements, and other outcomes of interest between the DTC and comparison groups.

All individuals who were studied for the outcomes report had at least 6 months of follow-up time, which included 50 DTC participants (16 graduates, 28 non-graduates, and 6 active participants) and 89 comparison group individuals.

LIMITATIONS

Findings from this study should be interpreted with caution due to the following limitations:

A quasi-experimental design was used rather than random assignment for comparison group selection: The individuals in the study sample were not randomly assigned to the DTC and comparison groups due to the desire of the program to serve all eligible participants who opted to participate and the interest in having a larger group of individuals served to measure recidivism. The comparison group sample was created from data provided by the Department of Public Safety and the Administrative Office of the Courts and is matched on demographic variables and criminal history. Information on addiction severity was not available in selecting the comparison group individuals.

Unavailable data: Statewide criminal histories data were unavailable for some of the study participants, further reducing the sample sizes.

Short follow-up time period: Because of the small sample sizes, it was necessary to include all DTC participants through September 2008, which resulted in a follow-up time period for some participants of only 6 months (due to lead time needed to access some data). Many DTC study participants were still receiving program services at the time of the study. In addition, 6 months is a relatively brief period of time to observe outcomes of interest.

Start-up participants were included in the participant sample: DTC participants who received services during the implementation of the program were included to increase sample sizes. Typically, participants in court programs during the first 6 to 12 months post program startup are excluded in order to avoid introducing biases based on implementation factors, including lower fidelity to the intended program model, lack of staff experience with the program, and staff turnover.

A future study of the potential impacts of the Howard County District Court Drug Treatment Court program is suggested, given the limitations of the current study. An increased follow-up time period, larger sample sizes that would increase statistical power and allow participants who were in the program during the first year of the program to be omitted, as well as obtaining data that were more complete would provide additional information about the impact of this program.

Outcome Evaluation Results

Table 3 provides demographic information for the DTC and comparison groups. Independent samples t-tests and chi-square analyses showed no significant differences between the DTC and comparison groups on the characteristics listed in this table.

Table 3. DTC and Comparison Group Characteristics

	All DTC Participants N = 50	Comparison Group N = 89
Gender		
Male	60%	65%
Female	40%	35%
Ethnicity		
Caucasian	74%	64%
Non-Caucasian ⁶	26%	36%
Mean age at eligible arrest date	31 years	30 years
Median	29 years	26 years
Range	18 – 52 years	19 – 52 years
Primary drug of choice ⁷		
Heroin	58%	
Cocaine	21%	N/A
Marijuana	12%	
All Others ⁸	8%	
Type of charge at eligible arrest		
Drug-related	72%	60%
Property-related	44%	40%
Person-related	4%	6%
‘Other’	10%	18%
Average number of <u>total</u> arrests in the 2 years prior to the arrest leading to program participation	2.94 (range 1 – 12)	2.40 (range 1 – 7)
Average number of <u>drug</u> arrests in the 2 years prior to the arrest leading to program participation	1.76 (range 0 – 7)	1.37 (range 0 – 6)

⁶ All non-Caucasian individuals are African American for this study.

⁷ These data are only available for DTC participants.

⁸ ‘Others’ include alcohol, Oxycodone, and ‘other’ opiates.

POLICY QUESTION #1: DOES PARTICIPATION IN THE DRUG COURT PROGRAM REDUCE SUBSTANCE USE?

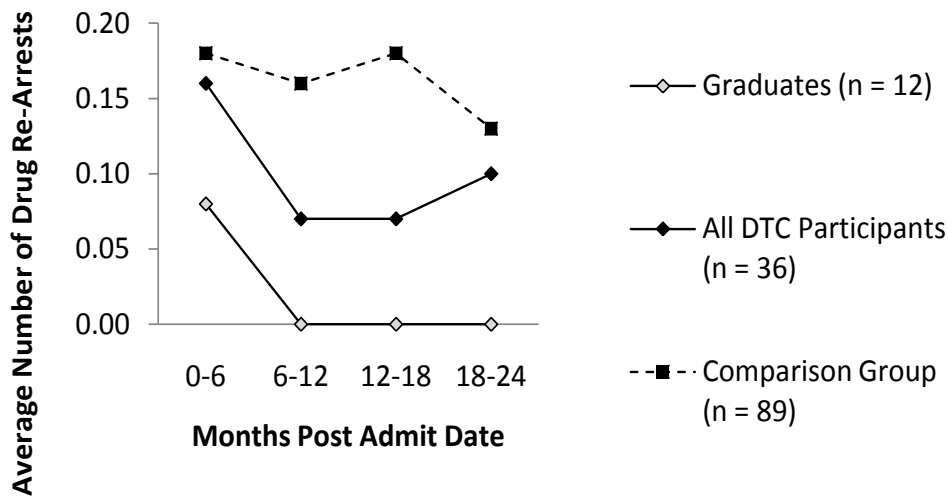
YES: DTC participants showed reductions in drug-related offenses following entrance into the program.

Because data on actual drug use, such as drug testing results, were not available, drug-related offenses was used as a proxy to help address this research question.

Drug-related Offenses

Figure 1 displays the mean number of drug re-arrests in the DTC and comparison groups during discrete, 6-month periods over 24 months after program entry. An examination of DTC and comparison group individuals showed that, while both groups demonstrate an overall pattern of reductions in drug re-arrests over 24 months, DTC participants showed a significantly lower number in the 12-18 month period post DTC entry. This result may provide evidence of reductions in drug use for program participants.

Figure 1. Average Number of Drug Re-Arrests Over Time



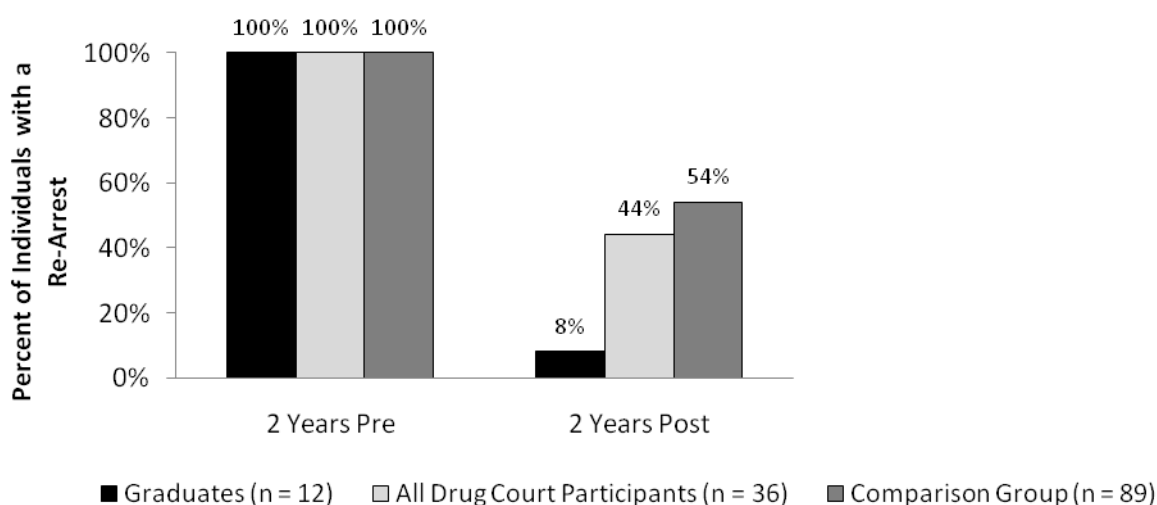
POLICY QUESTION #2: DOES PARTICIPATION IN THE DRUG COURT PROGRAM REDUCE RECIDIVISM?

