

# Goodwill Industries of the Chesapeake Employment Enhancement Program at Baltimore City Drug Treatment Court

## *Outcome & Cost Evaluation*



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## EXECUTIVE SUMMARY

**G**oodwill Industries of the Chesapeake Employment Enhancement Program (GIC-EEP) began receiving referrals from Baltimore City Circuit and District Court drug treatment court (DTC) programs in February 2006. As of September 2007, 131 drug court participants had been referred and 124 had received services. These services include intake, case management, job readiness classes, job placement services, and transitional employment placements.

NPC Research was charged with assessing program outcomes and impacts by comparing drug treatment court participants who received employment support through GIC-EEP with DTC participants who did not receive this enhancement. NPC Research previously completed a process evaluation for the GIC-EEP at Baltimore City Drug Treatment in December 2007 (Perkins & Mackin, 2007) that can be found at

[www.npcresearch.com/Files/Goodwill\\_Employment\\_Enhancement\\_Adult\\_Process\\_1207.pdf](http://www.npcresearch.com/Files/Goodwill_Employment_Enhancement_Adult_Process_1207.pdf)

NPC Research identified the Baltimore City Circuit and District Court drug treatment court participants who entered the GIC-EEP between February 2006 and September 2007. As a comparison, a group of non-GIC-EEP individuals was identified from a list of all drug treatment court participants from both the Circuit and District Courts who appeared to be eligible for referral to employment programs based on their time and status in the drug court program but had not been referred to the GIC-EEP. Data sources on criminal activity and employment status were utilized to determine whether there was a difference in re-arrests, wage earnings, and other outcomes of interest between the GIC-EEP and non-GIC-EEP groups.

The evaluation was designed to address the following research questions:

**#1: What are the characteristics of people who are referred to the GIC-EEP, compared to people who are not referred to the GIC-EEP?**

Probation agents/officers tended to refer women more often than men, those with fewer prior arrests overall and fewer prior drug arrests and District Court program participants (and thus those with initial drug treatment court entry charges in the possession category rather than distribution category). As expected, Probation Agent was significantly related to referral to the program, with some agents referring significantly more often than others.

**#2: What are the characteristics of GIC-EEP participants who were successful in obtaining employment?**

About two in five GIC-EEP participants (39%) obtained employment within the 9-month follow-up time period. The effects of GIC-EEP services on employment were consistent among all participants regardless of age, gender, ethnicity and prior criminal histories, indicating that services were provided similarly to all groups. The level of GIC-EEP services received was significantly related to obtaining employment. Drug treatment court participants who received an intake, job readiness class and job placement at GIC were more likely to have obtained employment during the 9-month follow-up time period than those who received only intake and job readiness and those who received intake, job readiness, job placement and transitional employment. This finding was stronger for the Circuit Court group, probably due to the larger numbers that were available for the study.

**#3: Are Baltimore City drug treatment court participants who receive GIC-EEP services more likely to a) obtain employment, b) remain employed for longer periods of time, and**

**c) earn higher wages than those Drug Treatment Court participants who did not receive GIC-EEP services?**

Drug Treatment Court participants who received GIC-EEP services were more likely than those who do not receive GIC-EEP services to obtain employment during the outcome time period (9 months post-referral to GIC-EEP date)<sup>1</sup>. The groups were similar in earnings and their ability to maintain employment during the follow-up time period. Circuit Court DTC participants were more likely to obtain employment if they had received GIC-EEP services than those who did not.

**#4: Do DTC GIC-EEP drug treatment court participants have a higher graduation rate from the drug treatment court, compared to other non-GIC-EEP drug court participants?**

Slightly more than half (58%) of the study participants had exited the programs at the time of the study. Of this group, GIC-EEP participants were just as likely to graduate the DTC programs as those not referred to GIC-EEP.

**#5: Does participation in the GIC-EEP reduce the number of re-arrests for those individuals compared to non-GIC-EEP drug treatment court participants?**

Most people in both groups did not have subsequent criminal justice events in the 9-month follow-up time period. There were no significant differences between GIC-EEP and non-GIC-EEP individuals in the proportion of people with (or number of) new criminal justice events.

**#6: What are the investment costs for GIC EEP (based on total program costs overall and per person for job readiness, case management, job placement services and transitional employment services)?**

Based on all participants that received any of the 4 main GIC-EEP transaction services from the period from October 1, 2006, to September 30, 2007, a job readiness class was \$932.04 per participant, case management was \$409.07 per participant, job placement services were \$1,060.37 per participant, and transitional employment at GIC was \$2,142.04 per participant. Total program costs for all services during this year period were \$169,782.45.

For an estimate of future GIC-EEP investment costs, multiply the cost per participant per transaction (below) by the estimated number of participants that will use each service, and sum the results for the projected program cost.

**Projected GIC-EEP Costs per Participant<sup>2</sup>**

<b>Transaction</b>	<b>Projected Cost per GIC-EEP Participant</b>
Job Readiness Classes	\$ 317 <sup>3</sup>
Case Management	\$409
Job Placement Services	\$1,060
Transitional Employment	\$2,142

1 Trend level of significance,  $p < .1$

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

3 Because the Job Readiness Class instructor can serve up to 200 participants for the same cost, the yearly Job Readiness Class cost of \$63,378.64 was divided by 200 for a result of \$316.89. This is the lowest possible cost per participant. If fewer than 200 participants are to be served, the number would be higher (\$63,378.64 divided by that number). If more than 200 participants are to be served, an additional Job Readiness Class instructor would need to be hired, changing the total yearly costs for this transaction.

**#7: What are the outcome costs for GIC EEP participants compared to DTC alone?**

GIC-EEP participants had higher outcome costs than the non-GIC-EEP group (\$13,033 vs. \$12,218), during the 9-month follow-up time period. However, GIC-EEP participants had higher wages on average over the follow-up time period than the non-GIC-EEP participants (\$3,463 versus \$2,688). The higher income experienced by the GIC-EEP group, when compared to the experience of the non-GIC-EEP group, can be seen as resulting in a benefit to both the GIC-EEP participants and to taxpayers. Participants with higher income are less likely to be reliant on taxpayers for public assistance (food stamps, welfare, housing, etc.) and are also likely to pay more in taxes, which reduces the burden on all taxpayers.

**Conclusions**

Due to lower than anticipated numbers of referrals from Probation to Goodwill, and the timing of when this study needed to be completed, the sample size for the GIC-EEP group in this study was small. The low numbers required the evaluation team to use data from all participants, even during the program's early implementation. The small numbers may have prevented significant findings from appearing, especially when looking at sub-groups of participants. In addition, data for the full group of participants and the comparison group were not available or complete for many of the research questions of interest, further reducing the opportunity to find significant outcomes.

Based on available data, employment services did not appear to have an impact on increasing graduation rates or reducing criminality. It should be noted that the outcome period (9 months) was relatively short for an outcome cost analysis, so a future study with a longer outcome period is recommended. Close to half of the GIC-EEP participants were still participating in DTC by the end of the follow-up time period, and in other studies of drug courts, some recidivism results did not appear until 24 months after program entry.

While the GIC-EEP employment services do have the benefit of assisting participants in finding jobs and earning more income (even for an oftentimes difficult to employ population), other interventions may be more appropriate for the purposes of lowering recidivism. Because of the low rate of reoffending overall, and the lower rate of prior offending of the GIC-EEP group, it is possible that the lack of findings in this area was also related to characteristics of the group of people who probation agents selected for referral to GIC (as this selection process was not random). However, it is also possible that other interventions may be more appropriate than employment services for the purposes of lowering recidivism.

While the effect of the GIC-EEP on criminal justice system outcome costs was not positive for GIC-EEP participants by the 9-month follow-up time period, the effect on income was. It is possible that the higher income for GIC-EEP participants also reduced participants' use of public assistance and other taxpayer-funded services, as well as contributed to increased taxes paid by participants. These potential benefits are not taken into account in this analysis. The higher income for GIC-EEP participants in subsequent quarters and years can be expected to continue to accrue over time, further repaying the program investment costs and providing further savings in opportunity resources to public agencies and to the participants themselves.



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## BACKGROUND

### The Drug Court Model

In the last 19 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 December 2007, there were over 2,100 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 (Bureau of Justice Assistance, 2008).

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.

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

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, including employment enhancement services.

### Employment Enhancement Programs

The model of linking the resources of the criminal justice system and substance treatment programs has proven to be effective for increasing treatment participation and for decreasing criminal recidivism (Office of Justice Programs, 1997). The addition of a job readiness training program, career training, employment placement, and full case management services seeks to further support drug treatment court participants in breaking the cycle of addiction, as well as to provide self-confidence, hope, financial stability, and self-sufficiency through employment (Belenko, 1998). In this sense, employment becomes an integral component and outcome of drug treatment court services, as noted elsewhere (Platt, 1995).

In order to better understand the costs and impacts of the Goodwill Industries of the Chesapeake Employment Enhancement Program (GIC-EEP) on participants in a specific drug treatment court, the results presented here include the outcomes of GIC-EEP participants as compared to a sample of similar drug treatment court participants who did not receive GIC-EEP services. In addition, the costs of the GIC-EEP in the Baltimore City Adult Drug Treatment Court are pre-

sented in order to better estimate the costs and cost savings associated with this employment enhancement program.

## **Baltimore City**

Baltimore City is located in the north central region of Maryland on the Chesapeake Bay and is the largest city in Maryland. While it experienced tremendous growth through the early 1900s, the city's population has slowly decreased since the 1960s. The U. S. Census Bureau estimated that the city's population was around 630,000 as of July 2006, while the greater metropolitan area was estimated at over 2 million.

