Harford County District Court Adult Drug Court Outcome and Cost Evaluation

Submitted to:

Gray Barton
Executive Director
Office of Problem-Solving Courts
2011-D Commerce Park Drive
Annapolis, MD 21401

Submitted by:

NPC Research
Portland, Oregon

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4380 SW Macadam Ave., Suite 530
Portland, OR 97239
(503) 243-2436
www.npcresearch.com

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Submitted By

NPC Research

Management Team

Juliette R. Mackin, Ph.D., Project Lead

Shannon M. Carey, Ph.D., Consultant on Drug Court Research

Michael W. Finigan, Ph.D., Consultant on Drug Court Research

Research Team

Lisa M. Lucas, B.A., Sarah E. Strong, M.A., Outcome Study Coordinators

Mark S. Waller, B.A., Cost Study Coordinator

For questions about this report or project, please contact Juliette Mackin at (503) 243-2436 x 114 or mackin@npcresearch.com.

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NPC RESEARCH

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EXECUTIVE SUMMARY

Background

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 offenders and their families. 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.

In the typical drug court program, participants are closely supervised by a judge who is supported by a team of 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 jurisdictions and agencies.

NPC Research, under contract with the Administrative Office of the Courts of the State of Maryland, conducted a cost and outcome study of the Harford County District Court Adult Drug Court (HCADC) program. The report includes the cost of the program and the outcomes of participants as compared to a sample of similar individuals who received traditional court processing.

There are three key policy questions that are of interest to program practitioners, researchers and policymakers that this evaluation was designed to answer.

1. Do drug treatment court programs reduce recidivism?
2. Do drug treatment court programs reduce drug-related re-arrests?
3. Do drug treatment court programs produce cost savings?

Research Design and Methods

Information was acquired for this evaluation from several sources, including administrative databases, agency budgets, and other financial documents. Data were also gathered from HCADC and other agency files and databases.

NPC Research identified a sample of participants who entered the HCADC between January 2002 and August 2005. A comparison group was identified from individuals who were arrested on a drug court-eligible charge during the study period. These individuals were referred to drug court but received traditional court processing for a variety of reasons (for example, a perceived inability to meet program requirements or unwillingness to participate). Both the participant and comparison groups were examined through existing administrative databases for a period up to 24 months from the date of drug court entry. The two groups were matched on age, sex, race, prior drug use history and criminal history (including total prior arrests and total prior drug arrests). The methods used to gather this information from each source are described in detail in the main report.

Results

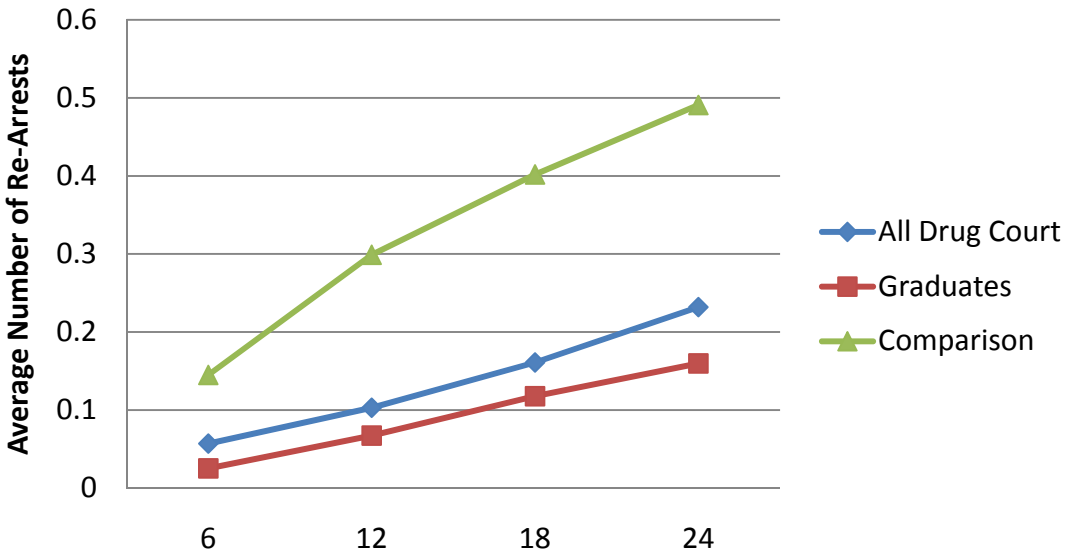
In order to best highlight the results of this evaluation, the three key policy questions listed above have been applied to the specific drug treatment court program in Harford County.

1. Did the Harford County District Court Adult Drug Court reduce recidivism?

Yes. HCADC program participants were significantly less likely to be re-arrested than offenders who were eligible for the program but did not participate.

Figure A shows the average number of re-arrests for 24 months after entering the drug court program for HCADC graduates, all HCADC participants, and the comparison group. Drug court participants, regardless of graduation status, were re-arrested significantly less often than were the comparison group members.

Figure A. Average Number of Cumulative Re-Arrests for All Drug Court, Graduates, and the Comparison Group Over 24 Months



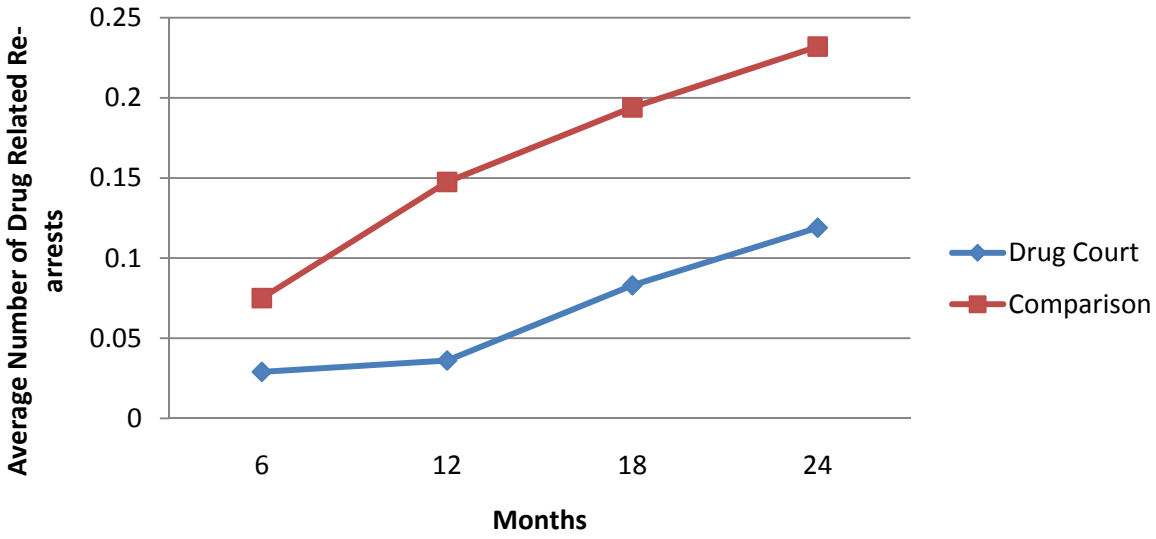
Graduates were re-arrested approximately half as often as the comparison group. Overall, only 13% of the graduates and 18% of the all drug court participants were re-arrested following entrance into the drug court program, while 31% of the comparison group were re-arrested in the 2-year period. These data exhibit strong evidence that participation in drug court is associated with a reduction in future arrests.

2. Do drug courts reduce drug-related re-arrests?

Yes. HCADC participants had consistently fewer drug-related re-arrests following entrance into drug court.

Figure 2 shows the average number of drug-related re-arrests for the drug court group for 24 months during the outcome period. At 6 months there is only a slight difference between groups; however, drug court participants are re-arrested for drug related crimes significantly less often at the 12, 18, and 24 month time points.

Figure 2. Average Number of Drug-Related Re-Arrests Over 24 Months for HCADC Program Participants and the Comparison Group



3. Are there cost savings (avoided costs) that can be attributed to the HCADC program?

Yes. The total criminal justice system cost savings per participant after 2 years was **$2,767** per drug court participant, regardless of whether or not they graduated. When this figure is multiplied by the 400[1] participants who have entered the drug court since its inception, it results in a total savings of **$1,106,800**. If savings continue for each participant at the same rate (which has been shown to occur in other studies, e.g., Finigan, Carey, & Cox, 2007), after 10 years, the savings for these 400 participants will total over **$5.5 million ($5,534,000)**.

As the existence of the program continues, the savings generated by drug court participants due to decreased substance use and decreased criminal activity can be expected to continue to accrue, repaying investment in the program and beyond. Taken together these findings indicate that the HCADC is both beneficial to drug court participants and beneficial to Maryland taxpayers.

[1] Complete records of the total number of participants since drug court implementation were not available, so 400 is a conservative estimate.

BACKGROUND

The Drug Court Model

In the last 18 years, one of the most dramatic developments in the movement to reduce substance abuse among the United States criminal justice population has been the spread of drug courts across the country. The first drug court was implemented in Florida in 1989. As of April 2007, there were at least 1,700 juvenile and adult drug courts, with drug courts operating or planned in all 50 states (including Native American Tribal Courts), the District of Columbia, Northern Mariana Islands, Puerto Rico, and Guam (BJA, 2007).

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 offenders and their families. 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.

In the typical drug court program, participants are closely supervised by a judge who is supported by a team of 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 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, 2003; 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, 2003; Crumpton, Brekhus, Weller, & Finigan, 2004; Carey et al., 2005).

In 2001, NPC Research, under contract with the Administrative Office of the Courts of the State of Maryland, began cost studies of adult and juvenile drug courts across the state. The results presented in this report include the costs of the Harford County District Court Adult Drug Court program, and the outcomes of participants as compared to a sample of similar individuals who received traditional court processing.

HARFORD COUNTY

Harford County is located in the northeastern region of Maryland and is historically rural. However, over the last two decades the county has experienced substantial population growth and urbanization. The population increase from 2000 to 2005 was over 10%, growing from 218,590 to 241,402. There has been concern that the increasing urban influence is associated with higher rates of drug use. In 2000, 8% of all adult arrests were drug-related. The rate was 10% in 2005.