YES: There is a pattern of lower recidivism rates and lower numbers of re-arrests for program participants.

Criminal Justice Recidivism Rate

Figure 2 shows the recidivism rate, the percentage of individuals re-arrested, using a 24-month pre-post comparison. The pre time period includes the 2 prior to program start or equivalent, which is compared to the post time period which begins at program start date or equivalent for the comparison group.

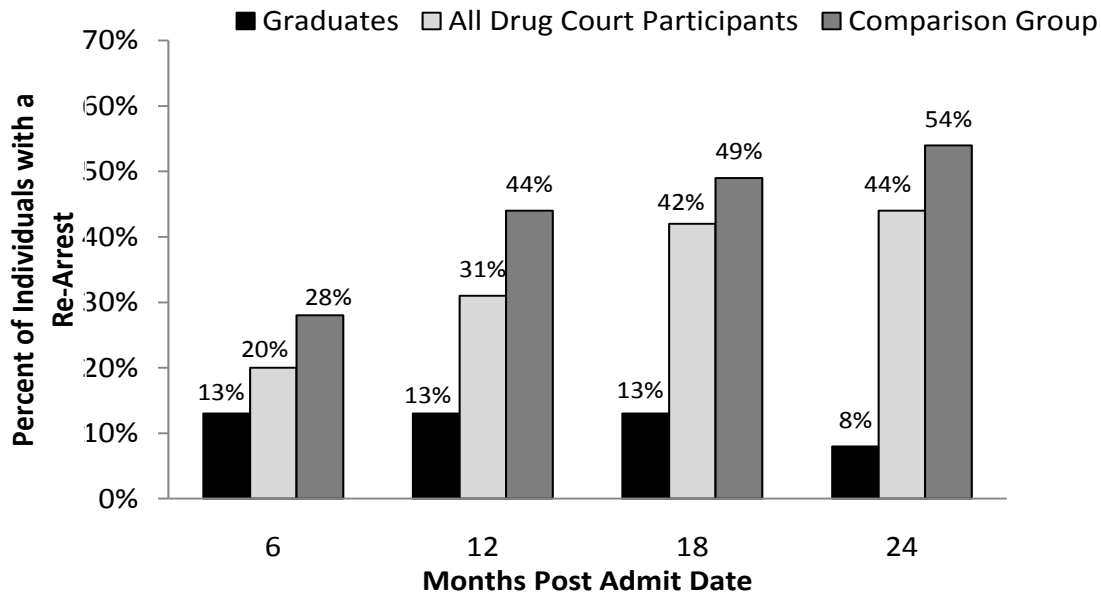
Figure 2. Criminal Arrest Rate 2 Years Before & 2 Years After Program Entry



The percentage of individuals arrested in the DTC and comparison groups in the 2 years post program start was significantly less than the percentage re-arrested pre-program. This result indicates that the DTC program is effectively reducing recidivism for its participants. Further, although all DTC graduates were arrested during the 2 years prior to the admission, less than half had been rearrested in the 2 years after entering the DTC program.

As shown in Figure 3, the recidivism rate for DTC participants appears lower than the comparison group at every time period, regardless of graduation status, though these differences are not statistically significant.

Figure 3. Criminal Re-Arrest Rate Over Time by Group⁹



In the 12 months following entry to the program, 31% of all DTC participants and 13% of graduates were re-arrested, while 44% of the comparison group members were re-arrested. At the 24-month time period, the pattern continued, with 44% of all program participants having been re-arrested and 8% of graduates and compared to 54% of comparison group individuals.

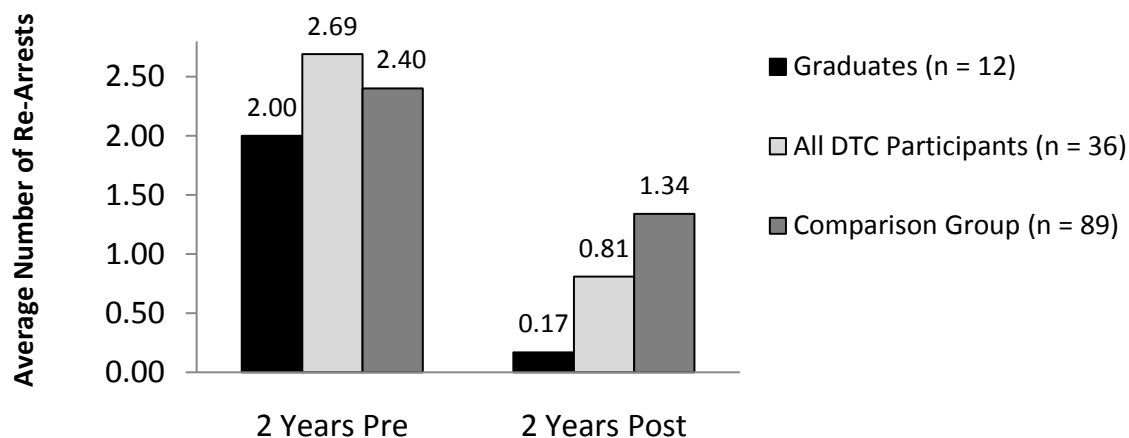
⁹ Sample sizes: Graduates with 6 months n = 16, 12 months n = 16, 18 months n = 16, and 24 months n = 12; All DTC participants with 6 months n = 50, 12 months n = 48, 18 months n = 43, and 24 months n = 36; Comparison group with 6 months n = 89, 12 months n = 89, 18 months n = 89, and 24 months n = 89.

Number of Re-Arrests

An analysis of the *number* of re-arrests per person shows a similar pattern as the re-arrest rate in Figures 2 and 3.

The mean number of total criminal re-arrests is compared through a 24-month pre-post comparison as shown in Figure 4. The pre time period includes the 2 years leading up program start or equivalent, which is compared to the post time period which begins at DTC start date or equivalent for the comparison group.