The city continues to have a higher crime rate than the national average, in addition to having a high rate of drug-related arrests. According to the University of Maryland's Center for Substance Abuse Research, over 27% of all adult arrests in 2005 were drug-related.<sup>11</sup> At the same time, Baltimore City continues to have a higher unemployment rate than the national average. While the national unemployment rate has hovered at or below 5% since 2005, the unemployment rate for Baltimore City during the same time period has fluctuated between 6% and 7%.<sup>12</sup>

## **Process Description: Goodwill Industries of the Chesapeake Employment Enhancement Program at Baltimore City Drug Treatment Court**

NPC Research completed a process evaluation of the Goodwill Employment Enhancement Program at Baltimore City Adult Drug Treatment Court in December 2007. Please refer to the report from this evaluation for a detailed description of the Goodwill Employment Enhancement program and Drug Treatment Court process. This report is available at [www.npcresearch.com](http://www.npcresearch.com).

GIC-EEP began receiving referrals from Baltimore City Circuit and District Court drug treatment court programs in February 2006. As of September 2007, 131 drug court participants had been referred and 124 had received services. These services include intake, case management, job readiness classes, job placement services, and transitional employment placements.

Intake appointments are scheduled each Friday and last about 20 minutes to an hour, depending on the client. The client is registered into the GIC ETO database and the DPP agent is informed that the client showed up, voluntarily enrolled in the GIC-EEP, and plans to return the following Monday for job readiness class. Participants undergo a preliminary screening, which includes asking prospective clients why they have come to GIC-EEP, what their interests are, what types of services they are looking for, what types of career they may be interested in, as well as any life goals.

Job readiness classes may last up to 4 weeks or longer, depending on the participant's needs. These classes are a combination of job readiness and life skills training. This involves résumé writing, interviewing, mock interviews, appropriate dress, decision-making, problem solving on the job, communications, positive attitudes, attitude adjustment, and anger management.

Case management typically begins during the second week of job readiness classes. Case managers meet with drug treatment court participants as needed to develop an individual service

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<sup>11</sup> Retrieved April 21, 2008, from, [http://www.cesar.umd.edu/cesar/county/balt\\_city/UCR\\_Balt\\_City\\_Numbers.pdf](http://www.cesar.umd.edu/cesar/county/balt_city/UCR_Balt_City_Numbers.pdf)

<sup>12</sup> Retrieved April 21, 2008, from, <http://www.dllr.state.md.us/lmi/laus/lausexcel>



plan, focusing on any remaining barriers to employment, such as education, substance abuse, mental health issues, housing and homelessness, child support, dental care, and obtaining clothes for interviews and work. Case management is included with all other services and is not recorded as a separate service in the GIC-EEP services data.

When the job readiness counselor feels that a client is ready for job placement, the case manager is called in to decide which type of employment is most appropriate. Typically a job placement coordinator comes into the job readiness class to introduce the job placement component of the program. This usually takes place in the fourth week of the job readiness class.

Job placement services assist the client with obtaining one of three types of employment: temporary, competitive, or transitional. Temporary employment is offered through Goodwill Staffing Services, which coordinates temporary employment placements with outside employers. Competitive employment is with an employer outside of Goodwill, based on individual connections either with GIC-EEP staff or participants. Transitional employment is offered through the GIC-EEP state office.

In addition to being an employment placement, transitional employment is also considered another level of GIC-EEP services. A transitional placement provides work for participants at Goodwill, which can sometimes lead to a longer-term placement in the case of several GIC-EEP participants.



## METHODOLOGY

**N**PC Research begins a program evaluation by gaining an understanding of the environmental context of the program. This assessment includes the organizational structure of the program itself, the organization of the agencies that interact through program, and the organization of the county. For the Goodwill Industries of the Chesapeake Employment Enhancement Program (GIC-EEP) at Baltimore City Drug Treatment Court, 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 December 2007 (Perkins & Mackin, 2007), and is available at [www.npcresearch.com/Files/Goodwill\\_Employment\\_Enhancement\\_Adult\\_Process\\_1207.pdf](http://www.npcresearch.com/Files/Goodwill_Employment_Enhancement_Adult_Process_1207.pdf)

### Research Strategy

This study was scheduled for completion in June 2008. NPC Research identified the Baltimore City Circuit and District Court drug treatment court participants who entered the GIC-EEP between February 2006 and September 2007. This time frame allowed for the availability of at least 9 months outcomes data for all program participants. As a contrast, a group of non-GIC-EEP individuals was identified from a list of all drug treatment court participants from both the Circuit and District Courts who were eligible for referral to employment programs based on their time and status in the drug court program but who were not referred to the GIC-EEP. These individuals participated in drug treatment court but did not receive GIC-EEP services for a variety of reasons, e.g., were not referred, were not interested, or did not show up for an intake appointment to enter the program. This group of individuals was selected using stratified random sampling to ensure representation from all possible referring probation officers.

All groups were examined through existing administrative databases from the date of referral to the GIC-EEP or estimated potential date of referral (Step III start date) for the non-GIC-EEP group.

The evaluation team utilized data sources on criminal activity and employment status, which are described below, to describe how the groups differ and to determine whether there was a difference in referral to GIC-EEP, re-arrests, wage earnings, and other outcomes of interest between the GIC-EEP and non-GIC-EEP groups.

### Study Questions

The evaluation was designed to address the following study questions:

1. What are the characteristics of people who are referred to the GIC-EEP, compared to people who are not referred to the GIC-EEP?
2. What are the characteristics of GIC-EEP participants who were successful in obtaining employment?
3. Are Baltimore City drug treatment court participants who receive the GIC-EEP more likely to a) obtain employment, b) remain employed for longer periods of time, and c) earn higher wages than those drug treatment court participants who did not receive the GIC program?
4. Do GIC-EEP participants have a higher graduation rate from the drug treatment court, compared to other non-GIC-EEP?

5. Does participation in the GIC-EEP reduce the number of re-arrests for those individuals compared to non-GIC-EEP drug treatment court participants?
6. What are the investment costs for the GIC-EEP?
7. What are the outcome costs for GIC-EEP participants compared to non-GIC-EEP drug treatment court participants?

## **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. Data were collected from the following sources:

#### **BALTIMORE CITY DEPARTMENT OF PAROLE AND PROBATION DRUG TREATMENT COURT PARTICIPANT FILES**

The Baltimore City Drug Treatment Court program data were collected from Baltimore City Department of Parole and Probation (DPP) participant files. NPC Research attempted to collect information on all participants on their DTC program participation and drugs of choice. These data were used to identify a possible referral date to GIC-EEP and subsequently select the non-GIC-EEP group. Later, these data were included in the process of analyzing predictors of GIC-EEP success.

#### **GOODWILL INDUSTRIES OF THE CHESAPEAKE**

The Goodwill Industries of the Chesapeake provided program data for their drug court participants from their Efforts To Outcomes data system (ETO), including services received and employment placement information. Labor transaction records were also provided that included the hours worked per week in transitional employment placements with GIC-EEP. These data provided information to determine costs of GIC-EEP services and level of services received by the GIC-EEP group.

#### **MARYLAND DEPARTMENT OF PUBLIC SAFETY AND CORRECTIONAL SERVICES**

The Maryland Department of Public Safety and Correctional Services (DPSCS) provided data from their management information system that stores Maryland criminal justice information in the OBSCIS I & II and CJIS including arrest, charge, and probation episode information. The original list of potential DTC participants was created from this source of probation data. These data were also used for determining cost savings between GIC-EEP participants and the non-GIC-EEP group for at 9 months following program entry in terms of subsequent arrests.

#### **MARYLAND DEPARTMENT OF LABOR, LICENSING, AND REGULATION**

The Maryland Department of Labor, Licensing, and Regulation (DLLR) provided state employment data through the University of Baltimore's Jacob France Institute, which maintains and updates Maryland wage record archives. These data include wages received per quarter and year and an employer ID number. Data from this source were used to calculate cost savings between

GIC-EEP participants and the non-GIC-EEP group for at least 9 months following program entry and employment outcomes.

### MARYLAND JUDICIARY CASE SEARCH

For Circuit Court DTC program individuals, data were mined from the Maryland Judiciary Case Search found on the Internet to determine a potential Step III start date for non-GIC-EEP study group participants. This source was also used to collect subsequent court cases for both groups. This database provides public access to Maryland's Judiciary case records. Subsequent court case data were used to calculate the number of criminal justice events and determine future costs for the GIC-EEP participants and the non-GIC-EEP group.

**Table 1. GIC-EEP Evaluation Data Sources**

Agency/Source	Data type	Example of variables
Baltimore City Department of Parole and Probation (DPP)	Drug treatment court participant paper files	Potential Step III start date, drug of choice, time spent in drug court, discharge status
Goodwill Industries of the Chesapeake	Employment Enhancement Program ETO information system (electronic) and paper labor records	Type of GIC-EEP services, hours worked in transitional employment placements
Maryland Department of Public Safety and Correctional Services (DPSCS)	OBSCIS I & II (electronic database)	Demographics, DTC and probation program data, number of arrests
Maryland Department of Public Safety and Correctional Services (DPSCS)	CJIS (electronic database)	Arrest history, charges
Maryland Department of Labor, Licensing, and Regulation; Jacob France Institute, University of Baltimore	State Wage Records (electronic database)	Wages per quarter and year
Maryland Judiciary Case Search; <a href="http://casesearch.courts.state.md.us">http://casesearch.courts.state.md.us</a>	Court case information (On-line data source; public records)	DTC program details for Circuit Court cases, subsequent court cases

### Sample Selection

As described above, it was necessary to select a cohort of drug treatment court participants who had participated in GIC-EEP and a cohort of similar individuals who had not participated in GIC-EEP for comparisons.

## **THE GIC-EEP DRUG TREATMENT COURT PARTICIPANT GROUP**

Baltimore City drug treatment court participants who entered the GIC-EEP between February 2006 and September 2007 comprise the GIC-EEP group. The time period was principally chosen to allow at least 9 months of GIC-EEP program time to elapse from each participant's referral to GIC-EEP date. This range allowed for the availability of at least 9 months of employment data, and at least 9 months of recidivism data, for all participants. A final group size of 124 includes those referred to GIC-EEP and also received employment support services.