Process Description: Harford County District Court Adult Drug Court

Background and Drug Court Team

Harford County District Court Adult Drug Court (HCADC) was implemented in November 1997. The main goals of the HCADC program include reducing recidivism and influencing participants to change destructive behavior while promoting a lifestyle incompatible with drug use. In order to meet these goals, the program has divided its active participants between two treatment counselors who serve as the case managers for HCADC. The program's annual capacity is 50. The program's coordinator, who is also the clinical treatment supervisor, carries a caseload as well. Drug court hearings are held twice monthly with a 15-minute staff meeting held prior. The purpose of these meetings is to discuss whether individual participants who are not abiding by program rules should be allowed to remain in the program, to issue bench warrants for any participants who have not appeared in court, and/or to discuss possible sanctions for individual participants. The rest of the team, who also attend hearings and staff meetings, includes the Judge, the Parole and Probation Agent, the Assistant State's Attorney, and the Assistant Public Defender.

Eligibility and Drug Court Entry

Participants of the HCADC program must have an alcohol- or drug-related or motivated criminal charge. Most current drug court participants are first-time offenders with no felony charge. However, prospective participants with felonies and second-time offenses are also eligible. Defendants with a history of violence, weapons charges, a charge of possession with indication of drug distribution, or serious driving record violations are generally excluded.[2]

Typically, the State's Attorney's Office (SAO) receives and reviews individual files and then makes a preliminary drug court eligibility determination. The SAO sends a letter to the individual being considered for drug court asking if he or she is interested in the program. In addition to the SAO, the Public Defender, Judge, and Parole and Probation Agent (PPA) may identify individuals for the program. If the defendant qualifies and indicates a desire to participate, he or she will meet with the treatment provider for an evaluation and attend a drug court hearing.

Drug Court Program Phases and Requirements

The HCADC program has four phases that take a minimum of 9½ months to complete. Two regular phase requirements include treatment attendance and drug testing. Treatment consists of individual counseling and group therapy grounded in the disease model. Treatment counselors also provide education-related support. Most program participants are given random drug tests at least once per week, but may be tested as many as three times in a week.

Phase 1 lasts a minimum of 8 weeks and focuses on education-based interventions. Participants must complete eight individual counseling sessions. They are required to write an autobiography as part of their journal writing assignments. They must complete Step 1 of the 12-step process in their Hazelden Alcoholics Anonymous (AA) booklet. In addition to attending court hearings every other week, participants must attend all appointments with the PPA, which usually entails meeting at each court hearing plus one additional time per month at the PPA's office.

[2] Though the program generally excludes defendants with drug distribution charges, there are two participants in the study sample who were charged with possession with intent to distribute.

Phase 2 has a required minimum of 10 weeks and emphasizes group processing. In this phase, participants must have clean urine screens for the last 15 days of the phase. They must complete a relapse prevention assignment as well as a quitting drug of choice assignment. Participants must also complete ten individual counseling appointments over 10 weeks. Additionally, they must attend court hearings twice monthly, and parole and probation appointments.

Phase 3 lasts at least 8 weeks and focuses on relapse avoidance education. Participants must attend court twice per month. They must complete their journal and create a discharge plan. Participants must have clean urine screens for the entire phase. In lieu of one group or individual counseling session, participants are required to attend one self-help group (AA/NA) weekly. If participants have one positive drug screen, they are referred to Continuing Care (a 12-week program) after completion of Phase 3. Continuing Care re-emphasizes triggers and warning signs and increases treatment sessions and self-help meeting requirements.

Phase 4, lasting at least 3 months, is considered a probationary phase. Participants are no longer required to attend group treatment sessions but do attend individual counseling twice monthly. Court appearances are reduced to once monthly. Participants are encouraged to attend NA or AA meetings in order to make personal connections that can potentially provide support when HCADC involvement ends. Finally, they must each attend one drug court graduation session.

On an as-needed basis, HCADC participants are offered (or may be ordered to complete) parenting, GED, and anger management classes, among other services.

Incentives and Sanctions

Incentives are given in recognition of consistent attendance at drug court sessions and other appointments, acceptable participation in program activities, clean drug tests and life skills improvement. Rewards include passes to excuse participants from the drug court sessions, reduced fees, or candy bars.

Sanctions may be given to participants for non-compliant behaviors, such as not reporting for group or individual counseling sessions, giving a positive drug screen, or not providing urine at all, being found guilty of a new charge (does not have to be drug-related), or not attending court as required. Sanctions range from community service to up to three weekends in jail.

Graduation and Unsuccessful Completions

Typically, when participants graduate from HCADC, the judge officially removes the probation requirement as of the date of graduation. Graduates will be found not guilty or receive a "Probation before Judgment" (PBJ) finding. Any individual who demonstrates a complete failure to cooperate with program staff and meet program requirements will receive 120 days in jail and a conviction on his/her record.

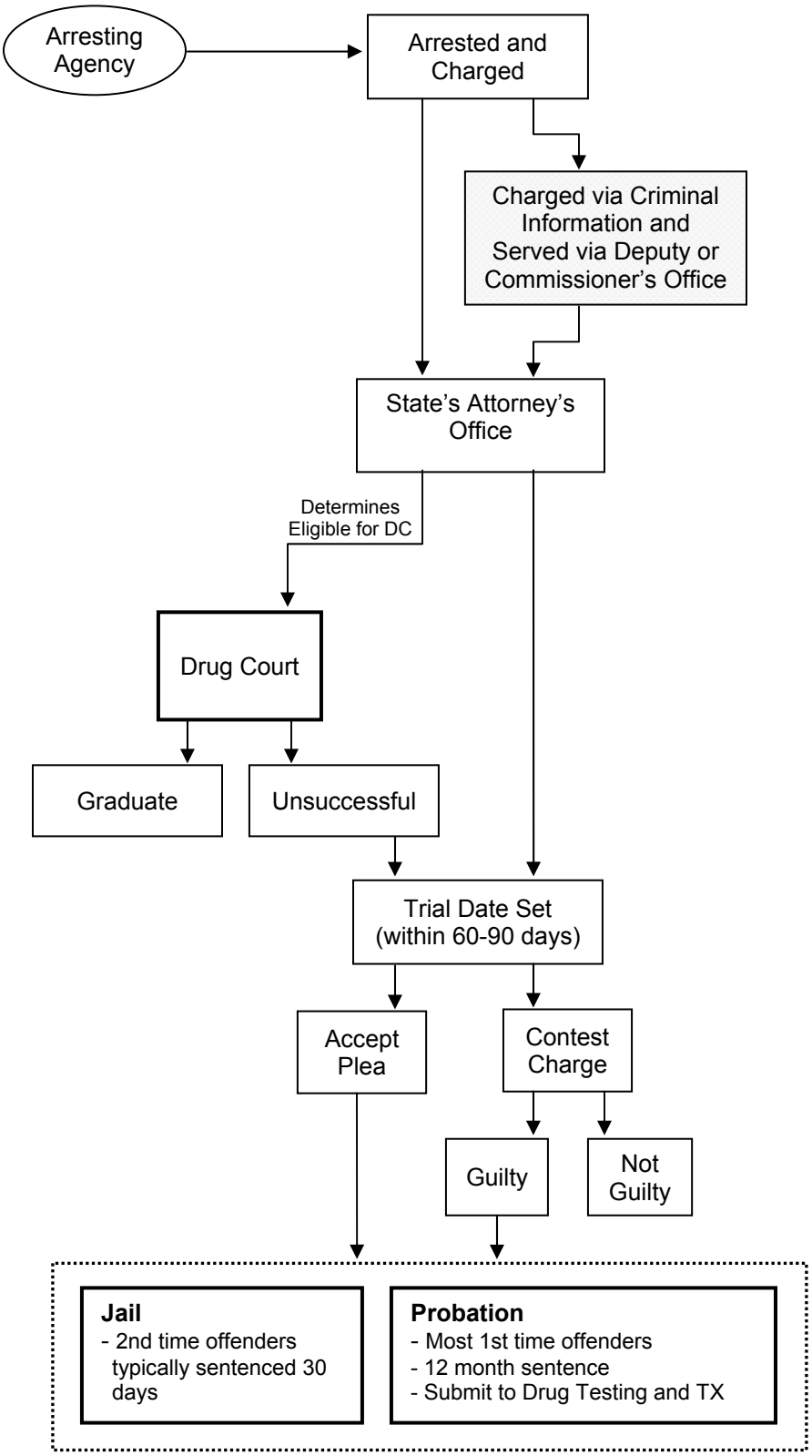
Traditional Court Processing

The description above illustrates the process a defendant follows to enter the drug court program. Some individuals who are eligible for drug court do not enter the program. Figure 1 below illustrates the process for individuals who follow "business-as-usual" or traditional court processing. In general, a person who is charged with a possession (common drug court-eligible charge) goes to trial within 60 to 90 days of being charged. On the trial date, the individual either accepts a plea offer or contests the charge. If the defendant accepts a plea offer or is found guilty and is a

first time offender, he or she receives 12 months of probation and is required to submit to drug testing and treatment as ordered by the court. Second time offenders receive 30 days in jail.

Figure 1. Harford County District Court Process

(Process for offenders charged with possession)



METHODOLOGY

NPC Research begins a program evaluation by gaining an understanding of the environmental context of the program. This assessment includes the organizational structure of the drug court itself, the organization of the agencies that interact through drug court, and the organization of the county. For the Harford County District Court Adult Drug Court (HCADC), this information was collected through a process evaluation that included site visits, phone calls and interviews with people at the agencies involved, and documents shared during site visits. The process evaluation was completed in July 2007.[3] Using the 10 Key Components of Drug Courts as a framework, the current process description was designed to help the evaluation team gain a complete understanding of how the HCADC functions internally and within the broader systems of treatment and criminal justice. This information is integral to NPC's ability to interpret the outcome and cost results for the drug court program.

Outcome/Impact Evaluation Methodology

RESEARCH STRATEGY

NPC Research identified a sample of participants who entered the HCADC between January 2002 and August 2005. This time frame allows for the availability of at least 24 months of post-program data for all program participants. A comparison group was identified from a list of individuals who were arrested on drug court-eligible charges and met eligibility requirements for the program in Harford County. These individuals were referred to drug court but received traditional court processing for a variety of reasons (for example, a perceived inability to meet program requirements, unwillingness to participate, or choosing to decline). The two groups were matched on age, sex, race, an indication of prior drug use, and criminal history—including prior arrests and prior drug arrests. All groups were examined through existing administrative databases for a period up to 24 months from the date of drug court entry (or, in the case of the comparison group, an equivalent date calculated to be comparable to the drug court participant entry date based on their court case filing date). The evaluation team utilized data sources on criminal activity and treatment utilization, described below, to determine whether there was a difference in re-arrests, substance use, and other outcomes of interest between the drug court and comparison groups and within the drug court group.