Figure 4. Number of Re-Arrests¹⁰ 2 Years Before & 2 Years After Program Entry

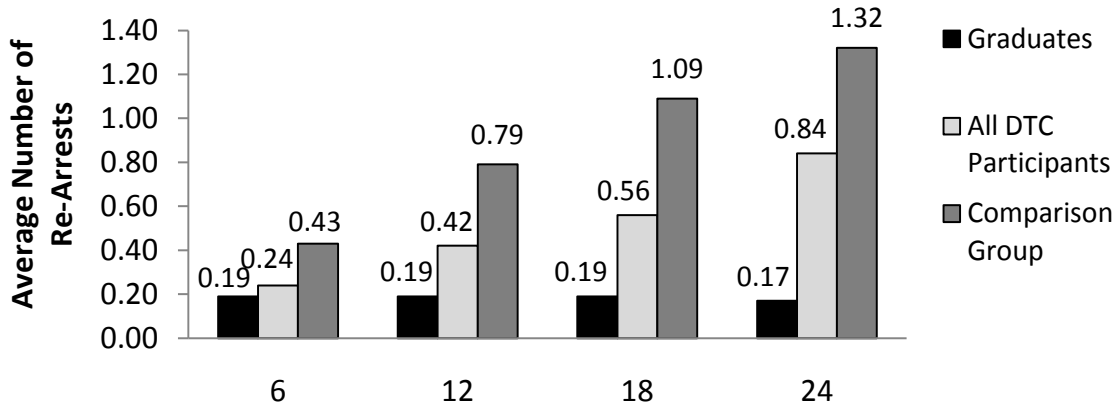


The DTC participants were re-arrested significantly less often in the 24 months after program entry than in the 24 months before program entry. The comparison group was also re-arrested significantly less often in the post period than in the pre-period. However, the difference between the DTC and comparison groups at 24 months post-program was also significantly different, at the level of a trend ($p < .10$), indicating that the DTC had fewer re-arrests 24 months post program, compared to the comparison group. This result may indicate an effect from the program on reducing the number of re-arrests among DTC participants.

¹⁰ The average number of re-arrests presented in this figure was not adjusted for any differences between groups as the comparison being made in this analysis is between the same groups before and after program participation. Therefore these means are actual, unadjusted means and are slightly different from the adjusted means presented in the recidivism section as well as those presented in the cost section.

Figure 5 shows the average number of criminal re-arrests over time for DTC graduates, all DTC participants, and the comparison group. DTC participants showed a significantly lower number of re-arrests at 12 and 18 months.^{11 12}

Figure 5. Cumulative Number of Re-Arrests Over Time¹³



Re-Arrests by Charge Type

To present a more descriptive picture of the criminality of the groups, arrests were coded as drug-related (e.g., possession), property-related (e.g., larceny), or person-related (e.g., assault).¹⁴ Table 4 presents the results of this analysis.

In the 2 years post drug court entry, DTC participants with 2 years of follow-up appeared to have fewer arrests than the comparison group of each arrest type, although due to the very small numbers of DTC participants, these differences were not significant. As would be expected, in the 2 years following drug court entry, DTC graduates were re-arrested less often than other participants and the comparison group for all types of arrests.

¹¹ The mean number of re-arrests was adjusted to control for differences between DTC and comparison groups on gender, race/ethnicity, age at eligible arrest, prior arrest history, and total time of opportunity for re-offending. These results differ somewhat from the mean number of re-arrests reported in the cost section of this report, which are adjusted for differences between groups on demographic characteristics and prior arrest history but not for time of opportunity because the cost calculations include time incarcerated.

¹² While the DTC participants had lower numbers of arrests at 24 months, they also had higher numbers of court cases (described later in the cost section of this report). It is unclear whether the court cases represent additional arrests that do not appear in the statewide arrest data for some reason. If that is the case, the apparent reduction in numbers of new arrests may not actually be as positive as it appears here.

¹³ Sample sizes: Graduates with 6 months n = 16, 12 months n = 16, 18 months n = 16, and 24 months n = 12; All DTC participants with 6 months n = 50, 12 months n = 48, 18 months n = 43, and 24 months n = 36; Comparison group with 6 months n = 89, 12 months n = 89, 18 months n = 89, and 24 months n = 89.

¹⁴ When an individual received more than one charge per arrest, a single arrest could be coded as both a person and drug crime. Therefore, the totals in Table 4 do not reflect the average total arrests reported elsewhere.

Table 4. Average Number of Cumulative Re-Arrests by Charge Type at 24 Months by Group

	DTC Graduates N = 12	All DTC Participants N = 36	Comparison Group N = 89	Significantly Different? ($p < .05$)
Average number of drug arrests in the 24 months post drug court entry or equivalent ¹⁵	.08	.38	.66	No
Average number of property arrests in the 24 months post drug court entry or equivalent	.17	.50	.62	No
Average number of person arrests in the 24 months post drug court entry or equivalent	0	.03	.19	No

POLICY QUESTION #3: WHAT PROPORTION OF DTC PARTICIPANTS COMPLETE THE PROGRAM SUCCESSFULLY?

Over one third of DTC participants are successful in completing the DTC program and complete within the intended time period.

During the study period, the overall graduation rate for the DTC was 38%, while the national average graduation rate for Drug Treatment Court programs is around 50% (Belenko, 2001). However, the rate is increasing over time, with the last full year of data showing an annual graduation rate of 50%.

The average time for graduates to complete the program was 16 months. Non-graduates spent an average of 10.5 months in the program (giving the program an overall length of stay of about 12 months).

The DTC program may want to examine the portion of their services that focuses on keeping individuals engaged in the program and determine if further assistance is needed to ensure that the individuals and their families have what they need to enable them to successfully participate in required activities, e.g., transportation, child care, etc.

¹⁵ Earlier in the report, drug re-arrests are examined in greater detail. The DTC group did have significantly fewer drug re-arrests during the 12-18 month period after program entry, and fewer cumulatively (total) by 18 months at the trend level, but the differences at 24 months were no statistically significant.

Table 5. Number of DTC Graduates in Study Sample by Year

Admission Year	Number Graduated ¹⁶ (N = 16)	Number Discharged (N = 26)	Graduation Rate
2004	3	7	30%
2005	3	7	30%
2006	5	7	42%
2007	5	5	50%
Total	16	26	38%

* Note: most of the individuals in entering the program in 2008 were still in service at the time the data for this study were collected, so there are not enough individuals to calculate an accurate graduation rate for this year.

POLICY QUESTION #4: WHAT PREDICTS PARTICIPANT SUCCESS?

Which characteristics of drug court participants are associated with positive drug court program outcomes, e.g., graduation and reduced recidivism?

Graduation

NPC examined the characteristics of DTC participants who successfully completed the program (graduates) and those who were “terminated” or left the program for non-compliance before completing (non-graduates) (please see Table 6). Differences between these two groups can illustrate the characteristics of the participants who are likely to have success in DTC and the characteristics of the participants who may need additional or specialized services to succeed.

¹⁶ Graduates refer to the number of people who eventually graduated out of the number admitted during the stated year, though they may have graduated in a subsequent year. For example, there were no graduates in 2004, though three of the individuals who were admitted into the program that year eventually graduated.