## **THE NON-GIC-EEP DRUG TREATMENT COURT PARTICIPANT GROUP**

Baltimore City drug treatment court participants who had the potential to enter "Step III" of the drug treatment court program and thus could have been referred to GIC-EEP (but were not) between February 2006 and September 2007 comprise the non-GIC-EEP group.

To determine if a drug treatment court participant had a "Step III start date" and thus was eligible for referral to GIC-EEP during the study time frame, individuals from both the Circuit and District Court programs identified via the OBSCIS electronic data and their program data were reviewed to determine the equivalent of a Step III start date.

For Circuit Court individuals, the MD Judiciary Case Search online database was utilized to collect a date where a reduction in drug treatment court appearances before the judge occurred (according to program policies, this is at Step III).

For the District Court individuals, paper program files at the Guilford Avenue Probation Office were reviewed to collect a date where it appeared that either:

1. Treatment completion occurred;
2. A reduction in frequency of drug tests is noted; or
3. Referrals to outside services occurred.

Each is an indicator of a Step III start date according to program policies. The District Court program paper files were challenging to locate and glean usable data from and thus the District Court sample is smaller than the Circuit Court sample.

From the full list of all potential Circuit and District Court Baltimore City Drug Treatment Court participants from the MD OBSCIS data (program start dates from January 2004 through September 2007 and program end dates between August 2006 and March 2008 and including those still active), 1,483 possible candidates were identified for possible referral to the GIC-EEP program. Slightly more than half of these were Circuit Court participants ( $n = 807$ ) and 676 were District Court participants.

Step III start date equivalents were collected for a random sample of these individuals, which was then further reduced by the ability to locate data on an individual as information on all 1,483 individuals was not readily available through either the MD Judiciary Case Search or the paper files at the Baltimore City Probation-Parole Office. A final group size of 214 includes those with potential Step III start dates between February 2006 and September 2007 to match the GIC-EEP group.

**Table 2. Summary of the Sample Sizes and Group Membership for Baltimore City Circuit and District Drug Treatment Court Participants During the Study Time Period**

	Circuit	District	Total
All possible drug treatment court participants in the study time period	807	676	1483
DTC participants referred to GIC-EEP	106	25	131
DTC participants attended GIC-EEP	99	25	124
DTC participants not referred to GIC-EEP but appear to be eligible as they have a Step III start date equivalent (unable to create a comprehensive)	180	27	314
DTC participants not eligible for referral to GIC-EEP due to timing of Step III date or incomplete program information	150/436	41/93	

## Limitations

A future study of the potential impacts of employment programs in the drug treatment court settings is suggested, given the limitations of the current study. An increased follow-up time period, larger sample sizes, and more complete data would all provide better information about the impact of this type of program.

The results of this study tentatively suggest that issues outside of the program's control (such as data quality of probation officer recording of employment status on DTC entry and identification of a drug problem, employability, results of motivation and substance abuse level screens) could be responsible for predicting employment and criminal justice outcomes, when examining drug treatment court participants with sufficient follow-up time to be included in this study.

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

**Short follow-up time period:** Many study participants are still currently receiving services in the programs being studied. In addition, 9 months is a brief period of time for the outcomes of interest (re-arrest and obtaining employment) to have had a chance to occur. In addition, many participants had not reached the points in their programs to measure even the intermediate outcomes, such as exit status from the drug treatment court programs (which had not occurred yet for almost half of the sample in this study).

**Start-up participants included:** Participants who received services at GIC-EEP during their implementation start-up period at Baltimore City DTC were included to increase sample sizes. Typically, participants in drug court programs during the first 6 to 12 months post program start-up are excluded in order to avoid introducing biases based on implementation factors, including lower fidelity to the intended program model, lack of staff experience with the program, or staff turnover.

**Missing or unavailable data:** It was difficult to locate DTC program data for many study participants, especially in the District Court, which hampered the potential for including all possible referrals to the GIC-EEP or even coming up with a valid number of possible referrals. Even when paper participant files were located on-site at the local DPP, conclusive evidence of a poss-

ible Step III date was often unavailable. Data collection staff was unable to determine if an individual was referred to another employment program for comparisons.

Paper drug court program files at the Guilford Avenue Probation Office were difficult to use as a data source. As one would expect, active case files were on probation officers' desks, as were some archived files. The archived files were not filed using any order that could be obviously discerned by the researchers such as alphabetical or by probationer number. The staff at the office provided ample support in working with their system, but despite their efforts it was very difficult to locate all of the potential district court paper program files and determine whether or not an individual had reached Step III in their program. Among the files that were located, consistent information was not always present to indicate a potential Step III date as these files are not kept for research purposes; however, maintaining phase change dates is a recommended data element for drug court programs.

Program services data at GIC-EEP were also difficult to rely on or interpret. There were no discrete variables that listed the services that were received by each participant, so this information had to be generated by working with program staff and interpreting information from a "status" variable that was available for each individual. NPC could not always confirm the participant list cross checked against service lists; information about services received were not located for all participants and not all GIC-EEP participants could be located in the drug treatment court program records.

Finally, NPC was unable to obtain data on unemployment earnings within the data collection period for this study and income taxes paid by participants during the outcome period were unavailable.

**Complexity of the analyses:** Cases were eliminated from logistic regression models when any of the covariates were missing for the case. This practice might account for some slight differences when controlling for intervening variables, such as prior arrests in the case of recidivism.

## Outcome-Impact Evaluation Methodology

### OUTCOME-IMPACT EVALUATION DESIGN

Outcomes were studied for the longest possible time period following the referral date (or equivalent) for the most possible study participants. This time frame is 9 months after the date a participant was referred to GIC-EEP or for those not referred, 9 months after the estimated Step III date.

Outcomes include:

- Employment (was an individual employed or not, data were available for 322 study participants);
- Graduation rate (has an individual exited the DTC program and what was the result, data were available for 188 study participants); and
- Recidivism (criminal justice events as determined by subsequent re-arrests statewide and local court cases; data were available for 319 individuals).



## OUTCOME-IMPACT METHODS

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.

The following statistical analyses were used to study sample characteristics and determine differences between groups:

1. Frequencies, crosstabs, and descriptives were used to examine the distribution of each characteristic at the univariate level.
2. Chi-square analyses were used to determine if there was a significant difference in proportions between two categorical variables.
3. Independent samples t-tests were used to determine if there was significant difference in outcome means between two groups, where the grouping variable was categorical, such as group or court type, and the measured variable was continuous, such as age or number of arrests.
4. Logistic regression was used to determine what variables best predicted dichotomous outcomes, when controlling for other variables entered into the model. For example, to determine if group predicted whether a participant was employed during the follow-up time period or not, when controlling for other demographic and program characteristics.
5. Univariate analysis of variance was used to determine if a difference in outcome means, such as number of subsequent arrests, between two groups could be attributed to a group characteristic, such as GIC-EEP versus non-GIC-EEP, when controlling for other demographic and program characteristics.

## 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 an agency or from multiple agencies. Case management and job readiness classes are two examples of such transactions. Transactions are those points within a system where resources are consumed and/or change hands. In the case of GIC-EEP, when a participant appears in a class or receives a service, resources such as instructor time, Goodwill facilities, and job training materials are used.

#### *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 NPC's typical drug treatment court analyses 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. Similarly (and the core of this analysis), unaddressed employment issues may cost tax-dollar funded systems money that could be avoided or diminished if the employment issues were addressed. The GIC-EEP services, added on top of regular drug treatment court services, are meant to address the employment issues of drug treatment court participants. In this approach, any cost that is the result of unaddressed employment issues or any benefit that is the result of GIC-EEP services is used in calculating the costs and benefits of the GIC-EEP. Any difference between the GIC-EEP and non-GIC-EEP participants' subsequent involvement with the criminal justice system is also included in the cost-benefit analysis.

A criminal justice event is comprised of an arrest or a court case. Court cases are the result of some sort of involvement with law enforcement (either by arrest or probation violation) and in order to avoid undercounting the number of criminal justice system events, NPC took the highest number of arrests or court cases and used that for the number of events.

## **COST EVALUATION METHODS**

The cost evaluation involves calculating the costs of the GIC-EEP and the costs of outcomes for the GIC-EEP group and for the non-GIC-EEP group. In order to determine if there are any benefits (or avoided costs) due to GIC-EEP participation, it is necessary to determine what the participants' outcome costs would have been had they not participated in GIC-EEP. The best way to do this is to compare the costs of outcomes for GIC-EEP participants to the outcome costs for similar drug treatment court individuals who did not participate in GIC-EEP.

### ***TICA Methodology***

The TICA methodology is based upon six distinct steps. Table 3 lists each of these steps and the tasks involved, specific to the GIC-EEP evaluation.

Step 1 was performed through analysis of Baltimore City Adult Drug Treatment Court and GIC-EEP documents and through interviews with key stakeholders. Steps 2 and 3 were performed by analyzing the information gathered in Step 1. Step 4 was performed through extensive interviewing of key stakeholders and by collecting administrative data from GIC and the BCADTC. Step 5 was performed through interviews with GIC-EEP staff and with agency finance officers, as well as a review of NPC's original Cost Analysis of the Baltimore City, Maryland Drug Treatment Court Report (Crumpton, Brekhus, Weller, & Finigan, 2003). Step 6 involved calculating the cost of each transaction area, the cost per transaction per GIC-EEP participant, and total program costs. The number of outcome transactions per GIC-EEP and non-GIC-EEP participants was multiplied by the cost per transaction to determine outcome costs. This was reported as an average outcome/impact cost per individual for the GIC-EEP and non-GIC-EEP participants due to re-arrests and involvement with the criminal justice system. The wages of GIC-EEP and non-GIC-EEP participants during the outcome period were also included in the analysis.