OUTCOME STUDY QUESTIONS

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

1. Does participation in drug court reduce the number of re-arrests for those individuals compared to traditional court processing?
2. Does participation in drug court reduce levels of substance abuse?
3. How successful is the program in bringing program participants to completion and graduation within the expected time frame?
4. What participant characteristics predict successful outcomes (program completion, decreased recidivism)?

[3] NPC Research. [Crumpton, D., Mackin, J. R., Weller, J. M., Linhares, R., Carey, S. M., & Finigan, M. W.] (2007). "Harford County Adult District Drug Court Process Evaluation." A report to the Maryland Judiciary, Office of Problem-Solving Courts. This report can be found at the NPC Research Web site: www.npcresearch.com.

5. What combination and types of services predict successful outcomes (program completion, decreased recidivism)?

DATA COLLECTION AND SOURCES

Administrative Data

The majority of the data necessary for the outcome evaluation were gathered from the administrative databases described below and in Table 1. NPC staff members have experience extracting data from these databases and have adapted procedures developed in previous projects for data collection, management, and analysis. Once all data were gathered on the study participants, the data were compiled and cleaned and moved into SPSS 15.0 for statistical analysis. The evaluation team is trained in a variety of univariate and multivariate statistical analyses using SPSS. The analyses used to answer specific questions are provided with the results described below. These quantitative data were used to answer the study questions outlined above. Data were collected from the following sources:

Harford County Drug Court Participant Files

The HCADC program data was collected from participant charts. NPC Research collected information on demographics, drug court hearings, drug testing; and individual; educational; and group treatment sessions. HCADC is in the process of adopting the Statewide Maryland Automated Records Tracking (SMART) system to record this information and make it available electronically. These data were used to select a comparison group, determine program costs and analyze predictors of drug court program success.

Substance Abuse Management Information System (SAMIS)

Additional treatment data for the drug court participants and the comparison sample 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. These data provided information to cost treatment received following drug court entry (or the equivalent for the comparison group) as well as to determine if participation in the drug court program is associated with reduced substance use.

Maryland Department of Public Safety and Correctional Services

The Maryland Department of Public Safety and Correctional Services (DPSCS) uses a management information system that tracks involvement with parole and probation and confinement in the state correctional facilities. The DPSCS stores Maryland criminal justice information in the OBSCIS I & II, including arrest, charge, and time spent on parole and probation. These data were used for determining cost-savings between drug court participants and the comparison group for up to 24 months following program entry.

Harford County Detention Center Records Unit

Jail data for the drug court participants and comparison group were gathered from the Harford County Detention Center, Records Unit. Jail start and end dates were obtained prior to participation in drug court (or the equivalent for the comparison group), during involvement in drug court and following exit from the program. These jail data provided information on future costs for the drug court participants and the comparison group.

Maryland Judiciary Case Search

Data for subsequent court cases for drug court participants and the comparison samples were collected from the Maryland Judiciary Case Search on the Internet. This database provides public access to Maryland's Judiciary case records. Subsequent court case data is used to calculate future costs for the drug court participants and the comparison group.

Table 1. HCADC Evaluation Data Sources

Database	Source	Example of Variables
HCADC	Harford County Drug Court Staff	For drug court participants only: Demographics, time spent in drug court, discharge status, treatment attendance, drug tests
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
OBSCIS I & II	Maryland Department of Public Safety and Correctional Services (DPSCS)	Time spent on parole, probation; number of arrests; time spent in prison
Harford County Detention Center - Records Unit	Harford County Sheriff's Office; Correctional Services Bureau	Time spent in jail
Maryland Judiciary Case Search	http://casesearch.courts.state.md.us	Subsequent court cases

SAMPLE SELECTION

As described above, it was necessary to select a cohort of individuals who had participated in drug court and a cohort of similar individuals who had not for the comparison group.

The Drug Court Participant Group

A sample was chosen from the HCADC participants that included individuals who entered the program between January 2002 and August 2005. This range was chosen partially because program files prior to this time no longer exist, and also to ensure that adequate time had passed from program implementation so that no biases are present from the start-up period. This allowed for the availability of at least 24 months of outcome data for all participants. This follow-up time is important for determining if participation in drug court has a prolonged impact on participants. Finally, by choosing this time range, the sample includes only individuals who have completed the program, either successfully or unsuccessfully, providing an accurate basis for program costs from entry to exit.

The Comparison Group

Ideally, a comparison cohort is composed of offenders who are similar to those who have participated in drug court (e.g., similar demographics and criminal history), but have not participated in the drug court program.

Drug court eligibility in HCADC is determined by drug court-eligible charges and history of involvement with the criminal justice system. Typically the State's Attorney's Office sends a letter to the individual being considered for drug court informing her/him of her/his option to join. The Drug Court Coordinator receives a copy of this letter or a list of individuals sent letters in a given month.

The comparison group for this study was selected by procuring a list of all drug court-eligible individuals from the HCADC Drug Court Coordinator. Demographic information for these individuals was collected from the Maryland Judiciary Case Search and then these individuals were matched to the drug court participants based on age, sex, race, prior arrest history (total arrests and drug-related arrests), and whether or not there was a previous indication of a drug problem.

The matching process and results are presented in the outcome results section of this report.

Cost Evaluation Methodology

COST EVALUATION DESIGN

Transaction and Institutional Cost Analysis

The cost approach utilized by NPC Research 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 from multiple agencies. Transactions are those points within a system where resources are consumed and/or change hands. In the case of drug courts, when a drug court participant appears in court or has a drug test, resources such as judge time, defense attorney time, court facilities, and urine testing 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 costs 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 policy makers, 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 central 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 money that could be avoided or diminished if substance abuse were treated. In this approach, any cost that is the result of untreated substance abuse and that directly impacts a citizen (either through tax-related expenditures or the results of being a victim of a crime perpetrated by a substance abuser) is used in calculating the benefits of substance abuse treatment.

Opportunity Resources

Finally, NPC's cost approach looks at publicly-funded costs as "opportunity resources." The concept of opportunity *cost* from the economic literature suggests that system resources are available to be used in other contexts if they are not spent on a particular transaction. The term opportunity *resource* describes these resources that are now available for different use. For example, if substance abuse treatment reduces the number of times that a participant 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 cost evaluation involves calculating the costs of the drug court program and the costs of outcomes after program entry for the drug court group and a comparable date for the comparison group. In order to determine if there are any benefits (or avoided costs) due to drug court program participation, it is necessary to determine what the participants' outcome costs would have been had they not participated in drug court. One of the best ways to do this is to compare the costs of outcomes for drug court participants to the outcome costs for similar individuals arrested on the same charges who did not participate in drug court. The costs to the Harford County criminal justice system (cost-to-taxpayer) incurred by participants in drug court were compared with the costs incurred by those in Harford County who were eligible for but did not enter the drug court program.

TICA Methodology

The TICA methodology is based upon six distinct steps. Table 2 lists each of these steps and the tasks involved.

Step 1 was performed during the site visits, through analysis of HCADC documents, and through interviews with key stakeholders. Steps 2 and 3 were performed through observations during the site visits and by analyzing the information gathered in Step 1. Step 4 was performed through extensive interviewing of key stakeholders, direct observation during the site visits, and by collecting administrative data from the agencies involved in drug court. Step 5 was performed through interviews with drug court 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 participant were added to determine the overall cost per drug court participant / comparison group individual. This figure was generally reported as an average cost per individual for the drug court program, and outcome/impact costs due to re-arrests, jail time and other recidivism costs. In addition, due to the nature of the TICA approach, it was also possible to calculate the cost for drug court processing for each agency.

The direct observation of the program process and the specific program transactions occurred during two site visits to Harford County. The key informant interviews using the Typology Interview Guide were also performed during the site visits (see the Drug Court Typology Guide on the NPC Web site – www.npcresearch.com) and through interviews via phone and e-mail. Cost data were collected through interviews with drug court staff and budgetary officers as well as from budgets either found online or provided from agency staff.

The specific transactions used in this cost evaluation were somewhat limited due to budget constraints. The costs to the criminal justice system outside of the drug court program costs consist of those due to new arrests, subsequent court cases, probation, prison, jail time served, drug treatment and victimizations. Program costs include all program transactions including drug court sessions,

case management, drug tests, jail days while in the program, drug treatment and probation time while in the program.

Table 2. The Six Steps of TICA

	Description	Tasks
Step 1:	Determine flow/process (i.e., how individuals move through the system)	Site visits/direct observations of program practice Interviews with key stakeholders (agency and program staff) using a program typology and cost guide (See guide on www.npcresearch.com)
Step 2:	Identify the transactions that occur within this flow (i.e., where individuals interact with the system)	Analysis of process information gained in Step 1
Step 3:	Identify the agencies involved in each transaction (e.g., court, treatment, police)	Analysis of process information gained in Step 1 Direct observation of program transactions
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, # of transactions)	Interviews with key program stakeholders using program typology and cost guide Direct observation of program transactions Administrative data collection of # of transactions (e.g., # of court appearances, # of treatment sessions, # of drug tests)
Step 5:	Determine the cost of the resources used by each agency for each transaction	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)	Indirect 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 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. (These calculations are described in more detail below)

OUTCOME EVALUATION RESULTS

The results presented in this report include the costs of the program and the outcomes of participants of the Harford County District Court Adult Drug Court (HCADC) as compared to a sample of similar individuals who received traditional court processing. Outcomes include future substance use and recidivism.

PARTICIPANT AND COMPARISON GROUP MATCHING

Efforts were made to match the groups based on characteristics that were meaningful for this evaluation. The groups were compared on gender, race, average age at drug court entry (or the equivalent date assigned by the research team to the comparison group),[11] education, employment, marital status, criminality prior to drug court entry (or equivalent) and prior drug arrests, and a reported indication of a drug problem by probation staff. Independent sample t-tests and chi-square tests indicated that there were no significant differences between groups. There were 166 individuals in the final participant sample and 217 comparison group members.

Table 3 describes the participant and comparison group demographics and criminal history.

[11] A proxy drug court start date was calculated for the comparison group by adding the median number of days between the drug court arrest and drug court entry for the drug court group to the filing date for the comparison group. The average number of days between arrest date and drug court entry was 124 days.