Table 6. Characteristics of DTC Graduates and Non-Graduates

	DTC Graduates N = 16	DTC Non- Graduates N = 28	Significantly Different? ¹⁷ ($p < .05$)
Gender			
Female	25%	46%	No
Ethnicity			
Non-Caucasian ¹⁸	31%	27%	No
Mean age in years, at eligible arrest date	35	29	Trend
Mean length of stay in DTC in days	489	318	Yes
Mean number of days at risk during the program	466	274	Yes
Mean number of days incarcerated (jail and/or prison) during the program	23	44	No
Average number of <u>total lifetime</u> arrests prior to the arrest leading to program participation	7.06	7.89	No
Average number of <u>total</u> arrests in the 2 years prior to the arrest leading to program participation	2.56	3.11	No
Average number of <u>drug</u> arrests in the 2 years prior to the arrest leading to program participation	1.81	1.64	No
Average number of <u>property</u> arrests in the 2 years prior to the arrest leading to program participation	.94	1.75	No
Average number of <u>person</u> arrests in the 2 years prior to the arrest leading to program participation	.13	.14	No

When DTC participant characteristics were examined together in relation to graduation status in a logistic regression model, time in the program was a significant predictor of graduation above and beyond other characteristics: graduates were more likely to be in the program longer. Further, age at start and days in jail and/or prison during the program were trend-level predictors, suggesting that the participants who were older at DTC start and those who had fewer days in jail and/or prison during DTC were related with graduation ($p < .10$).

Recidivism

Participant characteristics and arrest history were also examined in relation to whether or not participants were re-arrested in the 2 years following DTC entry. These analyses include DTC participants who had 24 months of follow-up time post DTC entry. The results are shown in Table 7.

¹⁷ Yes indicates $p < .05$, No indicates $p > .10$, Trend indicates $p > .05$ and $p < .10$.

¹⁸ All non-Caucasian individuals are African American for this study.

Table 7. Demographic and Criminal Justice History-Related Variables That Predict Recidivism at 24 Months

	Participants who were re-arrested were more likely to be:	Significant Predictor of Recidivism at 24 Months? ¹⁹ ($p < .05$)
Gender		No
Ethnicity		No
Mean age at eligible arrest date		No
Mean length of stay in DTC program		No
Time at risk	Less time in the community	Trend
Program status at exit	Non-graduates	Yes
Average number of <u>total</u> lifetime arrests prior to the arrest leading to program participation		No
Average number of <u>total</u> arrests in the 2 years prior to the arrest leading to program participation		No
Average number of <u>drug</u> arrests in the 2 years prior to the arrest leading to program participation		No
Average number of <u>property</u> arrests in the 2 years prior to the arrest leading to program participation		No
Average number of <u>person</u> arrests in the 2 years prior to the arrest leading to program participation		No

As shown in Table 7, DTC participants were significantly more likely to have been re-arrested within 24 months of program entry if they were non-graduates. Further, participants were more likely to have been re-arrested within 24 months of program entry if they had less time in the community during those 24 months, at the level of a trend ($p < .10$).

When these factors were entered into a logistic regression model, and each variable was controlled for, total number of lifetime priors to DTC program entry and time in the community were significantly associated with recidivism in the 24 months post DTC entry: participants who had more lifetime prior arrests and participants who had less time in the community (meaning they spent more time in jail or prison) were more likely to reoffend in the 24 months post DTC entry, above and beyond other characteristics.

¹⁹ Yes indicates $p < .05$, No indicates $p > .10$, Trend indicates $p > .05$ and $p < .10$.

Program staff are encouraged to talk to the participants who are having trouble in the program to learn what the barriers are for those participants in complying with program requirements and determine whether there is further assistance (e.g., transportation, learning to keep a calendar or schedule) that would make it possible for these participants to be successful in meeting program expectations.

OUTCOME SUMMARY

Overall, outcomes for DTC participants are quite positive. After participation in the program, regardless of whether they graduate, DTC participants were re-arrested on drug charges less often than the comparison group of similar individuals who did not participate, indicating a likely reduction in drug use due to program participation.

Further, DTC participants had lower recidivism rates and lower numbers of new arrests in the period 24 months after program participation compared to 24 months before participation, and their rates after program entry were lower than the comparison group. While the patterns of re-arrest rates and numbers of arrests appeared lower over time during that 24-month period, they were not low enough to be statistically significant with the small numbers of participants in this study, but it is likely that future outcome studies will have enough individuals to demonstrate this impact.

The graduation rate for the program was less than the national average, though it was increasing each year and by 2007, the last year a rate could be calculated, the rate was up to 50%. DTC graduates were more likely to have stayed in the program longer and have had more time in the community. Participants who did not reoffend after program entry were more likely to graduate and to have had fewer prior arrests and jail time than participants who subsequently reoffended.

In sum, the results of this study indicate that the DTC program is successful in its main goal of reducing participant recidivism.

COST EVALUATION

The Howard County Drug Treatment Court (DTC) cost evaluation²⁰ was designed to address the following study questions:

1. How much does the DTC program cost?
2. What is the 24-month cost impact on the criminal justice system of sending offenders through DTC or traditional court processing?
3. What is the impact on the criminal justice system of the time between the eligible arrest and DTC program entry (in terms of arrests and jail)?

Cost Evaluation Methodology

COST EVALUATION DESIGN

Transactional and Institutional Cost Analysis

The cost approach utilized by NPC is called Transactional and Institutional Cost Analysis (TICA). The TICA approach views an individual's interaction with publicly-funded agencies as a set of *transactions* in which the individual utilizes resources contributed by multiple agencies and jurisdictions. Transactions are those points within a system where resources are consumed and/or change hands. In the case of drug courts, when a participant appears in court, resources such as judge time, state's attorney time, defense attorney time, and court facilities are used. When a program participant has a drug test, urine cups are used. Court appearances and drug tests are transactions. In addition, the TICA approach recognizes that these transactions take place within multiple organizations and institutions that work together to create the program of interest. These organizations and institutions contribute to the cost of each transaction that occurs for program participants. TICA is an intuitively appropriate approach to conducting cost assessment in an environment such as a drug court, which involves complex interactions among multiple taxpayer-funded organizations.

Cost to the Taxpayer

In order to maximize the study's benefit to policymakers, a "cost-to-taxpayer" approach was used for this evaluation. This focus helps define which cost data should be collected (costs and avoided costs involving public funds) and which cost data should be omitted from the analyses (e.g., costs to the individual participating in the program). The core of the cost-to-taxpayer approach in calculating benefits (avoided costs) for drug court specifically is the fact that untreated substance abuse will cost various tax-dollar funded systems public funds that could be avoided or diminished if substance abuse were treated. In this approach, costs that result from untreated substance abuse are used in calculating the benefits of substance abuse treatment.

Opportunity Resources

NPC's cost approach looks at publicly funded costs as "opportunity resources." The concept of *opportunity cost* from economics relates to the cost of doing an activity instead of doing something else. The term *opportunity resource* as it is applied in TICA describes resources that are now

²⁰ This program is a combined drug court and DUI court program, but this report will focus only on the participants who are served by the drug court side of the program. Another report will cover the DUI court participant outcomes and associated costs.

available for a given use because they have not been consumed for an alternative activity. For example, if substance abuse treatment reduces the number of times that a client is subsequently incarcerated, the local sheriff may see no change in his or her budget, but an opportunity resource will be available to the sheriff in the form of a jail bed that can now be filled by another person.