The key informant interviews were completed via phone and e-mail. Cost data were collected through interviews with GIC-EEP staff and budgetary officers as well as from budgets provided from agency staff.

The specific GIC-EEP transactions used in the program cost evaluation included job readiness classes, case management, job placement services and transitional employment. The transactions used for the outcome cost evaluation included criminal justice system events (based on re-arrests and court cases) and participant wages during the outcome period. NPC was unable to obtain data on unemployment earnings and income taxes paid by participants during the outcome period, so these transactions were not included in the analysis. Criminal justice system costs (outside of the Drug Treatment Court and GIC-EEP costs) consist of those due to re-arrests, court cases, probation, jail/detention time served and drug treatment. Criminal justice system involvement costs were based on NPC's Cost Analysis of the Baltimore City, Maryland Drug Treatment Court Report, updated to fiscal year 2008 dollars.

**Table 3. The Six Steps of TICA**

	<b>Description</b>	<b>Tasks</b>
Step 1:	Determine flow/process (i.e., how individuals move through the system or program).	Interviews with key stakeholders (GIC program staff) and review of program documents
Step 2:	Identify the transactions that occur within this flow (i.e., where individuals interact with the system or what services are received).	Analysis of process information gained in Step 1
Step 3:	Identify the agency or agencies involved in each transaction.	Analysis of process information gained in Step 1
Step 4:	Determine the resources used for each transaction (e.g., amount of instructor time per transaction).	Interviews with key program stakeholders Administrative data collection of # of transactions (e.g., # of participants receiving job placement services, # of clients served by job readiness classes)
Step 5:	Determine the cost of the resources used for each transaction.	Interviews with budget and finance officers Document review of GIC-EEP budget and other financial paperwork
Step 6:	Calculate cost results (e.g., cost per transaction, total cost of the program).	Indirect costs (as a percentage of direct costs) are included with the direct costs of each transaction to determine the total cost per transaction.  The total transaction area costs are divided by the number of clients served to determine the cost per transaction type (per client), so that future estimates on how much it would cost to serve a certain number of clients can be determined.  The total costs per transaction area are added to determine the program costs. The number of outcome transactions is multiplied by the cost per transaction to determine outcome costs. (These calculations are described in more detail below.)



## OUTCOME-IMPACT EVALUATION RESULTS

The results presented in this report include the costs of the GIC-EEP program and outcomes or impacts of Baltimore City drug treatment court participating in the Goodwill Industries of the Chesapeake Employment Enhancement Program (GIC-EEP) as compared to a sample of similar drug treatment court participating individuals who did not receive the GIC-EEP services. Outcomes of interest included employment placement and recidivism.

The following results are provided in the order of the research questions detailed above. These results describe the characteristics of the study groups, employment outcomes and who these were most beneficial for, recidivism experienced by the drug treatment court participants and drug treatment court participants who received Goodwill services in terms of average number of re-arrests as well as re-arrest rate, the drug use over time measured drug-related re-arrests and whether or not employment services predict successful outcomes.

### **Research Question #1: Referral Characteristics**

*What are the characteristics of people who are referred to the GIC-EEP, compared to people who are not referred to the GIC-EEP?*

All variables of interest (demographics, criminal history, DTC program experiences, probation officer documentation of employment at DTC entry and drug problem, drug of choice) were first examined at the univariate level to examine distributions and assess normality assumptions. All continuous variables either satisfied these assumptions or were recoded into approximately normally distributed categories for subsequent analyses.

A description of the characteristics of each group is presented first by GIC-EEP and non-GIC-EEP participants as well as differences between Circuit and District Court participants when appropriate. Following the description of each group, the outcomes of interest are discussed as they relate to group characteristics.

Table 4 describes the sample demographics, program experience and criminal history of GIC-EEP compared with non-GIC-EEP participants and the significant differences between the two groups.

**Table 4. GIC-EEP and non-GIC-EEP Group Characteristics<sup>6</sup>**

Characteristic		GIC-EEP (n = 124)	Non-GIC-EEP (n = 214)	Significant? <sup>7</sup>
Gender	Male	(n = 124) 72%	(n = 214) 83%	Yes*
Race	African American Caucasian	(n = 124) 97% 3%	(n = 214) 93% 7%	No
Age	Mean Range	(n = 124) 41 19 to 62	(n = 214) 41 21 to 64	No
Marital status	Single	(n = 92) 76%	(n = 183) 71%	No
Education level	At least 12 years	(n = 112) 49%	(n = 182) 50%	No
Primary drug of choice	Heroin Cocaine Other <sup>8</sup>	(n = 94) 83% 10% 8%	(n = 164) 77% 15% 8%	No
Employment status at drug court entry	Unemployed	(n = 93) 91%	(n = 187) 94%	No
<u>Total</u> arrests 3 years prior to the referral date or equivalent	Mean arrests 0 prior 1 prior > 1 prior	(n = 124) 4.5 8% 8% 84%	(n = 214) 5.3 5% 6% 89%	Trend
<u>Drug</u> arrests 3 years prior to the referral date or equivalent	Mean arrests 0 prior 1 prior > 1 prior	(n = 124) 2.4 21% 20% 59%	(n = 214) 3.2 11% 19% 70%	Yes**

<sup>6</sup> Some percentages do not add to 100% because of rounding.

<sup>7</sup> \* $p < .05$ , \*\* $p < .01$ , Trend  $p > .05$  and  $< .10$

<sup>8</sup> "Other" includes alcohol, marijuana, and other opiates.

Characteristic		GIC-EEP (n = 124)	Non-GIC-EEP (n = 214)	Significant? <sup>7</sup>
Drug problem identified by probation agent and entered into the DPP <sup>9</sup> database		(n = 124) 89%	(n = 214) 95%	Yes*
Charge at drug court entry	Possession	(n = 124) 24%	(n = 214) 12%	Yes**
	Distribution	72%	86%	
	Other	4%	2%	
DTC <sup>10</sup> status <sup>11</sup>	Active	(n = 123) 29%	(n = 208) 51%	Yes**
	Graduate	50%	30%	
	Unsuccessful	20%	19%	
LOS <sup>12</sup> in drug treatment court program for those who completed	< 1 year	(n = 91) 4%	(n = 113) 9%	No
	1 to 2 years	52%	49%	
	>2 years	44%	43%	
Court type	Circuit	(n = 124) 80%	(n = 214) 87%	Trend
	District	20%	13%	

As shown in Table 4, men made up a significantly smaller proportion of the GIC-EEP group than the non-GIC-EEP group. Women were referred to GIC-EEP at higher rates compared to the non-GIC-EEP group.

The GIC-EEP group also had significantly fewer drug-related arrests prior to referral to GIC-EEP or equivalent date for non-GIC-EEP participants. Significantly fewer GIC-EEP participants were brought into drug treatment court on a distribution charge and identified by their probation agent as having a drug problem at that time. Further, a significantly larger proportion of GIC-EEP participants had graduated from drug treatment court during the study period, compared to non-GIC-EEP participants, who were significantly more likely to be active participants in drug treatment court.

In addition, as noted previously (Perkins & Mackin, 2007), there was a significant difference between GIC-EEP and non-GIC-EEP groups by which agent from the Department of Parole and Probation referred them to the program ( $p < .01$ ). One Circuit Court agent was responsible for almost one third (30%) of all referrals to GIC-EEP in this time frame.

<sup>9</sup> Department of Parole and Probation

<sup>10</sup> Drug treatment court

<sup>11</sup> Exit status excludes seven participants who were reported as deceased.

<sup>12</sup> Length of service excludes seven participants who were reported as deceased but did not include program exit status.

While only significant at the level of a trend, it is also worth noting that GIC-EEP participants had slightly fewer overall arrests prior to referral to GIC-EEP, compared to non-GIC-EEP participants with an equivalent date.

Differences between GIC-EEP and non-GIC-EEP groups were less pronounced when characteristics were examined by court type. In both groups, there were more participants from Circuit Court than District Court, primarily due to the differences in the overall number of drug court participants in the two programs. Due to the difference in sample sizes by court type as well as the relatively small number of participants in District Court, the ability to detect differences between GIC-EEP and non-GIC-EEP groups was diminished when looking specifically at court type and should be interpreted with caution.

None of the variables of interest described in Table 4 were found to be significant between District Court GIC-EEP and District Court non-GIC-EEP participants. However, this is very likely due to limited sample sizes. Among Circuit Court participants, significant differences closely supported the results reported in Table 4, which grouped participants from both Circuit and District Courts together. Significant differences ( $p < .05$ ) between GIC-EEP and non-GIC-EEP Circuit Court participants were related to DPP agent assignment, indication of drug problem by DPP agent, exit status (active, graduated or unsuccessful), and number of pre-referral drug arrests. In other words, a larger proportion of Circuit Court GIC-EEP participants had graduated, were referred by one DPP agent, and did not have an indication of a drug problem per their DPP agent at start of services. Circuit Court GIC-EEP participants also had fewer pre-referral drug court arrests compared to the Circuit Court non-GIC-EEP participants.

## **PROGRAM REFERRALS**

Based on administrative data review, which does not include psychological assessments, employability or a determination of individual readiness for referral to outside programs, individuals who could have been referred to GIC-EEP based on their estimated Step III start date are at least double in number of those who were actually referred for both the Circuit and District Courts (please see the Methods section for a more detailed explanation of the sample selection process). In other words, it appears that Probation Agents could be referring drug treatment court participants to GIC-EEP more often than they actually are.