Table 3. Participant and Comparison Group Characteristics

	Drug Court n = 166	Comparison n = 217
Gender	(n = 166) 84% Male 16% Female	(n = 217) 77% Male 23% Female
Race	(n = 166) 84% White	(n = 217) 78% White
Average age at drug court entry	(n = 166) 23 range 20-54	(n = 217) 23 range 20-63
Average number of arrests prior to drug court entry (does not include the arrest associated with the drug court [or the equivalent] case)	(n = 166) 0.83 30% with 0 prior arrests 62% with 1 prior arrest 8% with > 1 prior arrest	(n = 217) 0.93 33% with 0 prior arrests 50% with 1 prior arrest 17% with > 1 prior arrest
Average number of drug-related arrests prior to drug court entry	(n = 166) 0.77 31% with 0 prior arrests 62% with 1 prior arrest 7% with > 1 prior arrest	(n = 217) 0.76 36% with 0 prior arrests 54% with 1 prior arrest 10% with > 1 prior arrest
Prior drug problem (per probation staff report)	(n = 147) 89%	(n = 181) 83%
Marital status	(n = 129) 90% Single	(n = 169) 86% Single
Employment status at drug court entry	(n = 124) 17% Unemployed	(n = 169) 24% Unemployed
At least 12 years of education	(n = 128) 81%	(n = 168) 81%

Note: t-tests and chi-square test showed no significant difference between the two groups on these variables ($p > .05$)

OUTCOME RESEARCH QUESTION RESULTS

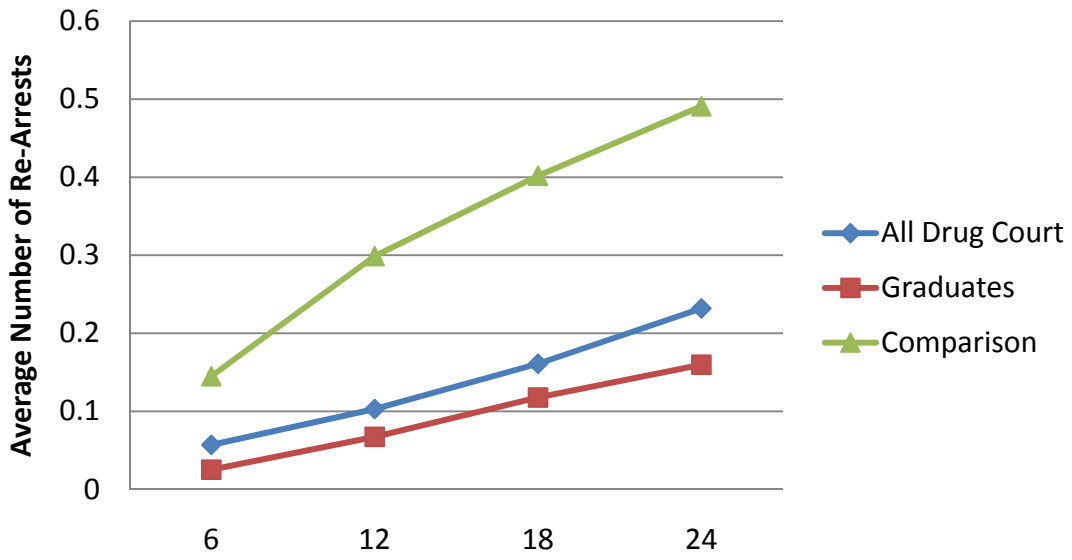
The following results are provided in the order of the research questions detailed above. These results describe the recidivism experienced by the drug court participants and the comparison group in terms of average number of re-arrests as well as re-arrest rate, the drug use over time for drug court participants measured by drug test results and drug-related re-arrests, the success of the HCADC in bringing participants to program completion within the intended length of time, and participant characteristics and program services that predict successful outcomes.

Research Question #1: Recidivism

Does participation in drug court reduce the number of re-arrests for those individuals compared to traditional court processing?

YES. Figure 2 illustrates the average number of re-arrests for 24 months after entering the drug court program for HCADC graduates, all HCADC participants, and the comparison group. Drug court participants, regardless of graduation status were re-arrested significantly less often than were the comparison group members who were eligible for drug court but did not attend at each time point following entry into drug court. In addition, graduates were re-arrested approximately half as often as the comparison group. Overall, 13% of the graduates and 18% of all drug court participants were re-arrested following entrance into the drug court program, while 31% of comparison group members were re-arrested in the 2-year period.

Figure 2. Average Number of Cumulative Re-Arrests for All Drug Court, Graduates, and the Comparison Group Over 24 Months



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).[12] Table 4 presents the results of this analysis.

In the 2 years following drug court entry, the drug court group had significantly fewer drug-related arrests than the comparison group, while controlling for demographic characteristics, total prior arrests, and drug arrests at both time points. This finding occurs regardless of whether the drug court participants graduated from the program. In addition, HCADC graduates were arrested significantly less often than unsuccessful program participants for drug-related crimes, and unsuccessful program participants were arrested significantly less often than the comparison group for drug-related crimes at each year interval. This finding demonstrates that involvement in the program, regardless of exit status, is significantly associated with a reduction in criminality.

[12] 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 numbers in Table 4 do not reflect the total average arrests in Figure 2.

There has been some question about whether drug court programs, which redirect offenders from incarceration into treatment, endanger public safety. These results are strong support that drug court programs actually protect public safety more effectively than traditional court processing.

Table 4. Average Number of Re-Arrests by Classification Over 24 Months (Per Person)

	All Drug Court Participants n = 166	Graduates n = 119	Comparison Group n = 217
Drug-Related Arrests			
Average number of arrests in the 12 months post drug court entry or equivalent	.04	.02	.14
Average number of arrests in the 24 months post drug court entry or equivalent	.12	.07	.23
Property-Related Arrests			
Average number of arrests in the 12 months post drug court entry or equivalent	.02	.01	.12
Average number of arrests in the 24 months post drug court entry or equivalent	.05	.03	.19
Person-Related Arrests			
Average number of arrests in the 12 months post drug court entry or equivalent	.04	.04	.03
Average number of arrests in the 24 months post drug court entry or equivalent	.06	.05	.08

Research Question #2: Reducing Substance Abuse

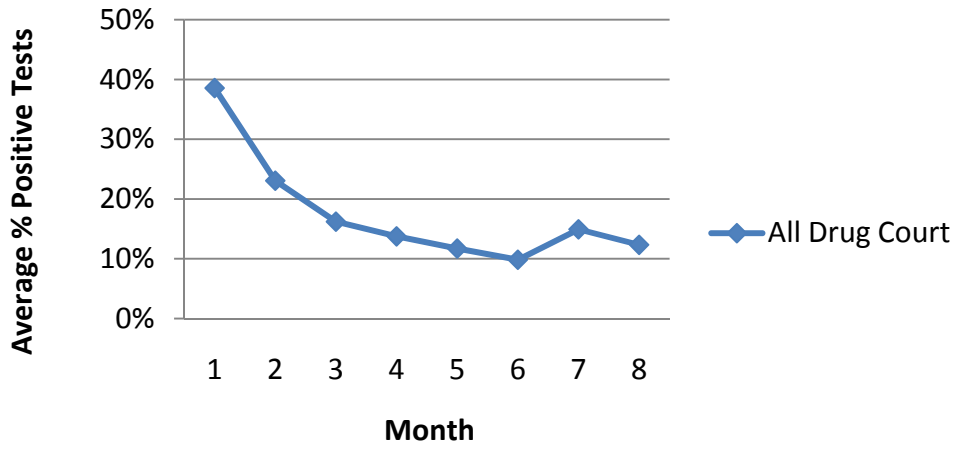
Does participation in drug court reduce levels of substance abuse?

YES. Drug testing information was gathered from the drug court participant charts in Harford County. These files contain the results of all drug tests performed while participants were enrolled in the drug court program. This information provides the opportunity to determine whether participation in drug court reduces levels of substance abuse for drug court participants. In other words, it is possible to determine if substance use patterns for drug court participants change while involved in the program.

Figure 3 depicts the average percent of positive urinalysis (UA) tests over the 8-month period after drug court entry. Eight months was chosen because it represents the average time from program entry to program completion for this drug court program. Percentages were calculated for each 1-month period from program entry date for all drug court participants. The number of UA tests over time is an indicator of a reduced level of substance abuse. All participants were included in this analysis, both graduates and participants who were unsuccessfully discharged. As illustrated, the average percentage of positive drug tests for drug court participants declined

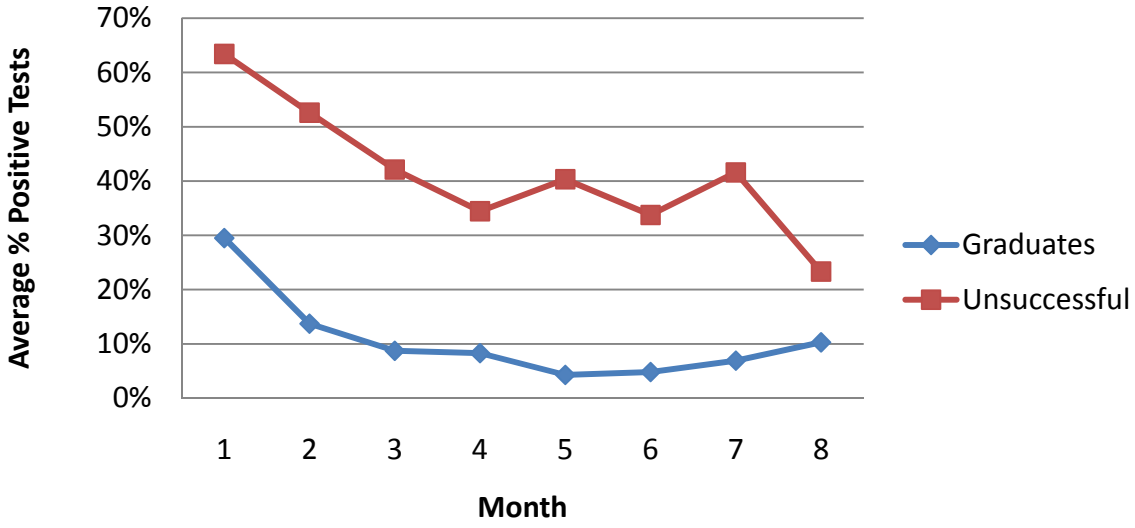
through program involvement. While there is a slight rise in the average percentage of positive tests per person in months 7 and 8, this result is likely a byproduct of the continued use by future unsuccessful participants. Overall, Figure 3 shows that involvement in the drug court program reduces substance use, regardless of whether participants later graduate or do not.