COST EVALUATION METHODS

The current cost evaluation builds on the outcome evaluation performed by NPC on the Howard County Drug Treatment Court. The costs to the criminal justice system (cost-to-taxpayer) in Howard County incurred by participants in drug court are compared with the costs incurred by those who were similar to but did not enter drug court. In addition, the specific program costs are calculated separately in order to determine the per-participant costs of the Howard County Drug Treatment Court program and to look at the impact on each agency individually.

TICA Methodology

The TICA methodology as it has been applied in the analysis of the Howard County Drug Treatment Court is based upon six distinct steps. Table 8 lists each of these steps and the tasks involved.

Steps 1 through 3 were performed through analysis of court and DTC documents, including review of this program's process evaluation report and through interviews with key stakeholders. Step 4 was performed in the outcome evaluation. Step 5 was performed through interviews with DTC and non-drug court staff and with agency finance officers. Step 6 involved calculating the cost of each transaction and multiplying this cost by the number of transactions. All the transactional costs for each individual are added to determine the overall cost per individual. This information was generally reported as an average cost per individual. In addition, the TICA approach has made it possible to calculate the cost for drug court processing for each agency.

This evaluation utilized a previously-conducted process evaluation and interviews with program staff to identify the specific program transactions to include in this study. Cost data were collected through interviews with DTC staff and jurisdiction and agency contacts with knowledge of jurisdiction and agency budgets and other financial documents, as well as from budgets either found online or provided by jurisdiction and agency staff.

The costs to the criminal justice system outside of the DTC program costs consist of those due to new criminal arrests, court cases, probation time, jail time, and prison time. Program costs include drug court sessions, case management, regular and intensive outpatient group sessions, regular and intensive individual treatment sessions, residential treatment, detoxification, halfway house time, alcohol monitoring, drug tests, and jail sanctions.

Table 8. The Six Steps of TICA

	Description	Tasks
Step 1:	Determine flow/process (i.e., how clients move through the system)	<ul style="list-style-type: none"> • Site visit • Interviews with key stakeholders (agency and program staff)
Step 2:	Identify the transactions that occur within this flow (i.e., where clients interact with the system)	<ul style="list-style-type: none"> • Analysis of process information gained in Step 1
Step 3:	Identify the agencies involved in each transaction (e.g., court, treatment, police)	<ul style="list-style-type: none"> • Analysis of process information gained in Step 1
Step 4:	Determine the resources used by each agency for each transaction (e.g., amount of judge time per transaction, amount of attorney time per transaction, number of transactions)	<ul style="list-style-type: none"> • Interviews with program key informants using cost guide • Administrative data collection of number of transactions (e.g., number of court appearances, number of treatment sessions, number of drug tests)
Step 5:	Determine the cost of the resources used by each agency for each transaction	<ul style="list-style-type: none"> • Interviews with budget and finance officers • Document review of agency budgets and other financial paperwork
Step 6:	Calculate cost results (e.g., cost per transaction, total cost of the program per participant)	<ul style="list-style-type: none"> • Support and overhead costs (as a percentage of direct costs) are added to the direct costs of each transaction to determine the cost per transaction • The transaction cost is multiplied by the average number of transactions for program participants to determine the total average cost per transaction type • These total average costs per transaction type are added to determine the program and outcome costs

Cost Evaluation Results

Drug courts are intensive interventions that involve coordination of multiple agencies and professional practitioners applying a variety of areas of expertise, intensive case management and supervision, and frequent judicial reviews. Drug courts are typically made possible through the application and coordination of resources drawn from multiple agencies located in more than one jurisdictional organization. Although the amount of staff time and other resources (buildings, materials and supplies and operating equipment) made available by a number of public organizations represents substantial public costs, research in drug courts demonstrates that due to decreased future system impacts (less frequent re-offending, for example), this investment frequently results in substantial future savings. In addition, drug courts can provide cost-effective intensive treatment and supervision in a community-based setting rather than relying on next

steps in the continuum of services such as residential placements. This report tests whether this pattern holds for the Howard County DTC program.

As described in the methodology section, the Transactional and Institutional Cost Analysis (TI-CA) approach was used to calculate the costs of each of the transactions that occurred while participants were engaged in the program. Program transactions calculated in this analysis include drug court sessions, case management, regular and intensive outpatient group sessions, regular and intensive individual treatment sessions, residential treatment, detoxification, halfway house time, alcohol monitoring, drug tests, and jail sanctions. The costs for this study were calculated to include taxpayer costs only. All cost results provided in this report are based on fiscal year 2009 dollars.

COST EVALUATION QUESTION #1: PROGRAM COSTS

How much does the DTC program cost?

Program Transactions

A ***Drug Court Session***, for the majority of drug courts, is one of the most staff and resource intensive program transactions. In the Howard County Drug Treatment Court, these sessions include representatives from:

- Howard County District Court (Judge, Court Reporter, Bailiff and Drug Court Coordinator);
- Howard County State’s Attorney’s Office (State’s Attorney);
- Maryland Office of the Public Defender (Public Defender);
- Howard County Health Department (Case Manager).

The cost of a ***Drug Court Appearance*** (the time during a session when a single program participant interacts with the judge) is calculated based on the average amount of court time (in minutes) each participant interacts with the judge during the drug court session. This includes the direct costs of each drug court team member present, the time team members spend preparing for the session, the agency support costs, and jurisdictional overhead costs. The average cost for a single drug court appearance is **\$285.80** per participant.

Case Management is based on the amount of staff time dedicated to case management activities during a regular work week and is then translated into a total cost for case management per participant per day.²¹ The main agency involved in case management for the Howard County Individual DTC program is the County Health Department. The daily cost of case management in this program is **\$1.11** per participant.

Drug Treatment Sessions are provided by the Howard County Health Department (HCHD) Substance Abuse Services, a county treatment agency that offers regular and intensive outpatient group and individual treatment sessions for program participants. The HCHD receives a grant from the Alcohol & Drug Abuse Administration (ADAA) to help pay for program participant treatment. Individual treatment per participant is **\$155.00** per session. Group treatment is **\$50.00** per participant per session.

²¹ Case management includes meeting with participants, making phone calls, referring out for other help, answering questions, reviewing referrals, consulting, making community service connections, conducting assessments, documenting services, and maintaining files.

Drug Tests are performed by the Howard County Health Department and multiple treatment providers. The HCHD covers the cost of UA testing done at HCHD, and participants pay for UA testing done at the treatment providers. The cost per urinalysis (UA) at HCHD is **\$17.25** and the cost per breathalyzer is **\$0.22**. Drug testing costs were obtained from the Drug Court Coordinator.

Residential Care, Detoxification, and Halfway House services are provided by multiple agencies. Inpatient detoxification and residential care are provided by Tuerk House, Walden Sierra, Hope House and Shoemaker Center. All agencies are contracted with the Health Department at an average rate of **\$139.48** per day. Halfway House services are provided by Howard House at a cost of **\$10.71** per day. All rates were provided to NPC by a representative of the HCHD.