## **Research Question #2: Predictors of Obtaining Employment**

### ***What are the characteristics of GIC-EEP participants who were successful in obtaining employment?***

GIC-EEP participants were compared on the basis of demographic characteristics, prior arrests, prior employment, and service utilization to determine whether any significant patterns predicting employment acquisition could be identified. The Maryland State Wage Record data were used to determine whether or not participants were employed during the three quarters prior to and following the quarter of their referral to GIC-EEP.<sup>13</sup>

Pre-employment is defined per the probation agent's recording employment status at drug court entry. Pre-employment data were available for 77 of the 97 participants. Having prior employ-

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<sup>13</sup> These data are reported in 3-month intervals for each calendar year, e.g., January through March, April through June, July through September, and October through December.



ment contributed at the trend level ( $p < .10$ ) to obtaining (or maintaining) employment in the follow-up time period (see Table 5 below). Of the GIC-EEC participants who had these data available ( $n = 77$ ), 9% were employed prior to drug court entry and 40% were employed during the outcome time period.

**Table 5. The Relationship of GIC-EEC Participant Follow-up Employment Based on Prior Employment**

	Employed during follow-up	Not employed during follow-up
Pre employed (full or part time)	71% (n = 5)	29% (n = 2)
Pre not employed	37% (n = 26)	63% (n = 44)

If wages were present in any of the three follow-up quarters, the participant was said to have been employed during the follow-up time period. Of the 124 participants who had received any GIC-EEP services, 97 (78%) had at least 3 quarters of follow-up time after their referral date to GIC-EEP. Of the 97 participants who had sufficient follow-up time, 38 (39%) had obtained employment and 59 (61%) had not obtained any employment in the follow-up time period<sup>14</sup>.

Variables of interest, such as prior arrest history, demographics and GIC-EEP services received, were first tested for significant relationships with employment status at the bivariate level. Level of GIC-EEP service was the only variable that showed a marginally significant relationship with employment status when analyzed independently as shown in Table 6 and Figure 1.

**Table 6. Employment Status by Level of GIC-EEP Service**

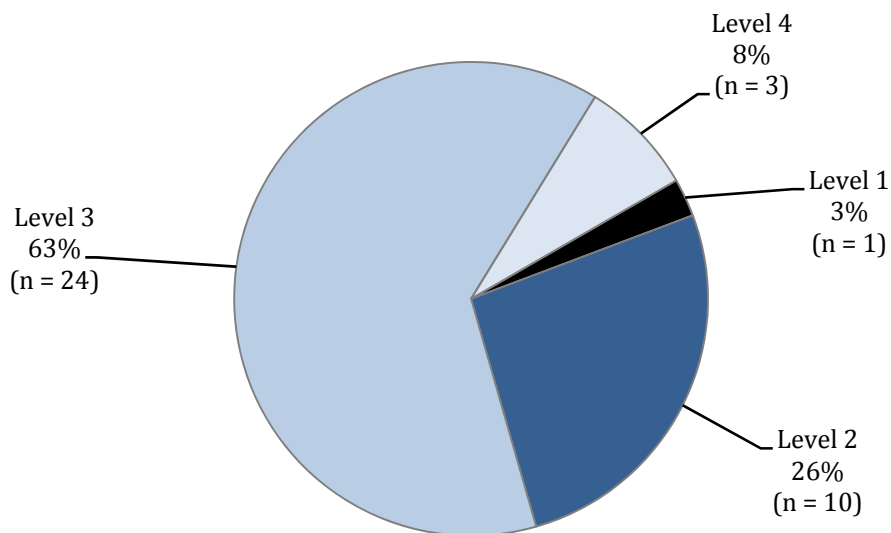
		Employed n = 38	Not Employed n = 59	Significant? <sup>15</sup>
Level of GIC-EEP service	Level 1: Received intake only	50% (n = 1)	50% (n = 1)	Trend
	Level 2: Received intake & any job readiness classes	28% (n = 10)	72% (n = 26)	
	Level 3: Received intake, job readiness, & any job placement services	52% (n = 24)	48% (n = 22)	
	Level 4: Received intake, job readiness, job placement, & transitional employment services	23% (n = 3)	77% (n = 10)	

<sup>14</sup> There was one additional person who had wage data during the quarter in which s/he was referred to the program, but did not have wage data after this quarter. Because the wage data do not have specific dates, this individual was not included in the analysis because it is not possible to know whether the employment occurred before or after the referral date.

<sup>15</sup> Trend  $p > .05$  and  $< .10$

As shown in Table 6, participants who received Level 3 services were slightly more likely to be employed. Participants who received Level 2 services were slightly less likely to be employed, but these participants did not any receive job placement services. Participants who received transitional employment services with Level 4 services were slightly less likely to be employed but represent a group which may face more challenges in obtaining employment, compare to participants who received Level 3 services. The lack of significant differences by employed or non-employed participants in demographic characteristics and prior arrests indicates that GIC-EEP services are not being provided to different demographic groups differently. Finally, these results should be interpreted with caution since the sample sizes are small and could be contributing to the lack of any significant findings.

**Figure 1. Percent of Employed GIC-EEP Participants by Level of GIC-EEP Service**



Chi-square tests between levels of service were used to determine significant differences among those obtaining employment in the outcomes time period and those who did not. Level 1 (intake only) was dropped from subsequent analyses for lack of power as only two GIC-EEP participants received this level of service.

Comparisons between Level 2 and Level 3 participants show a significantly larger proportion ( $p < .05$ ) of participants who received Level 3 services obtained employment during the follow-up time period (52%), compared to Level 2 participants (28%). Comparisons between Level 3 and Level 4 participants indicate that a larger proportion (at the level of a trend,  $p < .10$ ) of participants who received Level 3 services obtained employment during the follow-up time period (52%) compared to Level 4 participants (23%). These results seem to indicate that Level 3 services, which include intake, job readiness classes, and any job placement services have the strongest relationship with employment outcome for the given time frame.

### OBTAINING EMPLOYMENT

To better understand the unique ability each level of services received has in predicting employment outcomes, Levels 2, 3 and 4 were entered into a logistic regression model. When control-

ling for each level of service, participants who received Level 3 services were 2.8 times significantly more likely to gain employment ( $p < .05$ ), when compared to participants who received Level 2 services. Level 4 services were not significantly related to employment outcome, which could suggest that participants who receive transitional employment services face greater challenges than participants who do not receive transitional services. The results of this model do indicate a predictive relationship between Level 3 services and employment outcome, however.

When running the logistic regression controlling for pre-employment status, the level of service differences became non-significant, indicating that a person's prior employment history had a stronger relationship to later employment than the level of service received during the program. Participants with prior employment experience were over 5 times more likely to be employed during the follow-up time period than individuals who had not been employed before their referral to GIC-EEP.

### **Research Question #3: Employment Status**

*Are Baltimore City drug treatment court participants who receive GIC-EEP services more likely to a) obtain employment, b) remain employed for longer periods of time, and c) earn higher wages than those Drug Treatment Court participants who did not receive GIC-EEP services?*

GIC-EEP and non-GIC-EEP participants were compared on the basis of demographic characteristics and prior arrests to determine whether any significant patterns predicting employment outcome could be identified. The Maryland State Wage Record data were used to determine whether or not participants were employed during the three quarters following the quarter of their referral to GIC-EEP. If wages were present in any of these three follow-up quarters, the participant was said to have been employed during the follow-up time period.

Of the GIC-EEP and non-GIC-EEP participants, 97 GIC-EEP and 137 non-GIC-EEP had at least 3 quarters of follow-up time after their referral date to GIC-EEP (or equivalent date). Demographics and criminal history were first tested for significant relationships with employment status at the bivariate level. Several characteristics showed results between groups as significantly different in employment status outcomes (Table 7).

**Table 7. Employment Status by Group Characteristics<sup>16</sup>**

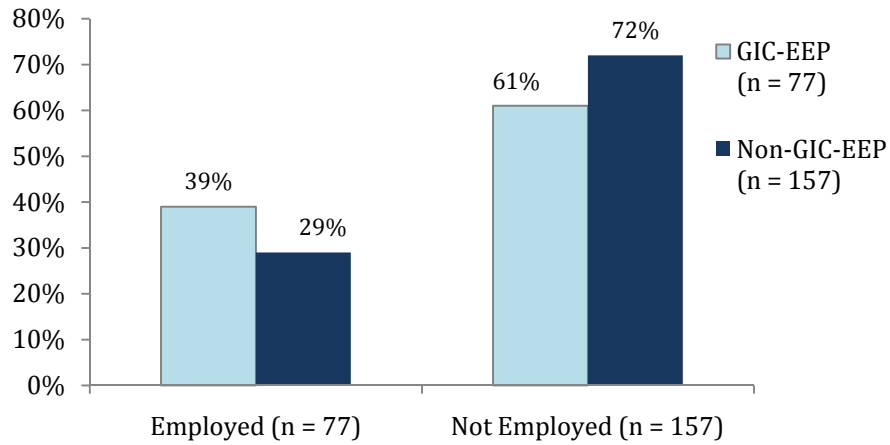
Characteristic		Employed n = 77	Not Employed n = 157	Signifi- cant? <sup>17</sup>
Group		(n = 77)	(n = 157)	Trend
	GIC-EEP	39%	61%	
	Non-GIC-EEP	29%	72%	
Court		(n = 77)	(n = 157)	Trend
	Circuit	31%	69%	
	District	46%	55%	
Employment status at Drug Treatment Court Start		(n = 63)	(n = 127)	Yes*
	Employed Full- or Part-Time	57%	43%	
	Unemployed	30%	70%	
Total arrests 3 years prior to the referral date or equivalent		(n = 77)	(n = 157)	Yes*
	Mean arrests	4.3	5.5	
	0 prior	47%	53%	
	1 prior	69%	31%	
> 1 prior	30%	70%		
Drug arrests 3 years prior to the referral date or equivalent		(n = 77)	(n = 157)	Yes*
	Mean arrests	2.4	3.2	
	0 prior	46%	54%	
	1 prior	37%	63%	
> 1 prior	29%	71%		

Receiving GIC-EEP services and participating in Circuit or District Court programs had a significant relationship with employment outcomes at the level of a trend. In these relationships, GIC-EEP participants were more likely to have been employed during the follow-up time period and District Court participants were more likely to be employed.