Figure 3. Percentage of Positive Tests per Participant Over 8 Months



In addition, an examination of the percentage of positive urinalysis tests between graduates and unsuccessful discharges (Figure 4) shows that both groups experienced reduced substance use, although the graduates have significantly fewer positive tests throughout program involvement.

Figure 4. Percentage of Positive Tests per Graduate and Unsuccessful Participant Over 8 Months

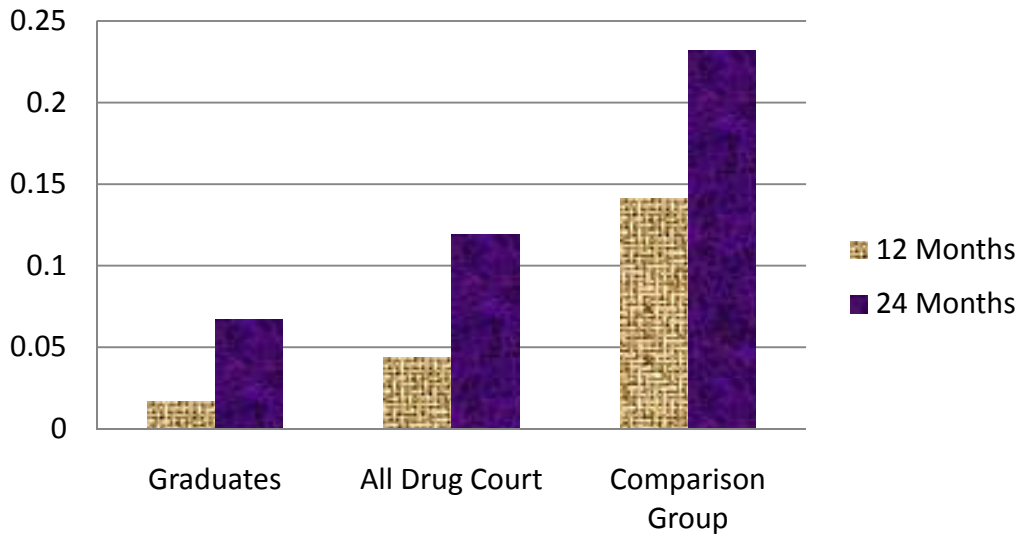


Drug testing information was also gathered from the Substance Abuse Management Information System, provided by the Maryland Alcohol and Drug Abuse Administration. This database contains drug test information for both the drug court and the comparison group participants for the year following drug court entrance (or the equivalent date assigned to the comparison group) for individuals who have received publically-funded treatment (drug court n = 142; comparison

group n = 115). While the 8-month analysis is not possible with these data, the equivalent is available for a 1-year period. Drug court participants had significantly fewer positive urinalysis tests than the comparison sample ($p < .000$). While 17% of the drug court group had positive tests, the comparison sample had 30% in the year following drug court entry (or equivalent). These two findings together indicate that involvement in drug court is related to reduced substance use.

Whether the HCADC is effective at reducing substance use can also be measured by analyzing the number of re-arrests for drug-related crimes. The 2-year averages for the HCADC graduates, all HCADC participants, and the comparison group can be found in Figure 5. As previously noted, drug court participants were re-arrested significantly fewer times for drug-related crimes than the comparison group. This graph shows that at both the 12 and 24 month follow-up periods, the comparison sample was re-arrested at a higher rate than the drug court group and the drug court graduates. Again, these findings present strong evidence that participation in HCADC is significantly associated with a reduction in substance use and drug-related crimes.

Figure 5. Average Number of Drug-Related Re-Arrests at 12 and 24 Months



Research Question #3: Program Completion

How successful is the program in bringing program participants to completion and graduation within the expected time frame?

Whether a program is bringing its participants to completion in the intended time frame is measured by program graduation (completion), and by the amount of time participants spend in the program. Program *graduation rate* is the percentage of participants who graduated from the program out of a cohort of participants who have all left the program either by graduating or being unsuccessfully discharged. Nearly three-quarters (72%) of program participants completed the HCADC program successfully. This graduation rate is high compared to other programs using the drug court model in the U.S. (approximately 50% on average), which consistently have better completion rates than other offender- and non-offender based drug treatment programs (Cooper, 2003). It is also high compared to drug court programs in others states studied by NPC Research

(e.g., Carey et al., 2005; NPC Research, 2007). For example, a study of nine drug courts in California showed an average graduation rate of 56% (Carey et al., 2005).

To measure whether the program is following its expected time frame, the average amount of time in the program was calculated for participants who had enrolled in the HCADC program between January 2002 and August 2005 and have been discharged from the program. The HCADC is intended to be an 8- to12-month program from entry to graduation. The average length of participation in drug court was 242 days (8 months). Graduates spent an average of 258 days in the program or about 8½ months with 77% in the program from 6 to 10 months. Participants who were unsuccessfully discharged spent, on average, fewer than 7 months in the program (202 days; 63% in the program for fewer than 7 months). These results show that the HCADC program is on target with its intended time to program completion for drug court graduates.

Research Question #4: Predictors of Program Success

What participant characteristics predict program success and decreased recidivism?

Graduates and unsuccessfully discharged participants were compared on the basis of demographic characteristics and their age at first substance use to determine whether any significant patterns predicting program graduation or recidivism could be found. The following analyses include participants who entered the program from January 2002 through August 2005. Of the 166 persons who entered the program during that time period, 47 (27%) were unsuccessfully discharged from the program and 119 (72%) had graduated. Significant results are discussed.

Program Success

In order to best determine which demographic characteristics are related to successful drug court completion, a logistic regression was conducted with the following predictors: sex, race (white/non-white), age at drug court entry, age at first substance use, and whether the individual had a known history of drug abuse (n = 160 for this analysis).

The only characteristic significantly related to program success was the age of first substance use, indicating that participants were 1.16 times more likely ($p < .05$) to graduate, or have 16% greater chance of graduation for each year older the participant was at their age of first substance use.

Participant characteristics along with arrest history and length of stay in the drug court program were also examined in relation to program completion status using a different statistical model. The multivariate model was significant (Wilks Lambda = .86; $F = 3.02$; $p < .05$) and results are presented in Table 5 below. The right-hand column of the table displays whether the analysis showed any statistically significant differences between those who graduated and those who did not. This column displays “yes” for significant results ($p < .05$) , “trend” for p values between $p > .05$ and $p < .10$, and “no” for those p values above .10.

Table 5. Characteristics of Graduated Compared to Unsuccessfully Discharged Participants of the HCADC

	Graduated n = 111	Unsuccessfully Discharged n = 37	
Variable	**Average**	**Average**	**Significant?***
Males	84%	89%	No
Age at drug court entry	23	21	No
Age at first substance use	15	14	**Yes**
White	86%	77%	No
Indication of drug problem	91%	82%	**Trend**
Days of program involvement	258	207	**Yes**
Total prior arrests	.83	.86	No
Total prior drug arrests	.77	.80	No

*Yes = ($p < .05$); No = ($p > .05$); Trend = ($p > .05$ and $< .10$)

Table 5 illustrates that individuals were more likely to graduate if they were older when they first used drugs and if they stayed longer in the drug court program.

Recidivism

Participant characteristics and arrest history were also examined in relation to arrests following drug court entry. The multivariate model was significant (Wilks Lambda = .90; $F = 2.45$; $p < .05$) and results are presented in Table 6 below. The participant characteristics significantly associated with future arrests included age at drug court entry and age at first substance use. Participants who were younger at the time they entered drug court and were younger when first using substances were more likely to be re-arrested after beginning drug court.

Table 6. Demographic and Court-Related Variables That Predict Recidivism

Variable	Drug court participants were more likely to be re-arrested if they…	Significant?*
Male		No
White		No
Age at drug court entry	**Were younger at program entry**	**Yes**
Total prior arrests		No
Total prior drug-related arrests		No
Length of program involvement		No
Age at first substance use	**Were younger at the time of first use**	**Yes**

*Yes = ($p < .05$); No = ($p > .05$)

Generally, there were few significant differences in participant characteristics with which to predict program success or recidivism for drug court participants. This result indicates that the HCADC serves persons with a variety of needs and life experiences equally well.

Research Question #5: Program Services as Predictors of Successful Outcomes

What combination and types of services predict successful outcomes, including program completion and decreased recidivism?

As with many other drug court programs, the types of services received are tailored to the specific needs of the participants (participants are not randomly assigned to different drug court services). As such, to best determine which program elements are related to successful drug court completion, a logistic regression with the following predictors was used to determine the odds of successful program completion based on services provided to drug court participants: length of stay in drug court, the number of individuals sessions attended, the combined number of group and education sessions attended, the number of attended and missed drug court sessions, time between arrest and program entrance, and the percent of positive UA tests for each participant[13].

The findings show that many program aspects are significantly related to whether or not participants successfully complete the HCADC program. Overall, participants who attended more individual, group, and education sessions, did not miss/skip their drug court session, remained in the program longer, and had fewer positive UA tests were more likely to graduate from HCADC. In other words, when participants are actively engaged in the drug court program they are more likely to complete the program successfully.

These analyses were also conducted using a multivariate model to present the differences in averages between graduates and participants who were unsuccessfully discharged from the program. The following table outlines the results of this analysis (Wilks Lambda = .47; $F = 11.85$; $p < .05$).

[13] This analysis and the following analysis results are controlled for sex, race (white/non-white), age at drug court entry, whether the individual had a known history of a drug problem, total prior arrests, and total prior drug arrests.

Table 7. Characteristics of Participation in Program Elements That Lead to Successful HCADC Completion

	Graduated** n = 118	Unsuccessfully Discharged** n = 39	
Variable	**Average**	**Average**	**Significant?***
Days of program involvement	256	214	**Yes**
Number of individual sessions attended	25	19	**Yes**
Number of group and education sessions attended	30	20	**Yes**
Drug court sessions attended	11	11	No
Number of missed drug court sessions	.10	.70	**Yes**
Days between drug court-eligible arrest and drug court entry	115	138	No
Percent of positive UA tests	11%	51%	**Yes**

*Yes = ($p < .05$); No = ($p > .05$)
** Complete data were available on only 157 program participants

Not surprisingly, the length of stay in drug court, greater treatment and drug court attendance, and fewer positive UAs are all associated with successful program completion. From the results displayed in Table 7, it is clear that treatment patterns differ between participants who were successful in the program those who were not. On average, graduates had more individual treatment session, and group and education sessions, and were more likely to attend their drug court sessions and produce clean UA tests. Further, although it was not statistically significant, these results show that graduates were more likely to have a shorter time between arrest and drug court entry.