Jail Sanction Days are provided by the Howard County Department of Corrections at the Howard County Detention Center. The cost of **\$117.53** per day was obtained using information found in the Department of Corrections 2009 Budget.

Program Costs

Table 9 provides the unit cost per transaction described above, the average number of DTC transactions per participant, and the average cost per participant for each type of transaction. The average cost per participant is the product of the unit cost multiplied by the average number of program transactions per participant. The sum of these transactions is the total per participant cost of the program. The table includes the average for DTC graduates (n = 16) and for all DTC participants (n = 50), regardless of completion status. It is important to include participants who were discharged as well as those who graduated as all participants use program resources, whether they graduate or not.

Table 9. Average DTC Program Costs per Participant

Transaction	Transaction unit cost	Average number of transactions per DTC graduate	Average cost per DTC graduate N = 16	Average number of transactions per DTC participant	Average cost per DTC participant N = 50
Drug Court Appearances	\$285.80	24.73	\$7,068	20.71	\$5,919
Case Management	\$1.11	488.69 Days ²²	\$542	380.23 Days	\$422
Individual Treatment Sessions	\$155.00	11.40 ²³	\$1,767	8.69	\$1,347
Group Treatment Sessions	\$50.00	17.40	\$870	12.18	\$609
Residential & Detoxification Days	\$139.48	30.87	\$4,306	33.10	\$4,617
Halfway House Days	\$10.71	53.60	\$574	32.87	\$352
Urinalysis (UA) Drug Tests	\$17.25	42.67	\$736	30.13	\$520
Breathalyzer Tests	\$0.22	46.40	\$10	34.95	\$8
Jail Sanctions	\$117.53	0.88	\$103	0.82	\$96
Total DTC			\$15,976		\$13,890

Note: Average costs per participant have been rounded to the nearest whole dollar amount.

On average, the total cost per participant in DTC is **\$13,890**. Note that the two most expensive areas of cost for the program are drug court sessions (\$5,919) and residential/detoxification treatment (\$4,617). This result is commensurate with the drug court model, which emphasizes high judicial supervision and drug treatment services. The next highest cost is for individual and group treatment sessions (\$1,956).

Program Costs per Agency

Another useful way to examine program costs is to break them down by agency. Table 10 shows the DTC program cost per participant by agency.

²² The average cost per participant for case management is calculated based on the average number of days participants spent in the DTC program.

²³ Approximately 60% of DTC participants receive treatment services from the Health Department and those data appear in the statewide treatment data system. The rest of participants are served by private providers and treatment is paid for through other (non-public) resources and are not included in this analysis. Therefore, the number of individual and group sessions represented here will appear to demonstrate a smaller amount of treatment received by DTC participants than is actually the case.

Table 10. Average DTC Cost per Participant by Agency

Agency	Average Cost per DTC Graduate N = 16	Average Cost per DTC Participant N = 50
Howard County District Court	\$4,675	\$3,915
Howard County State's Attorney's Office	\$1,056	\$884
Howard County Health Department	\$9,303	\$8,291
Howard County Department of Corrections	\$103	\$96
Maryland Office of the Public Defender	\$839	\$703
Total²⁴	\$15,976	\$13,889

Because the Howard County Health Department employees attend drug court sessions and the agency provides case management, drug and alcohol testing, drug treatment, halfway housing, residential care, and detoxification services to DTC participants, it shoulders 60% of the total DTC program costs. The other agencies involved in the DTC program (District Court, State's Attorney, Office of Public Defender, and the Howard County Department of Corrections) incur their costs primarily through staff attendance at Howard County DTC sessions or providing jail sanctions.

Local Versus State Costs for the DTC Program

State policy leaders and administrators may find it useful to examine program costs by jurisdiction (state or local/county). The majority of DTC program costs accrues to Howard County (67% or \$9,271 per participant), mainly due to the HCHD (drug treatment, residential care, etc.). The state portion of costs is 33% of total program costs per participant, or \$4,618. It should be noted that the State of Maryland provides grant money to the HCHD (through the ADAA), but because that money is paid out of the HCHD's budget, it was included in the local/Howard County costs.

COST EVALUATION QUESTION #2: OUTCOME/RECIDIVISM COSTS

What is the 24-month cost impact on the criminal justice system of sending offenders through DTC or traditional court processing?

As described in the cost methodology section of this report, the Transactional and Institutional Cost Analysis (TICA) approach was used to calculate the costs of each of the criminal justice system outcome transactions that occurred for DTC and comparison group participants. Transactions are those points within a system where resources are consumed and/or change hands. Outcome transactions for which costs were calculated in this analysis included re-arrests, subsequent court cases, probation time, jail time, and prison time. Only costs to the taxpayer were calculated in this study. All cost results represented in this report are based on fiscal year 2009 dollars or updated to fiscal year 2009 dollars using the Consumer Price Index.

²⁴ Totals in this row may not match the totals in the outcome costs by transaction table due to rounding.

Outcome Cost Data

The outcome statistics reflect data through April 2009. There were 125 individuals who had at least 24 months of available outcome data (36 DTC participants and 89 comparison group members). This follow-up period was selected to allow a large enough group of both DTC and comparison individuals to be representative of the program, as well as to allow more robust cost numbers through use of as long a follow-up period as possible (with as many individuals as possible having at least some time during the follow-up period that represented time after program involvement). All DTC participants in the cohorts included in these analyses had exited the program (graduated or were unsuccessful at completing the program).

Outcome costs were calculated for 24 months after DTC program entry (or an approximate start date for comparison group members). The outcome costs discussed below do not represent the entire cost to the criminal justice system. Rather, the outcome costs include the transactions for which NPC's research team was able to obtain outcome data and cost information. However, the costs represent the majority of system costs. Outcome costs were calculated using information from the Howard County District Court, the Howard County Circuit Court, the Howard County State's Attorney's Office, the Maryland Office of Public Defender, the Maryland Department of Public Safety & Correctional Services, the Howard County Department of Corrections, the Maryland Division of Parole and Probation, the Maryland State Police, the Howard County Sheriff's Office, and the Howard County Police Department.

The methods of calculation were carefully considered to ensure that all direct costs, support costs and overhead costs were included as specified in the TICA methodology followed by NPC. It should be noted that, since NPC accounts for all jurisdictional and agency institutional commitments involved in the support of agency operations, the costs that appear in NPC's analysis typically will not correspond with agency operating budgets.

Outcome Transactions

Arrests for Howard County are conducted by multiple law enforcement agencies. An average of the Maryland State Police, Howard County Sheriff's Office, and Howard County Police Department are used for this outcome cost analysis, using information provided by each agency. The average cost of a single arrest conducted by these agencies is **\$244.39**.