<sup>16</sup> Some percents here do not add to 100% due to rounding.

<sup>17</sup> \* $p < .05$ , Trend  $p > .05$  and  $< .10$

**Figure 2. Percent of Participants Obtaining Employment**



Three characteristics had a significant relationship with employment outcomes: employment status at drug treatment court entry, number of total prior arrests, and number of drug arrests during the 3 years prior to the referral date/equivalent. In these relationships, participants who were employed at drug court entry were more likely to be employed during follow up, and fewer prior arrests (total and drug arrests only) were associated with a greater likelihood of being employed during follow up.

When examining employment rates by Court program and whether or not an individual received GIC-EEP services, there was a trend-level relationship between Circuit Court GIC-EEP participants and employment as shown in Table 8. In other words, there is a trend-level difference in *proportions* between Circuit GIC and Circuit non-GIC participants when we look at employment outcome, with 38% of the GIC-EEP group and 26% of the non-GIC-EEP group being employed during the follow-up time period.

**Table 8. Employment Status by Court and Group**

Characteristic		Employed n = 77	Not Employed n = 157	Signifi- cant? <sup>18</sup>
District Court		(n = 15)	(n = 18)	No
	GIC-EEP	47%	53%	
	Non-GIC-EEP	44%	56%	
Circuit Court		(n = 62)	(n = 139)	Trend
	GIC-EEP	38%	63%	
	Non-GIC-EEP	26%	74%	

<sup>18</sup> Trend  $p > .05$  and  $< .10$

A larger proportion of Circuit Court GIC-EEP participants were employed during follow-up, compared to Circuit Court non-GIC-EEP participants, where in contrast, there was no difference at follow up between GIC-EEP and non-GIC-EEP District Court participants.

### **OBTAINING EMPLOYMENT**

A logistic regression model was used to identify if receiving GIC-EEP services (GIC-EEP versus non-GIC-EEP) predicted outcome employment status. Demographics, criminal history information and employment status on entry into the drug treatment court programs were entered in the first step and receiving GIC-EEP services was entered in the second step. This two-step model allows for the comparison of groups on outcome employment status after controlling for demographics and history.

In this model, receiving GIC-EEP services was not a significant predictor of outcome employment status. In fact, none of the variables that showed significant or marginally significant relationships with employment outcome at the bivariate level remained significant when controlling for the others, indicating that these variables are interrelated. Future studies with a larger sample size could analyze whether this program is more effective for certain groups of participants.

Of the 33 people in the GIC-EEP group who were NOT employed at the start of their drug court participation (per probation report), 70% had wage data (were employed) at some point during the three quarter follow-up time period after their GIC-EEP referral.

### **RETAINING EMPLOYMENT**

Of the 234 participants who had at least three quarters of follow-up time since their referral date or equivalent, 157 (67%) had no employment in any of the three follow-up quarters, 29 (12%) had an employment record in one of the three quarters, 17 (7%) had employment during 2 of 3 quarters, and 31 (13%) had employment during all of the three quarters. However, there were no significant differences in the mean number of quarters employed during the follow-up time period between GIC-EEP (.77 quarters) and non-GIC-EEP (.59 quarters) groups.

There were also no significant differences in number of quarters employed between GIC-EEP and non-GIC-EEP groups when controlling for demographic factors and prior arrest histories. Gender, race, initial arrest charge, and number of prior drug arrests were significantly different at the bivariate level; however, when these indicators were entered in a univariate analysis of variance model to determine if any differences between groups would arise, the resulting model was not significant. The GIC-EEP group only had a slightly higher estimated marginal mean number of quarters employed in the follow-up time period, (.73 quarters), when compared to the non-GIC-EEP group (.62 quarters).

When examining only the 77 participants who were employed during the follow-up time period, 31 (40%) had an employment record in each of the three quarters, 17 (22%) had employment during 2 of 3 quarters, and 29 (38%) had employment during 1 of 3 quarters. However, there were no significant differences between GIC-EEP (n = 38) and non-GIC-EEP (n = 39) groups in the mean number of quarters employed during the follow-up time period. However, because the numbers are so small, the lack of significance could be due to sample sizes. Table 9 illustrates the number of individuals who were employed during 1, 2, or all 3 of the follow-up quarters.

**Table 9. Number of Quarters Employed by Group During Follow-up Time Period**

<b>Number of Quarters Employed</b>	<b>GIC-EEP n = 38</b>	<b>Non-GIC-EEP n = 39</b>
Employed during 1 Quarter in follow-up time period	52% (n = 15)	48% (n = 14)
Employed during 2 Quarters in follow-up time period	53% (n = 9)	47% (n = 8)
Employed during 3 Quarters in follow-up time period	45% (n = 14)	55% (n = 17)

**WAGES RECEIVED**

There were not statistically significant differences in mean wages earned in the follow-up time period between those who received GIC-EEP (\$3,462.51) services and the non-GIC-EEP (\$2,688.28) group at the bivariate level (GIC-EEP n = 97, non-GIC-EEP n = 137). Variables that were significantly different by group, including gender, race, charge, and number of prior drug arrests were entered in a univariate analysis of variance model to determine if any differences between groups would arise. When controlling for demographic factors and prior arrest histories, the resulting model was not significant. The GIC-EEP group only had slightly higher estimated marginal mean wages in the follow-up time period (\$3,366.05), when compared to the non-GIC-EEP group (\$2,756.57). However, there is a practical mean difference of \$600 between GIC-EEP and non-GIC-EEP groups, which translates into a mean difference of \$200 per quarter on average for GIC-EEP participants (and greater for the 60% of employed participants who had less than the full three quarters of employment). While statistically non-significant, this difference could illustrate a real difference in the lives of participants.

When examining only the 77 participants who were employed during the follow-up time period, there were still no significant differences between GIC-EEP (n = 38) and non-GIC-EEP (n = 39) groups in mean wages during the follow-up time period. However, the lack of significance could again be due to the very small sample sizes.

**Table 10. Mean Wages by Group and Number of Quarters Employed During Follow-up Time Period**

<b>Number of Quarters Employed</b>	<b>GIC-EEP n = 38</b>	<b>Non-GIC-EEP n = 39</b>
Employed during 1 Quarter in follow-up time period	\$1,635.67	\$1,656.86
Employed during 2 Quarters in follow-up time period	\$4,040.89	\$7,542.00
Employed during 3 Quarters in follow-up time period	\$19,640.00	\$16,750.71

Table 10 illustrates the non-significant but practical differences in mean wages between GIC-EEP and non-GIC-EEP groups and by number of quarters employed during the follow-up time period.

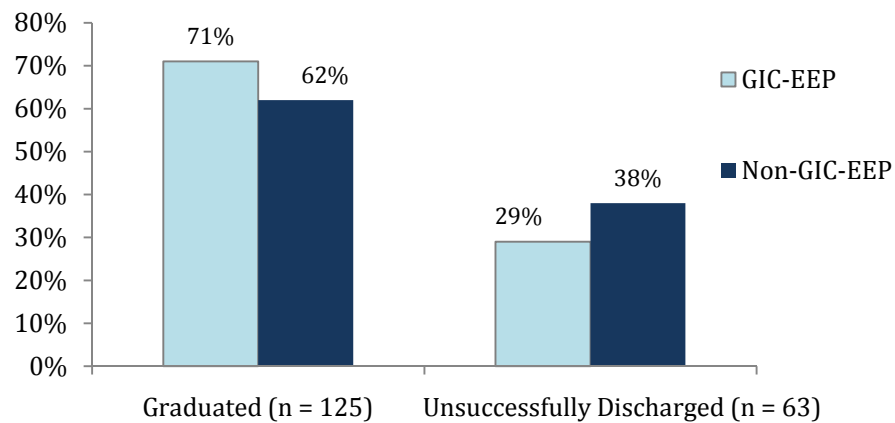
### Research Question #4: Drug Treatment Court Graduation

*Do GIC-EEP drug treatment court participants have a higher DTC graduation rate, compared to non-GIC-EEP drug court participants?*

#### PROGRAM COMPLETION

DTC graduates and those unsuccessfully discharged from the drug treatment court program were compared on the basis of demographic characteristics, prior arrest histories, and service utilization to identify significant patterns predicting program graduation. Of the 188 participants who had exited the drug treatment court programs, 87 (46%) were GIC-EEP participants and 101 (54%) were non-GIC-EEP participants. Figure 3 illustrates the proportions of the GIC-EEP and non-GIC-EEP participants who successfully completed DTC.

**Figure 3. Percent of Participants Graduating From Drug Treatment Court**





Demographics, criminal history and program experiences were first tested for significant relationships with exit status at the bivariate level. Court type and length of DTC service showed a significant relationship with exit status when analyzed independently as shown in Table 11.

**Table 11. Drug Treatment Court Exit Status by Participant Characteristics**

		<b>Graduated n = 125</b>	<b>Unsuccessfully Discharged n = 63</b>	<b>Signifi- cant?<sup>19</sup></b>
Group		(n = 125)	(n = 63)	No
	GIC-EEP	71%	29%	
	Non-GIC-EEP	62%	38%	
Court		(n = 125)	(n = 63)	Yes**
	Circuit	71%	29%	
	District	46%	55%	
Length of service in DTC <sup>20</sup>		(n = 125)	(n = 63)	Yes**
	< 1 year	36%	64%	
	1 to 2 years	78%	22%	
	> 2 years	57%	43%	

A significantly larger proportion of Circuit Court participants graduated from the DTC, compared to District Court participants. In addition, a significantly larger proportion of participants involved with the DTC for 1 to 2 years had graduated when compared with participants who had less than 1 year or more than 2 years of DTC. There was no significant difference in graduation rates between GIC-EEP and non-GIC-EEP participants. Participating in GIC-EEP services did not predict whether or not participants would graduate from drug treatment court, though the percentages are in the promising direction. It is possible that if this pattern remains, a larger sample size would yield significant findings.