COST EVALUATION RESULTS

As described in the methodology section, the Transactional and Institutional Cost Analysis (TICA) approach was used to calculate the costs of each of the transactions that occurred while participants were engaged in the program. 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 or has a drug test, resources such as judge time, defense attorney time, court facilities, and urine testing cups are used. Program transactions calculated in this analysis included drug court appearances, case management, drug treatment (individual, group, opioid maintenance therapy, intensive outpatient, residential, and detoxification), jail days while in the program, drug tests, and probation days while in the program. The costs for this study were calculated including taxpayer costs only. All cost results provided in this report are based on fiscal year 2007 dollars. Other less tangible but important savings not factored into this study include an increase in the number of drug-free babies born, a decrease in health care expenses, and drug court participants working and paying taxes.

Drug Court Transactions

A drug court session*,* for the majority of drug courts, is one of the most staff and resource intensive program transactions. In Harford County, these sessions include representatives from the District Court (Judge, Court Clerk, Bailiff), the State's Attorney's Office, the Public Defender, the Health Department (Drug Court Coordinator, Addictions Specialist, Secretary), and the Division of Parole and Probation. The cost of a ***drug court appearance*** (the time during a session when a single participant is interacting with the Judge) is calculated based on the average amount of court time (in minutes) each participant uses during the court session. This figure incorporates the direct costs of each drug court team member present during sessions, the time team members spent preparing for or contributing to the session, the agency support costs, and the overhead costs. The average cost for a single drug court appearance is **$196.58** per participant. This cost per appearance is higher than the per appearance costs of other adult drug courts studied by NPC Research. For example, courts in California and Oregon have appearance costs ranging from $97 to $156 per participant (Carey & Finigan, 2004; Carey et al., 2005; Carey, Marchand, & Waller, 2005).

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.[14] The main agency involved in case management for drug court in Harford County is the Health Department. The per day cost of case management is $**6.32** per participant. Case management costs fall within the range of costs found in other studies. For example, case management from cost analyses in California (Carey, et al., 2005) varied widely – from just over $1.00 per day to over $11.00 per day.

Treatment services provided include outpatient group and individual sessions, opioid maintenance therapy, intensive outpatient, residential, and detoxification. The Harford County Health Department is the main treatment provider for group and individual treatment sessions. Other types of treatment services are provided by multiple treatment agencies in the County. Since this

[14] Case management can include home visits, meetings with participants, evaluations, phone calls, paperwork, answering questions, consulting with therapists, documentation, file maintenance, residential referrals, and providing resources and referrals for educational and employment opportunities.

cost analysis is focused on public funds, the cost of treatment services is only the amount paid for by public funds. Participant co-payments for individual and group treatment services were factored into the treatment transaction costs, so the cost per treatment session reflects—as closely as possible—the true cost to taxpayers. ***Group treatment*** sessions are **$41.00** per person per session. ***Individual treatment*** sessions are **$88.00** per session. Costs for other types of treatment services were calculated using the 2006 Medicaid Substance Abuse Treatment Services Fee-for-Service Rates for the Maryland Substance Abuse Improvement Initiative. These reimbursement rates were used to assign a cost to the non-Health Department provided treatment services—***opioid maintenance therapy (OMT)*** is **$81.63**, ***intensive outpatient*** is **$57.26** per day, ***intensive residential*** is **$158.65** per day and ***detoxification*** is **$221.96** per day. Costs include all salary, support, and overhead costs associated with the service.

Urinalysis (UA) drug tests are performed by the Health Department and are sent to Friends, a local laboratory that analyzes the tests at a contracted rate. Drug court participants are charged **$13.50** per test. This charge covers the full cost of materials, salary, support, and overhead associated with the test. As there is no cost to the taxpayer, UA drug test costs were not included in this analysis.

Jail days are provided by the Harford County Sherriff's Department. Jail bed days are **$84.05** per person per day. This rate was acquired directly from the Harford County Sheriff's Department. It includes all staff time, food, medical, and support/overhead costs. Jail days included in drug court program costs are all days in jail while in the drug court program. Due to a lack of data on which case was associated with a particular jail day, NPC was unable to determine which jail days were drug court sanctions and which days were due to a new case. For this reason, the jail days cost included in the drug court program costs is probably lower than that reported here.

Jail booking episodes are performed by the Harford County Sheriff's Department. The cost per booking was calculated based on information acquired from representatives of that agency. The cost of a single jail booking is **$197.24**.

Adult probation services in Harford County are provided by the Division of Parole and Probation. A representative of the Division provided NPC's researchers with the cost of case supervision, which was identified as **$3.72** per day. Probation days included in drug court program costs are only those days on probation while in the program.

Drug Court Program Costs

Table 8 presents the average number of Harford County District Court Adult Drug Court (HCADC) transactions (drug court appearances, treatment sessions, etc.) per drug court participant and per drug court graduate, as well as the total cost for each type of transaction (number of transactions times the cost per transaction). The sum of these transactions is the total per participant cost of the cost of the program. These numbers include the average for drug court graduates (n = 119) and for all drug court participants (n = 166), regardless of completion status. It is important to include participants who completed unsuccessfully as well as those who graduated as all participants use program resources, whether they graduate or not.

Table 8. Average Program Costs per Participant

Transaction	Transaction Unit Cost	Avg. # of Transactions for DC Graduates	Avg. Cost per DC Graduate	Avg. # of Transactions for all DC Participants	Avg. Cost per DC Participant[15]
Drug Court Appearances	$196.58	11.03	**$2,168**	11.12	**$2,186**
Case Management	$6.32	258.37 Days[16]	**$1,633**	242.40 Days	**$1,532**
Group TX Sessions	$41.00	29.63	**$1,215**	26.39	**$1,082**
Individual TX Sessions	$88.00	25.39	**$2,234**	23.29	**$2,050**
OMT Days	$81.63	4.88	**$398**	3.50	**$286**
Intensive Outpatient Days	$57.26	16.33	**$935**	16.10	**$922**
Intensive Residential Days	$158.65	0.34	**$54**	1.54	**$244**
Detoxification Days	$221.96	0.00	**$0**	0.04	**$9**
UA Drug Tests	$13.50	24.64	**NA**	23.71	**NA**
Jail Bookings	$197.24	0.18	**$36**	0.42	**$83**
Jail Days	$84.05	1.17	**$98**	2.79	**$234**
Probation Days	$3.72	258.37	**$961**	242.40	**$902**
Total Drug Court			**$9,732**		**$9,530**

Table 8 illustrates the per participant cost to the taxpayer for the HCADC program. On average, in drug court programs studied by NPC, the program cost per participant ranged from $4,000 to just over $12,000 depending on the intensity of the program and the extent to which the programs used public funds for their services (Carey & Finigan, 2004; Carey et al., 2005).

The average cost per participant of the HCADC ($9,530) is within the range of program costs found in other drug courts studied by NPC. The average cost per graduate of the HCADC is $9,732. This figure is slightly higher than the average cost per participant because graduates stay in the program longer and thus receive more treatment and case management.

[15] Average costs per participant have been rounded to the nearest whole dollar amount.
[16] Case management is calculated by number of days in drug court, so the average number of transactions in this case is the average number of days spent in the drug court program.

The cost of drug treatment is by far the most expensive transaction for the HCADC, accounting for almost half of the program costs, or $4,593. However, this proportion is not uncommon, and is to be expected considering the purpose of drug court is to engage offenders in treatment.

Drug court sessions ($2,186) are the second highest cost to the HCADC. This result is partly due to the involvement of the significant number of agencies that participate in or otherwise contribute to drug court sessions. This high involvement may increase session costs, but it also has the benefit of more straightforward decision-making and communication among agencies and smoother operations, as well as producing better outcomes (Carey, Pukstas, & Finigan, 2007). In addition, a study performed in nine courts in California found that higher agency involvement in drug court programs was related to lower recidivism and lower outcome costs for drug court participants (Carey et al., 2005). The outcome cost comparison section of this report illustrates these results for the HCADC.

Case management ($1,532) is also a substantial program cost. Intensive case management and supervision of participants is one of the essential elements of drug courts, so this is not an unusual finding.

Costs per Agency

Another useful way to examine costs is to quantify them by agency. Table 9 provides per participant costs by agency for the drug court program.

Table 9. Average Cost per Participant by Agency

Agency	Avg. Cost per Drug Court Graduate	Avg. Cost per Drug Court Participant[17]
District Court	$682	$687
States Attorney's Office	$606	$611
Public Defender	$110	$111
Health Department (Treatment)[18]	$5,530	$5,124
Other Treatment Agencies	$1,387	$1,461
Parole and Probation	$1,283	$1,218
County Sheriff	$134	$317
Total[19]	**$9,732**	**$9,529**

The Health Department is the main treatment provider for drug court group and individual treatment sessions. It also has the largest number of staff dedicated to the drug court program and provides most of the case management services to drug court participants. So, it reasonably follows that the Health Department should have the largest proportion of program costs (over half of total program costs).

[17] Average agency costs per participant have been rounded to the nearest whole dollar amount.
[18] These figures include group and individual treatment sessions provided by the Health Department.
[19] Totals in this row may not match the totals in the costs by transaction table due to rounding.

The second largest proportion belongs to other treatment agencies, mainly due to the intensive outpatient, opioid maintenance therapy, and residential treatment they provide. The Division of Parole and Probation also shoulders a significant proportion of program costs. This result is due to the Probation Agent's involvement in case management, as well as the fact that drug court participants are still on probation while in the program.

The outcome costs presented in the next section show how positive outcomes for HCADC participants can repay the agency investments in the drug court program and produce cost benefits (savings) to the criminal justice system and the taxpayer. **NOTE: For the sake of performing an equivalent comparison between the two groups, the outcome costs presented in this report include costs associated with the drug court participants and comparison group members from the time of drug court entry (or the equivalent date in the comparison group) using the same data sources for both groups.** Therefore, some of these outcomes include transactions that occurred as a part of drug court program treatment. Care should be taken not to add the drug court program costs shown above to the drug court costs in the outcome cost comparison in the next section, as many transactions would be double counted (for example, the jail days while in the drug court program are already included in the jail days in the outcome cost comparison section that follows, etc.). The program costs shown above are only for informational purposes so that policy-makers can see how much their drug court program costs.