Court Cases include all court cases, including those cases that are reviewed and rejected by the Howard County State's Attorney's Office, as well as those cases that result in arraignment and are adjudicated. Court case costs are shared among the Howard County District Court, the Howard County Circuit Court, the Howard County State's Attorney's Office, and the Maryland Office of the Public Defender. The average cost of a Circuit Court case is **\$5,216.83**. The average cost of a District Court case is **\$2,231.66**.

Probation Days are provided by the Maryland Division of Parole and Probation. A representative of the Division provided NPC with the average cost of supervision, which was given as **\$4.09** per person per day.

Jail Days are provided by the Howard County Department of Corrections at the Howard County Detention Center. The cost of **\$117.53** per day was obtained using information found in the Department of Corrections 2009 Budget.

Prison Days are provided by the Maryland Department of Public Safety & Correctional Services. The cost of a prison day is **\$85.15**, which was given to NPC by a representative of the Department.

Outcomes and Outcome Cost Consequences

Table 11 presents the average number of criminal justice system outcome events (e.g., the average number of re-arrests, the average number of probation days, etc.) incurred per participant for Howard County DTC graduates, all participants (both graduates and non-graduates combined), and the comparison group for 24 months after entry date (or equivalent date for the comparison group).

Table 11. Average Number of Outcome Transactions per DTC and Comparison Group Member Over 24 Months

Transaction	DTC Graduates N = 12	All DTC Participants N = 36	DTC Comparison Group N = 89
Arrests	0.17	0.88	1.31
Circuit Court Cases	0.00	0.17	0.09
District Court Cases	0.25	0.63	0.49
Probation Days	491.58	404.23	279.25
Jail Days	43.25	77.45	24.92
Prison Days	0.00	19.84	51.34

As can be seen in this table, DTC participants, particularly those who ultimately are discharged from the program, are responsible for the consumption of some criminal justice system services at higher rates than the comparison group. Re-arrests and prison days are the only outcome transactions for which DTC participants have lower rates than the comparison group. Since DTC participants are under much greater scrutiny and higher expectations of behavioral conformance from several perspectives (case manager, treatment staff, and the judge) than is the case for individuals in the “business as usual” criminal justice system, it is not surprising that a larger number of probation and jail days are incurred by the participant group, even with a lower arrest rate. Graduates of the DTC show smaller numbers than all drug court participants and comparison group members across every transaction, except for probation and jail days.

It should be noted here that the sample of 36 DTC participants (including 12 graduates) is very small, so poor results for even one individual may throw off the results for the entire sample. It is recommended that the DTC conduct another outcome study at a later date, when more participants can be included in a larger sample.

Outcome Cost Results

Table 12 demonstrates the costs associated with the outcomes described above for all DTC participants, DTC graduates, and the comparison group.

Table 12. Criminal Justice System Outcome Costs per DTC and Comparison Group Member Over 24 Months

Transaction	Transaction Unit Cost	DTC Graduates N = 12	All DTC Participants N = 36	DTC Comparison Group N = 89
Arrests	\$244.39	\$42	\$215	\$320
Circuit Court Cases	\$5,216.83	\$0	\$887	\$470
District Court Cases	\$2,231.66	\$558	\$1,406	\$1,094
Probation Days	\$4.09	\$2,011	\$1,653	\$1,142
Jail Days	\$117.53	\$5,083	\$9,103	\$2,929
Prison Days	\$85.15	\$0	\$1,689	\$4,372
Total		\$7,694	\$14,953	\$10,327

Note: Average costs per participant have been rounded to the nearest whole dollar amount.

It is clear from Table 12 that the outcome costs are higher for the overall DTC group than for the comparison sample. The average total cost for the DTC group (\$14,953 per participant) is 45% higher than that of the comparison group (\$10,327 per comparison group member). The total outcome cost per DTC graduate (\$7,694) is 75% of that of the comparison group.

A closer look at the outcome cost results offers several interesting points of analysis. When jail days are excluded from the analysis, the outcome costs per DTC participant (\$5,850) is lower than that of the comparison group (\$7,398). If the analyses were to control for the cost difference on this dimensions, the total average cost of the comparison group would be 21% higher than the DTC group. A similar pattern can be seen with graduates (\$2,611 in outcome costs when jail days are excluded).

The graduates can be considered from an epidemiological perspective. This group has received the designed “dosage” and terms of treatment for the therapeutic intervention under consideration. From this perspective, the difference in average total cost between this group and the comparison group of \$2,633 after 24 months is an immediate return on the therapeutic investment in the graduate group. However, it is important to remember that the graduates are not directly comparable to the comparison group as they are the most successful participants.

Outcome Costs by Agency

In this study, NPC identified the criminal justice outcome costs on an agency-by-agency basis. In Table 13 we present the outcome costs by agency.

Table 13. Criminal Justice System Outcome Costs by Agency per DTC and Comparison Group Member Over 24 Months

Jurisdiction/Agency	DTC Graduates N = 12	All DTC Participants N = 36	DTC Comparison Group N = 89	Difference (Benefit)
Howard County Circuit Court	\$0	\$195	\$103	-\$92
Howard County District Court	\$146	\$368	\$286	-\$82
Howard County State’s Attorney’s Office	\$314	\$1,293	\$881	-\$412
Howard County Department of Corrections	\$5,083	\$9,103	\$2,929	-\$6,174
Law Enforcement ²⁵	\$42	\$215	\$320	\$105
Maryland Department of Public Safety and Correctional Services	\$0	\$1,689	\$4,372	\$2,683
Maryland Office of the Public Defender	\$98	\$437	\$293	-\$144
Maryland Division of Parole and Probation	\$2,011	\$1,653	\$1,142	-\$511
Total²⁶	\$7,694	\$14,953	\$10,326	-\$4,627

Note: Average agency costs per participant have been rounded to the nearest whole dollar amount.

Table 13 illustrates that costs associated with DTC participants accrue to some agencies more than others. Law Enforcement and the Department of Public Safety and Correctional Services show cost savings, but the Circuit Court, District Court, State’s Attorney, Public Defender, Division of Parole and Probation do not. The greatest saving accrues to the Department of Public Safety & Correctional Services, due to the decreased prison time for DTC participants. The greatest outcome cost loss was shown for the Howard County Department of Corrections, due to more jail days for DTC participants than for comparison group individuals.