<sup>19</sup> \*\* $p < .01$

<sup>20</sup> Drug treatment court

## Research Question #5: Recidivism

***Does participation in GIC-EEP reduce the number of re-arrests for those individuals compared to non-GIC-EEP drug treatment court participants?***

Statewide arrests and local court cases data were combined to create a count of criminal justice events (CJEs), to determine the effects of participation in GIC-EEP on recidivism within 9 months after the date of referral to the GIC-EEP or the equivalent for those drug court participants not referred to GIC-EEP. Figure 4 illustrates the proportions of GIC-EEP and non-GIC-EEP participants who had no new criminal justice events compared to those participants with one or more criminal justice events.

**Figure 4. Percent of Participants and Subsequent Criminal Justice Events**

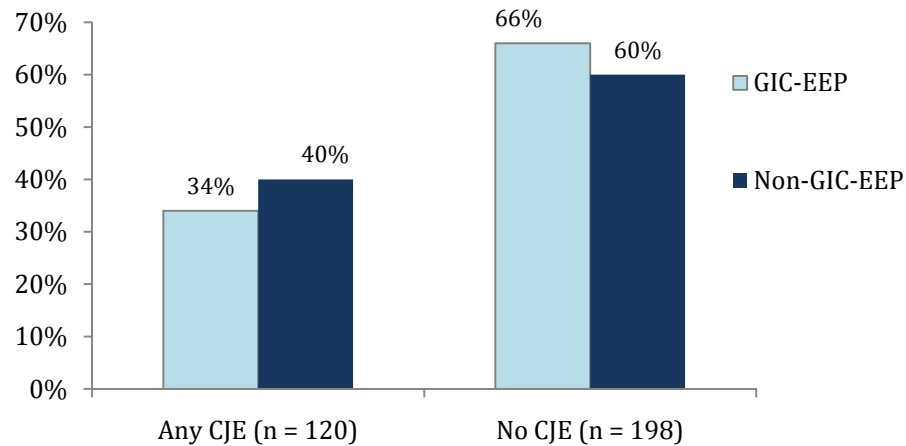


Table 12 describes the characteristics that had a significant relationship with subsequent CJEs during the follow-up time period. Of the 318 drug court participants who had sufficient follow-up time, 198 (62%) did not have any criminal justice events in the follow-up time period, compared with 120 (38%) who had at least one criminal justice event in the follow-up time period. The number of criminal justice events ranged from 0 to 12 with a mean of 1.24.

Table 12. Recidivism Outcome Characteristics

Characteristic		Any Criminal Justice Events (n = 120)	No Criminal Justice Events (n = 198)	Significant? <sup>21</sup>
Gender	Male	(n = 120) 41%	(n = 198) 59%	Yes*
	Female	26%	74%	
Age	Mean	(n = 120) 40	(n = 198) 42	Yes*
	Range	19 to 64	21 to 62	
Group		(n = 120)	(n = 198)	No
	GIC-EEP	34%	66%	
	Non-GIC-EEP	40%	60%	
Court		(n = 120)	(n = 198)	Yes**
	Circuit	41%	59%	
	District	20%	80%	
Charge at drug court entry	Possession	(n = 120) 19%	(n = 198) 81%	Yes**
	Distribution	42%	58%	
	Other	25%	75%	
Total arrests 3 years prior to the referral date or equivalent	Mean arrests	(n = 120) 5.7	(n = 198) 4.7	Yes*
	0 prior	21%	79%	
	1 prior	5%	95%	
	> 1 prior	41%	59%	
Drug arrests 3 years prior to the referral date or equivalent	Mean arrests	(n = 120) 3.4	(n = 198) 2.6	Yes*
	0 prior	23%	77%	
	1 prior	23%	77%	
	> 1 prior	45%	55%	
Employment status at drug court entry	Employed	(n = 102) 88%	(n = 163) 12%	Yes*
	Unemployed	40%	60%	

There was no significant difference by group when comparing GIC-EEP and non-GIC-EEP participants with recidivism outcomes at the bivariate level. Other variables, however, did have a signif-

<sup>21</sup> \* $p < .05$ , \*\* $p < .01$

icant relationship with subsequent recidivism for this sample. Males, younger average age, Circuit Court program participants, participants with a distribution charge at drug treatment court entry, more prior total and drug arrests and unemployed participants at drug court entry had more subsequent criminal justice events during the follow-up time period.

### **PREDICTING RECIDIVISM**

Although participation in GIC-EEP was not statistically related to recidivism, the variables that were significantly related to recidivism were entered into a logistic regression model in order to control for the interaction effects of these variables and observe if GIC-EEP participation predicted recidivism outcome when controlling for other factors. Although the overall model was significant ( $p < .01$ ), only age and employment status at drug court entry were marginally significant predictors of subsequent criminal justice events. GIC-EEP remained a non-significant predictor of subsequent criminal justice events when controlling for other factors.

Comparisons of the mean number of CJEs between GIC-EEP and non-GIC-EEP groups revealed no significant differences in the follow-up time period. When demographic and program level variables were controlled in a univariate analysis of variance model, GIC services remained a non-significant predictor for mean number of subsequent CJEs.

## COST EVALUATION RESULTS

### Research Question #6: Investment Costs

#### *What are the investment costs for the GIC-EEP?*

As described in the methodology section, the Transactional and Institutional Cost Analysis (TI-CA) approach was used to calculate the costs of each of the transactions that occurred while participants were engaged in GIC-EEP. Transactions are those points within a system where resources are consumed and/or change hands. In the case of GIC-EEP, when a participant attends a job readiness class, resources such as class instructor time, GIC facilities, and training materials are used. Program transactions calculated in this analysis included job readiness classes, case management, job placement services and transitional employment at GIC between October 1, 2006, and September 30, 2007. A 1-year period was chosen for program costs (as opposed to the 20-month period of possible referral dates for the outcome section above) because the program budget, salaries, and other costs were listed per year. This time period limited the number of participants to 70 and allowed for simpler, yet still accurate, program cost calculations. The costs for this study were calculated including taxpayer costs only. All cost results provided in this report are based on fiscal year 2008 dollars.

#### GIC-EEP Transactions

The cost of a *job readiness class* is calculated based on the direct costs (salary and benefits) and time involvement of the job readiness instructor, and the agency indirect support and overhead costs for the 2<sup>nd</sup> full year of GIC-EEP (10/1/06-9/30/07).

*Case management* services are provided to any GIC-EEP participant that showed up for any service, including intake. The cost of case management is calculated based on the direct costs (salary and benefits) and time involvement of the case manager, and the agency indirect support and overhead costs for the 2<sup>nd</sup> full year of GIC-EEP.

The cost of *job placement services* is calculated based on the direct costs (salary and benefits) and time involvement of the job placement specialist, and the agency indirect support and overhead costs for the 2<sup>nd</sup> full year of GIC-EEP.

*Transitional employment* at GIC is offered to GIC-EEP participants in need of a temporary job. Employment lasts from 8 to 12 weeks. The cost to GIC of providing transitional employment is calculated by multiplying the hourly rate by the total number of hours worked during the 2<sup>nd</sup> full year of GIC-EEP.

#### GIC-EEP Investment Costs per Participant Served

This section describes the cost of GIC-EEP services per participant actually served by each transaction area. While these costs represent the 1-year study period, and thus the 70 participants served during the study period, not all 70 participants received every service.

The *job readiness class* cost total of \$63,378.64 is divided by the 68 participants that went to a job readiness class for a result of **\$932.04** per participant served by job readiness classes.

The **case management** cost total of \$28,634.57 is divided by the 70 participants that went through intake or received any services for a result of **\$409.07** per participant served with case management.

The **job placement services** cost total of \$41,354.58 is divided by the 39 participants that obtained any job placement services for a result of **\$1,060.37** per participant given job placement services.

The hourly rate of \$6.98 multiplied by the 5,217 hours worked by 17 participants during the 2<sup>nd</sup> full year of GIC-EEP (10/1/06-9/30/07) is \$36,414.66, or an average of **\$2,142.04** per participant that had **transitional employment**.

Table 13 presents the average cost for each GIC-EEP transaction (job readiness classes, etc.) per participant served by each particular transaction. The sum of these transactions is the total cost of the program, per participant actually served. These numbers include the average for all GIC-EEP participants receiving the specific service from the period between October 1, 2006, and September 30, 2007 (the number of participants for each transaction varies from 17 to 70).

**Table 13. Average GIC-EEP Costs per Participant Served<sup>22</sup>**

<b>Transaction</b>	<b>Avg. Cost per GIC-EEP Participant Served</b>
Job Readiness Classes	\$932
Case Management	\$409
Job Placement Services	\$1,060
Transitional Employment	\$2,142
<b>Total GIC-EEP</b>	<b>\$4,543</b>

Table 13 above illustrates the per participant actually served cost to the taxpayer for the GIC-EEP (**\$4,543**). Transitional employment (\$2,142) is the highest program cost, followed by job placement services and job readiness classes. Case management is the least expensive transaction for the GIC-EEP.

The total cost of the GIC-EEP services used (by all 70 participants) during the 1-year evaluation period was **\$169,782.45**. It should be noted that not all 70 participants used every service (only 17 had transitional employment and 39 had job placement services, but all 70 received case management services). This is the total cost of all four transaction areas, and includes all salaries, benefits, and indirect support and overhead costs (supplies, equipment, facilities, supervision, support staff, etc.).

<sup>22</sup> Average costs per participant have been rounded to the nearest whole dollar amount.

## GIC-EEP Investment Costs per Participant

Another way of looking at investment costs is to assess the average cost for all participants. This section describes the average cost of GIC-EEP services per participant, for all 70 participants during the study period (not just those that received the particular service).

The *job readiness class* cost total of \$63,378.64 divided by 70 participants results in a cost of **\$905.41** per participant for job readiness classes.