Outcome Costs

This section describes and compares the cost outcomes experienced by drug court and comparison group participants as a result of the system decision to place an offender in drug court versus traditional court. The specific outcome transactions examined include re-arrests, subsequent court cases, probation, jail bookings, jail time, prison, drug treatment (early intervention, group, individual, opioid maintenance therapy, intensive outpatient, low-intensity residential, medium-intensity residential, intensive residential, and detoxification) and victimizations. Outcome costs were calculated for 2 years **from the time of program entry** for both groups (the drug court sample's mean number of days between drug court arrest and drug court entry was added to the filing dates for comparison group members so that an equivalent "program entry" date could be calculated for the comparison group). For each outcome transaction, the same data sources were used for both groups to allow for a valid outcome cost comparison. Lower recidivism and lower costs for HCADC participants compared to those offenders who did not participate in drug court (comparison group members) indicate that the program can provide a return on its investment.

The outcome costs discussed below were calculated using information gathered by NPC's researchers from the Harford County 2006 operating budget, the Harford County Circuit Court and District Court, the Harford County Sheriff's Department, Harford County State's Attorney's Office, Harford County Office of the Maryland Public Defender, Harford County Health Department, the City of Bel Air Police Department, the Maryland Department of Public Safety and Correctional Services, the Division of Parole and Probation, and the 2006 Medicaid Substance Abuse Treatment Services Fee-for-Service Rates for the Maryland Substance Abuse Improvement Initiative.

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

Following is a description of the transactions included in the outcome cost analysis. Some of these same transactions were already described in the drug court program costs in Tables 8 and 9.

The Harford County Sheriff's Department and the Town of Bel Air Police Department are the two main arresting agencies in Harford County. An arrest cost model was constructed for each agency from information provided by representatives at the arresting agencies. Through the application of this information, the cost of a single arrest was determined for each agency. These costs were then averaged between the two agencies to acquire an average cost of a single ***arrest*** in Harford County. This cost was determined to be **$182.81**.

To construct the cost model for subsequent court cases, NPC's researchers used the budgets of the Harford County Circuit Court and District Court, the Harford County State's Attorney's Office, and the Harford County Office of the Maryland Public Defender. Caseload data from the Maryland Judiciary 2003-2004, 2004-2005, and 2005-2006 Statistical Reports were also used in determining the cost of a court case. NPC researchers found the cost of a ***Circuit Court case*** to be **$818.18** and the cost of a ***District Court case*** to be **$469.41**. These costs take the broad range of cases (from dismissal through trials) into account.

Jail booking episodes are performed by the Harford County Sheriff's Department. The cost per booking was calculated based on information acquired from representatives of that agency. The cost of a single jail booking is **$197.24**.

Jail days are provided by the Harford County Sherriff's Department. Jail bed days are **$84.05** per person. This rate was acquired directly from the Harford County Sheriff's Department. It includes all staff time, food, medical, and support/overhead costs.

Prison facilities in Maryland are operated by the Maryland Department of Public Safety and Correctional Services. To represent the daily cost of prison time served by members of the drug court and comparison groups, information was collected from the Department's 2006 annual report, including budget, facilities, and average daily population data. The resulting ***prison*** cost per day (an average of all facilities) is **$85.13**.

Adult probation services in Harford County are provided by the Division of Parole and Probation. A representative of the Division provided NPC's researchers with the cost of case supervision, which was identified as **$3.72** per day.

UA drug tests outside of the drug court program are performed by the Division of Parole and Probation. Probationers are charged **$6.00** per test. This charge covers the full cost of materials, salary, support, and overhead associated with the test. As there is no cost to the taxpayer, UA drug test costs were not included in the outcome cost analysis.

Treatment services included in the outcome analysis are early intervention, group, individual, opioid maintenance therapy, intensive outpatient, low-intensity residential, medium-intensity residential, intensive residential, and detoxification. Multiple treatment agencies in the County provided the treatment services. Since this cost analysis is focused on public funds, the cost of treatment services is only the amount paid for by public funds. The reimbursement rates in the 2006 Medicaid Substance Abuse Treatment Services Fee-for-Service Rates for the Maryland Substance Abuse Improvement Initiative were used for publicly-paid treatment services costs. The average reimbursement rate for ***early intervention sessions*** and ***outpatient individual ses-***

sions is **$115.07**. For ***outpatient group sessions*** it is **$71.90**, ***opioid maintenance therapy (OMT)*** is **$81.63** per day**,** ***intensive outpatient*** is **$57.26** per day, ***low-intensity residential*** is **$50.52** per day, ***medium-intensity residential*** is **$118.23** per day, ***intensive residential*** is **$158.65** per day and ***detoxification*** is **$221.96** per day. Costs include all salary, support, and overhead costs associated with the service.

Victimizations were calculated from the National Institute of Justice's *Victim Costs and Consequences: A New Look (1996).* [20] The costs were updated to fiscal year 2007 dollars. ***Property crimes*** are **$11,858** per event and ***person crimes*** are **$38,414** per event.

Outcomes and Outcome Cost Consequences

Table 10 provides the treatment experiences of the drug court group, drug court graduates and comparison group.

Table 10. Average Number of Treatment Transactions per Drug Court and Comparison Group Member (including Drug Court Graduates)

Transaction	Drug Court Graduates (n = 119)	All Drug Court Participants (n = 166)	Comparison Group (n = 217)
Early Intervention Sessions	0.00	0.00	0.02
Outpatient Individual Sessions	21.52	19.82	1.75
Outpatient Group Sessions	26.06	25.40	7.98
OMT Days	6.69	6.25	24.84
Intensive Outpatient Days	16.33	17.09	4.15
Low-Intensity Residential Days	0.00	0.00	0.71
Medium-Intensity Residential Days	0.00	0.36	0.46
Intensive Residential Days	0.57	1.60	1.30
Detoxification Days	0.00	0.08	0.19

Table 10 demonstrates that the HCADC has been successful in its mission of engaging participating offenders in treatment. HCADC participants had more than four times as many days in

[20] The costs for victimizations were based on the National Institute of Justice's *Victim Costs and Consequences: A New Look (1996).* This study documents estimates of costs and consequences of personal crimes and documents losses per criminal victimization, including attempts, in a number of categories, including fatal crimes, child abuse, rape and sexual assault, other assaults, robbery, drunk driving, arson, larceny, burglary, and motor vehicle theft. The reported costs include lost productivity, medical care, mental health care, police and fire services, victim services, property loss and damage, and quality of life. For this study, arrest charges were categorized as person or property crimes, and therefore costs from the victimization study were averaged for rape and sexual assault, other assaults, and robbery and attempted robbery to create an estimated cost for person crimes. Charges for arson, larceny and attempted larceny, burglary and attempted burglary, and motor vehicle theft were averaged for an estimated property crime cost. All costs were updated to fiscal year 2007 dollars using the consumer price index (CPI) for the relevant geographical area.

intensive outpatient treatment and nearly 20 times as many individual treatment sessions compared to offenders who did not participate (the comparison group).

Table 11 represents the criminal justice system outcome experiences of the drug court group, drug court graduates, and comparison group.

Table 11. Average Number of Outcome Transactions per Drug Court and Comparison Group Member (including Drug Court Graduates)

Transaction	Drug Court Graduates (n = 119)	All Drug Court Participants (n = 166)	Comparison Group (n = 217)
Arrests	0.16	0.23	0.49
Circuit Court Cases	0.06	0.10	0.19
District Court Cases	0.18	0.27	0.63
Jail Bookings	0.32	0.88	0.64
Jail Days	5.48	30.23	25.13
Prison Days	0.00	5.39	8.49
Probation Days	396.25	487.63	589.35
Property Victimizations	0.03	0.06	0.19
Person Victimizations	0.05	0.06	0.08

The HCADC participants show smaller numbers across every transaction except for jail bookings, and jail days. HCADC participants had fewer re-arrests, fewer days on probation and less victimization than individuals in the comparison group. It should be noted that the jail days for drug court participants includes drug court jail sanction days. Most of the drug court jail days occurred in the first year after drug court entry, and drug court participants had fewer new court cases after program entry, which means it is likely that many of the jail days are sanctions and not due to re-arrests and new cases.

From these results it is clear that participating in the drug court program led to positive effects in participant outcomes in comparison to similar offenders who did not participate in the program. As would be expected, successful graduates of the HCADC showed smaller numbers than all drug court participants across every transaction.

Table 12 represents the cost consequences associated with treatment system outcomes for the drug court group, drug court graduates, and comparison group. As demonstrated above in the table on the use of treatment services, drug court participants received substantially more treatment than drug offenders who did not participate, resulting in higher treatment costs for drug court participants. However, this use of treatment resources resulted in a significant savings in criminal justice system resources which is related to a clear increase in public safety demonstrated by fewer person and property crimes and lower victimization costs.

Table 12. Treatment System Costs per Drug Court and Comparison Group Member (including Drug Court Graduates)

Transaction	Drug Court Graduates (n = 119)	All Drug Court Participants (n = 166)	Comparison Group (n = 217)
Outpatient Individual Sessions	$2,476	$2,281	$201
Outpatient Group Sessions	$1,874	$1,826	$574
OMT Days	$546	$510	$2,028
Intensive Outpatient Days	$935	$979	$238
Low-Intensity Residential Days	$0	$0	$36
Medium-Intensity Residential Days	$0	$43	$54
Intensive Residential Days	$90	$254	$206
Detoxification Days	$0	$18	$42
Total Treatment Costs	**$5,921**	**$5,911**	**$3,337**

Table 13 represents the cost consequences associated with criminal justice system outcomes for the drug court group, drug court graduates, and comparison group.

Table 13. Criminal Justice System Outcome Costs per Drug Court and Comparison Group Member (including Drug Court Graduates)

Transaction	Drug Court Graduates (n = 119)	All Drug Court Participants (n = 166)	Comparison Group (n = 217)
Arrests	$29	$42	$90
Circuit Court Cases	$49	$82	$155
District Court Cases	$84	$127	$296
Jail Bookings	$63	$174	$126
Jail Days	$461	$2,541	$2,112
Prison Days	$0	$459	$723
Probation Days	$1,474	$1,814	$2,192
Early Intervention Sessions	$0	$0	$2
Property Victimizations	$356	$711	$2,253
Person Victimizations	$1,921	$2,305	$3,073
Total	**$4,437**	**$8,255**	**$11,022**

Table 13 reveals that the lower rate of arrests experienced by the drug court group, when compared to the experience of the comparison group, can be seen as resulting in cost savings throughout the criminal justice system. Drug court participants cost less for every transaction except for jail bookings and jail time due to sanctions during their time in the program. Examination of the data shows that in the year after program exit, drug court participants have fewer jail bookings and spend less time in jail than the comparison group. (Jail days in the second year averaged approximately 15 for drug court participants versus 25 for the comparison offenders.)