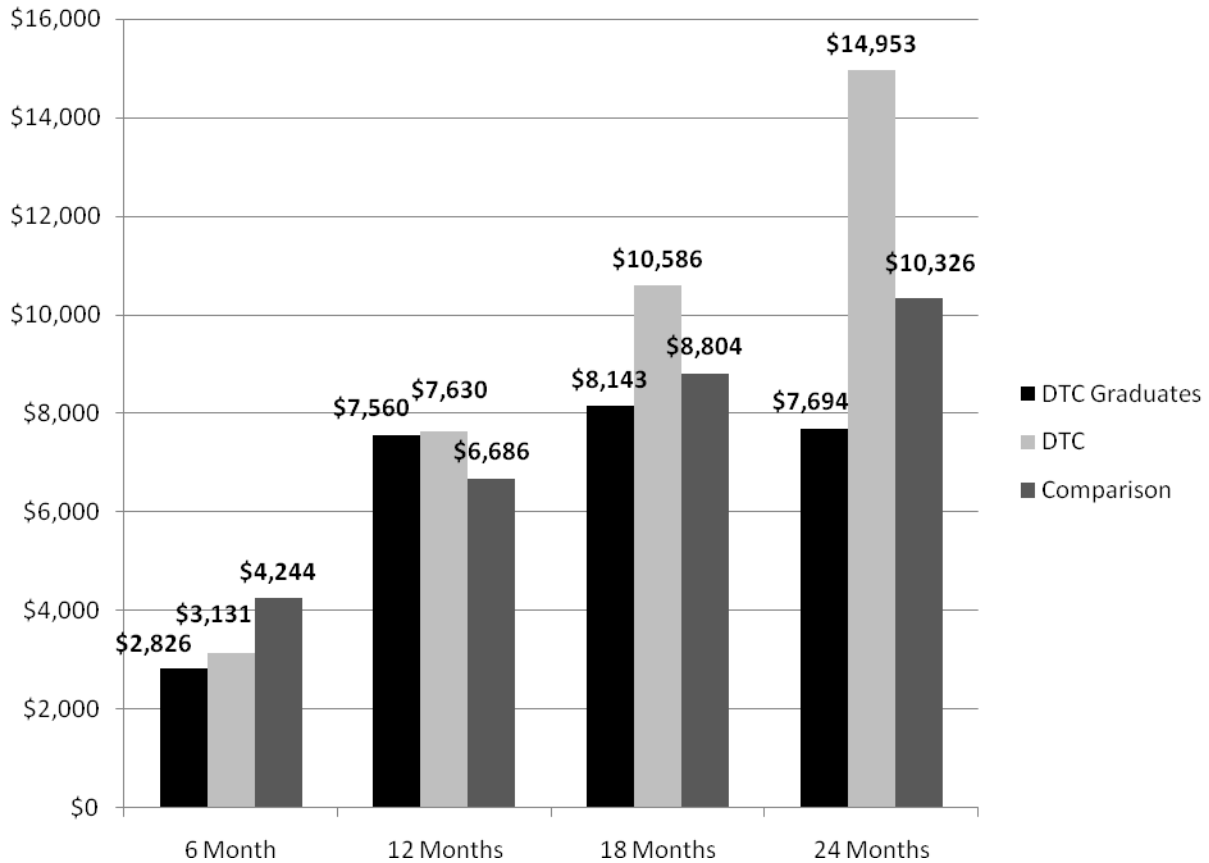
In terms of their comparative re-arrest experiences, DTC participants are shown to cost \$4,627 (or 45%) more per participant than members of this study’s comparison group. Due to lower rates of recidivism, DTC graduates show outcome costs of \$7,694 (\$7,259 less than all DTC participants and \$2,632 less than the comparison group) after 24 months.

Figure 6 displays a graph of the cumulative outcome costs over the 24 months post-DTC entry (or the equivalent for the comparison group). Note that these results by 6-month periods are not the same participants over time, but represent those different cohorts of participants who had at least 6, 12, 18, and 24 months of follow-up time, respectively.

²⁵ Law Enforcement included the Maryland State Police, the Howard County Sheriff’s Office, and the Howard County Police Department.

²⁶ Totals in this row may not match the totals in the outcome costs by transaction table due to rounding.

Figure 6. Criminal Justice Recidivism Cost Consequences per Person: DTC Participants and Comparison Group Members Over 24 Months



COST EVALUATION SUMMARY

The program investment costs are \$13,890 per DTC participant. When program costs are divided by the average number of days in the program, the cost per day per participant for the DTC program is \$36.53.

The cost due to recidivism over 24 months from program entry was \$14,953 per DTC participant compared to \$10,327 per comparison individual. The vast majority of the cost in outcomes for DTC participants over the 24 months from DTC entry was due to time in jail (\$9,103).

DISCUSSION AND SUMMARY OF FINDINGS

This study of the Howard County Drug Treatment Court program shows preliminary outcomes that are very positive for drug court participants, compared to individuals who had similar demographic characteristics and criminal histories but who did not participate in drug court. Some of these results were not statistically significant, due to small numbers in both drug court and comparison groups for the follow-up periods of interest. However, the trends in re-arrest rates and average numbers of new arrests look promising for the drug court program participants.

The costs of this program and the outcome costs attributed to drug court participants are higher than the comparison group members, on average (though graduates per person cost the system less than the average comparison group member). The main cost that drives the difference between program and comparison groups is jail: DTC participants, particularly those who are not successful in the program, are accruing more days in jail and creating a greater cost to the criminal justice system than offenders served through traditional court processing. It is possible that participants who attempt DTC but then are not successful are receiving harsher treatment than individuals who are not part of this intensive supervision and judicial oversight. The team may want to consider whether there are alternative, less costly sanctions available.

It is also possible that individuals are not receiving the intensity of supervision or treatment that they need to be successful. The team may want to look at the assessment process and ensure that high quality, comprehensive assessment is occurring and that the results of those assessments are being used to make treatment planning decisions.

In addition, the program may want to review its drug testing protocols to ensure that testing is occurring frequently enough to discourage (or identify) use, based on the particular characteristics of the population (such as their use of heroin as a drug of choice), as well as testing for a range of substances in case participants are using a variety of substances to avoid detection.

The process study of this program conducted in 2008 indicated that the drug court team for this program does not include probation or law enforcement. In a study of drug court programs across the country, Carey, Finigan, and Pukstas (2008) found that programs that included law enforcement on the team had higher graduation rates and costs savings, despite the greater investment cost of adding this team member. The authors suggest that having law enforcement on the team can improve the rate of program referrals, make greater connections with participants in the community (such as during home visits) for increased monitoring and information gathering, and offer a unique perspective to the team. The inclusion of probation to the team also has the potential to improve communication and coordination between agencies regarding program participants, and facilitate supervision and case management.

While the program's graduation rate overall is lower than average, it is also demonstrating consistent improvement over time. This program may want to review the services available for participating individuals, to make sure that the intensity of services matches the need as indicated by the substance abuse assessment and criminal justice risk assessment. In addition, the program should ensure that all individuals have access to aftercare and transitional services, to maximize their chance for success after the end of treatment and program participation. It is possible that the improved graduation rate indicates that the program has already been working on making these program improvements and that the benefits of those efforts will be demonstrated in future studies.

It may benefit the program to review the types of incentives it includes and the ratio of incentives to sanctions that are used. Discussions with participants can help inform the choices of incentives, to as much as possible individualize them, but at least to ensure that the incentives used are meaningful to participants and are achieving the desired goal of engaging participants and encouraging behavior change. Once recording incentives and sanctions, programs often notice that the use of sanctions outnumbers the use of incentives and rewards—to achieve maximum benefit, incentives and rewards should outnumber sanctions.

A review of program policies and practices will benefit the program as it continues to serve very high-risk and high-need individuals in the future.

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