The total criminal justice system cost savings per participant after 2 years is $**2,767** per drug court participant regardless of whether or not they graduate. When this figure is multiplied by the 400[21] participants who have entered the drug court since its inception, it results in a total savings of **$1,106,800**. If savings continue for each participant at the same rate (which has been shown to occur in other studies, e.g., Finigan, Carey, & Cox, 2007), after 10 years the savings for these 400 participants will total over **$5.5 million** (**$5,534,000)**.

This savings will also continue to grow with the number of participants that enter each year. If the HCADC program continues to enroll a cohort of 50 new participants annually, this savings of $2,767 per participant results in an annual savings of **$138,350** per cohort, which can then continue to be multiplied by the number of years the program remains in operation. This potential impact is illustrated in Figure 7 at the end of this report.

OUTCOME COSTS BY AGENCY

Of particular interest to state and local policymakers and managers are the financial impacts on the agencies that support the criminal justice system as a result of the operation of the drug court program. Table 14 represents these financial impacts for Harford County. It should be noted that for some local agencies the state and county share cost responsibility.

[21] Complete records of the total number of participants since drug court implementation were not available, so 400 is a conservative estimate.

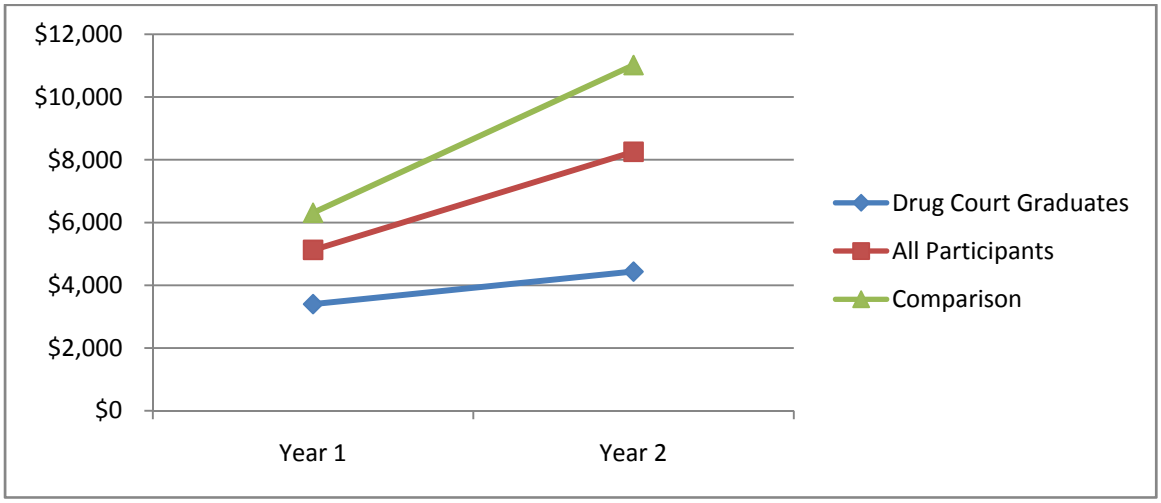
Table 14. Criminal Justice System Outcomes Costs by Agency per Drug Court and Comparison Group Member (including Drug Court Graduates)

Jurisdiction/Agency	Drug Court Graduates (n = 119)	All Drug Court Participants (n = 166)	Comparison Group (n = 217)
Circuit Court	$6	$10	$20
District Court	$8	$12	$28
State's Attorney's Office	$30	$48	$97
Public Defender	$90	$139	$307
Bel Air Police Dept.	$15	$21	$45
County Sheriff	$538	$2,735	$2,283
Maryland Dept. of Public Safety and Correctional Services	$0	$459	$723
Division of Parole and Probation	$1,474	$ 1,814	$2,192
Victimizations	$2,277	$3,016	$5,326
Total[22]	**$4,438**	**$8,254**	**$11,021**

As can be seen in Table 14, cost savings are realized as the result of the HCADC for every agency impacted by the program, except for the County Sheriff. Again, this result is due to the jail sanction days that drug court participants receive while in the program. In terms of their comparative recidivist experiences, as described earlier, drug court participants are shown to cost $**2,767** less per participant than members of this study's comparison group.

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

Figure 6. Comparative Criminal Justice Cost Consequences per Drug Court and Comparison Group Member (including Drug Court Graduates)



The comparative criminal justice outcome cost experiences of all drug court participants, drug court graduates, and comparison group members are graphically represented per year in Figure 6 above. Due to low rates of recidivism, drug court graduates experience the lowest outcome costs each year compared to all other groups. All HCADC participants show a savings to the taxpayer each year as well compared to drug offenders who did not participate, totaling $2,767 after 2 years.

Note that these cost savings are those that have accrued in just the 2 years since program entry. Many of these savings are due to positive outcomes while the participant is still in the program, so savings are already being generated from the time of entry into the program.

It was not possible to cost outcomes beyond 24 months. As described above, if drug court participants continue to have positive outcomes in subsequent years (as has been shown in other drug courts, e.g., Carey et al., 2005; Finigan, Carey, & Cox; 2007) then these cost savings can be expected to continue to accrue over time, repaying the program investment costs and providing further savings in opportunity resources to public agencies.

SUMMARY AND CONCLUSIONS

The Harford County District Court Adult Drug Court (HCADC) was established in November 1997, to serve first-time offenders with drug-related related charges. Since this time, the program has grown to accept participants with felonies and second-time offenses; however, few participants fall into this category.

The outcome and cost-benefit analyses were based on a cohort of HCADC participants who entered the program between January 2002 and August 2005, and a matched comparison group of similar offenders who were eligible for the program but did not participate. The outcome results over 2 years from program entry indicated that 13% of the graduates and 18% of the all drug court participants were re-arrested following entrance into the drug court program while 31% of the comparison group were re-arrested in the 2-year period. This finding provides clear evidence that the HCADC has been successful in reducing recidivism for its population of drug abusing offenders.

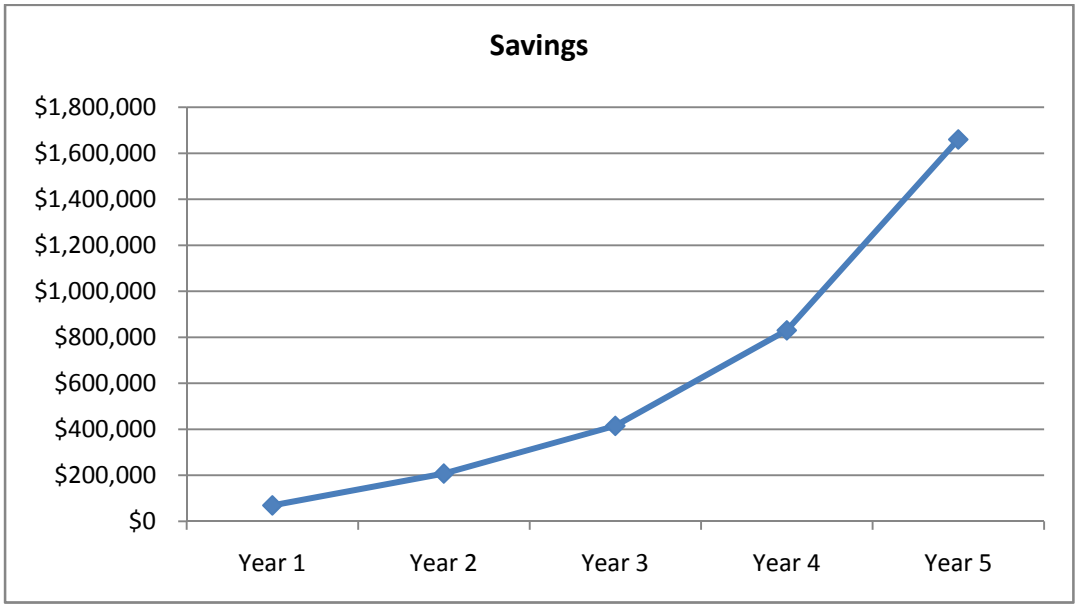
Overall, the program has also been successful in reducing substance use among its participants. The average percentage of positive drug tests declined over the 8-month period of drug court involvement. This decline in positive drug-testing was corroborated by a reduced average of drug-related re-arrests in comparison to the drug court group in subsequent years.

HCADC program participants were significantly less likely to be re-arrested for a drug-related crime than offenders who were eligible for the program but did not participate. In addition, graduates were re-arrested for a drug offense approximately half as often as the comparison group.

Costs tracked in this study were those incurred by taxpayers. Other less tangible but important savings not factored into this study include an increase in the number of drug-free babies born, a decrease in health care expenses, and drug court participants working and paying taxes. The average cost for the HCADC program was **$9,530** per participant. This amount is consistent with the range of costs found in other drug courts ($4,000 to $12,000) studied by NPC Research (Carey & Finigan, 2004; Carey et al., 2005). The outcome cost comparison indicates that participation in the drug court offered a cost-benefit to the Maryland taxpayer due to a reduction in subsequent re-arrests and associated incarceration and victimizations. Over a 2-year period, the HCADC recidivism-related costs were **$8,255 per participant** compared to **$11,022** per offender that did not participate in drug court, resulting in a savings per participant of **$2,767**. When this per participant savings is multiplied by the almost 400 offenders who have participated in the drug court program since implementation in November 1997, the total current program cost savings (for outcomes over a 24-month period from program entry) is **$1,106,800**.

This savings will also continue to grow with the number of participants that enter each year. If the HCADC program continues to enroll a cohort of **50** new participants annually, this savings of $2,767 per participant results in an annual savings of **$69,175** per cohort, which can then be multiplied by the number of years the program remains in operation. This accumulation of savings is demonstrated in Figure 7.

Figure 7. Comparative Criminal Justice Cost Consequences per Drug Court and Comparison Group Member (Including Drug Court Graduates)



As the existence of the program continues, the savings generated by drug court participants due to decreased substance use and decreased criminal activity can be expected to continue to accrue, repaying investment in the program and beyond. Taken together, these findings indicate that the HCADC is both beneficial to drug court participants and beneficial to Maryland taxpayers.

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