The *case management* cost total of \$28,634.57 divided by 70 participants results in a cost of **\$409.07** per participant for case management.

The *job placement services* cost total of \$41,354.58 divided by 70 participants results in a cost of **\$590.78** per participant for job placement services.

The *transitional employment* cost total of \$36,414.66 divided by 70 participants results in a cost of **\$520.21** per participant for transitional employment.

Table 14 presents the average cost for each GIC-EEP transaction (job readiness classes, etc.) per participant. The sum of these transactions is the total cost of the program per participant. These numbers include the average for all GIC-EEP participants receiving services from the period between October 1, 2006, and September 30, 2007 (n = 70).

**Table 14. Average GIC-EEP Costs per Participant<sup>23</sup>**

<b>Transaction</b>	<b>Avg. Cost per GIC-EEP Participant</b>
Job Readiness Classes	\$905
Case Management	\$409
Job Placement Services	\$591
Transitional Employment	\$520
<b>Total GIC-EEP</b>	<b>\$2,425</b>

Table 14 above illustrates the average per participant cost to the taxpayer for the GIC-EEP (**\$2,425**). When program costs are assessed in this manner (average cost per participant for all 70 participants), job readiness classes make up the highest program cost (\$905), with similar costs for the remaining three GIC-EEP transactions. The total cost of the GIC-EEP services used (by all 70 participants) during the evaluation period was still **\$169,782.45** using this method. This is the total cost of all four transaction areas, and includes all salaries, benefits, and indirect support and overhead costs (supplies, equipment, facilities, supervision, support staff, etc.).

<sup>23</sup> Average costs per participant have been rounded to the nearest whole dollar amount.

## Projected GIC-EEP Investment Costs

If the GIC-EEP were to be expanded (beyond the 70 participants that received any type of service during the 2<sup>nd</sup> year of the program), it would be useful to know the projected costs of serving the additional participants. The method for determining the projected program cost is to multiply the actual cost per participant served (for each transaction) by the number of participants estimated to be served by each particular transaction. Because it is difficult for NPC to estimate the number of future participants that will need each particular service (even if the total number of projected GIC-EEP participants is known), only the projected cost per participant for each transactional area (job readiness classes, case management, job placement services and transitional employment) is shown below. For an estimate of future GIC-EEP investment costs, GIC-EEP stakeholders simply need to multiply the cost per participant per transaction (below) by the estimated number of participants that will use each service, and sum the results for the projected program cost.

Table 15 presents the projected cost for each GIC-EEP transaction (job readiness classes, etc.) per participant.

**Table 15. Projected GIC-EEP Costs per Participant<sup>24</sup>**

<b>Transaction</b>	<b>Projected Cost per GIC-EEP Participant</b>
Job Readiness Classes	\$317 <sup>25</sup>
Case Management	\$409 <sup>26</sup>
Job Placement Services	\$1,060
Transitional Employment	\$2,142

<sup>24</sup> Average costs per participant have been rounded to the nearest whole dollar amount.

<sup>25</sup> Because the Job Readiness Class instructor can serve up to 200 participants for the same cost, the yearly Job Readiness Class cost of \$63,378.64 was divided by 200 for a result of \$316.89. This is the lowest possible cost per participant. If fewer than 200 participants are to be served, the number would be higher (\$63,378.64 divided by that number). If more than 200 participants are to be served, an additional Job Readiness Class instructor would need to be hired, changing the total yearly costs for this transaction.

<sup>26</sup> Case Management costs were based on one Case Manager position. The 70 participants served during the 1-year study period required a .33 FTE from the Case Manager, so if the projected number of participants is over 200, a new Case Manager position may be necessary (which would also change the total yearly costs for this transaction).



## Research Question #7: Outcome Costs

*What are the outcome costs for GIC-EEP participants compared to non-GIC-EEP drug treatment court participants?*

### Outcome Costs

The outcome costs presented below show how positive outcomes for GIC-EEP participants can repay the investment in the program and produce cost benefits (savings) to the criminal justice system and the taxpayer. For the sake of performing an equivalent comparison between the two groups, the outcome costs presented in this report include costs associated with the GIC-EEP participants and non-GIC-EEP participants over the 9-month follow-up time period subsequent to the referral to GIC-EEP date or equivalent, using the same data sources for both groups. These findings should be interpreted with caution as nine months is generally too short to identify recidivism results.

This section describes and compares the cost outcomes experienced by GIC-EEP and non-GIC-EEP participants as a result of the system decision to offer a drug treatment court participant employment services or not. The specific outcome transactions examined were criminal justice system events (based on re-arrests and including costs of arrests, court cases, drug treatment, and probation, jail and prison time) and participant income during the outcome period. NPC was unable to obtain data on unemployment earnings and income taxes paid by participants during the outcome period, so those outcome transactions were not included in this analysis.

Outcome costs were calculated for 9 months **from the time of referral to GIC-EEP** for the GIC-EEP group. The non-GIC-EEP group is composed of drug treatment court participants who reached a similar point in the program to those who were referred to GIC-EEP, but did not participate in GIC-EEP. An equivalent date to the GIC-EEP start date was obtained for the comparison group by using the entry date to the third step of the drug treatment court program, since this is when referrals were to be made to the GIC-EEP.<sup>27</sup> Outcome costs for the non-GIC-EEP group were calculated for 9 months from this equivalent point in their drug treatment court involvement (the third step of drug treatment court). For the outcome cost analysis, the GIC-EEP group consisted of 118 participants and the non-GIC-EEP group consisted of 202 participants. Note that the number of participants in the GIC-EEP group (n = 118) differs from the number of participants in the program costs analysis (n = 70) because NPC was able to obtain data on more participants for the outcome analysis than for the program costs analysis.

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 GIC-EEP participants compared to those drug treatment court participants who did not participate in GIC-EEP indicate that the GIC-EEP can provide a return on its investment and a savings to taxpayers. It is worth noting that while not a cost to taxpayers, participant income during the outcome period may have the added benefit of reducing participant reliance on taxpayers for living expenses and increasing the amount of income taxes paid on those earnings.

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<sup>27</sup> If the third phase entry date was not available, a proxy date was determined by examining case files to identify when urinalysis testing dropped from weekly to monthly occurrences.

The criminal justice system event outcome costs discussed below were calculated using information from NPC's Cost Analysis of the Baltimore City, Maryland Drug Treatment Court Report, updated to fiscal year 2008 dollars (Crumpton, Brekhus, Weller, & Finigan, 2003). 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. The wage data were obtained from the Maryland Department of Labor, Licensing, and Regulation (DLLR) through the University of Baltimore's Jacob France Institute, which maintains and updates the Maryland wage record archive.

## Outcome Transactions

A *criminal justice system event* consists of a re-arrest, followed by some combination of court case(s), drug treatment, probation, jail, and prison time. The event cost is based on a re-arrest, and is the average total per participant cost per arrest for court cases, drug treatment, probation, jail, prison, and the arrest. The cost model was constructed from the average total criminal justice system outcome cost per BCDTC participant in NPC's 2003 Cost Analysis of the Baltimore City, Maryland Drug Treatment Court Report, divided by the average number of re-arrests (to obtain a cost per arrest). This cost was updated to fiscal year 2008 dollars using the Consumer Price Index. The 2003 report used cost information from the budgets of the Baltimore City District Court, the Baltimore City Circuit Court, the Baltimore City Police Department, the Baltimore City State's Attorney's Office, the Maryland Office of the Public Defender, the Baltimore City Health Department, and the Maryland Department of Public Safety and Correctional Services. NPC researchers found the cost of a criminal justice system event to be **\$10,181.66**. This is an average of both District and Circuit Court cases. This cost takes the entire criminal justice system "episode" into account, including arrest, probation, jail, prison, drug treatment, and court case.

*Participant income during the outcome period* was calculated by counting the total amount of participant wages and dividing by the number of participants to obtain the average income per participant. The wage data from the Maryland Department of Labor, Licensing, and Regulation (DLLR) and University of Baltimore's Jacob France Institute include wages received per quarter and year. The wage data for 9 months after GIC-EEP entry (or the equivalent for the non-GIC-EEP group) were used for this outcome evaluation.

## Outcome Cost Consequences

Table 16 represents the criminal justice system outcome experiences of the GIC-EEP and non-GIC-EEP groups.

**Table 16. Average Criminal Justice System Outcome Costs per GIC-EEP and non-GIC-EEP Participant<sup>28</sup>**

Transaction	# of Transactions per GIC-EEP Participant	# of Transactions per non-GIC-EEP Participant	Cost per GIC-EEP Participant (n = 118) <sup>29</sup>	Cost per Non-GIC-EEP Participant (n = 202) <sup>30</sup>
Criminal Justice System Events	1.28	1.20	\$13,033	\$12,218

The GIC-EEP participants had a higher number of criminal justice system events during the 9-month outcome period than the non-GIC-EEP participants. This finding resulted in higher outcome costs for the GIC-EEP participants (\$13,033 versus \$12,218 for the non-GIC-EEP participants), although the difference between the two groups is small (\$815, or a difference of 6.7%). The results show that participating in the GIC-EEP did not lead to positive effects in participant criminal justice system outcomes in comparison to similar offenders who did not participate in GIC-EEP.

One reason that may account for this negative effect is that more non-GIC-EEP participants were still active in the drug treatment court program than GIC-EEP participants (52% versus 31%). Participants who are still engaged in comprehensive drug treatment court services and treatment often have more support and fewer opportunities to recidivate. While criminal justice system events are an important outcome measure, it is not the only measure that should be assessed. Table 17 below looks at total participant income over the 9-month outcome period for the GIC-EEP and non-GIC-EEP groups.

**Table 17. Average Participant Income per GIC-EEP and non-GIC-EEP Participant During Outcome Period**

Transaction	GIC-EEP Participants (n = 97)	Non-GIC-EEP Participants (n = 137)
Wages	\$3,463	\$2,688

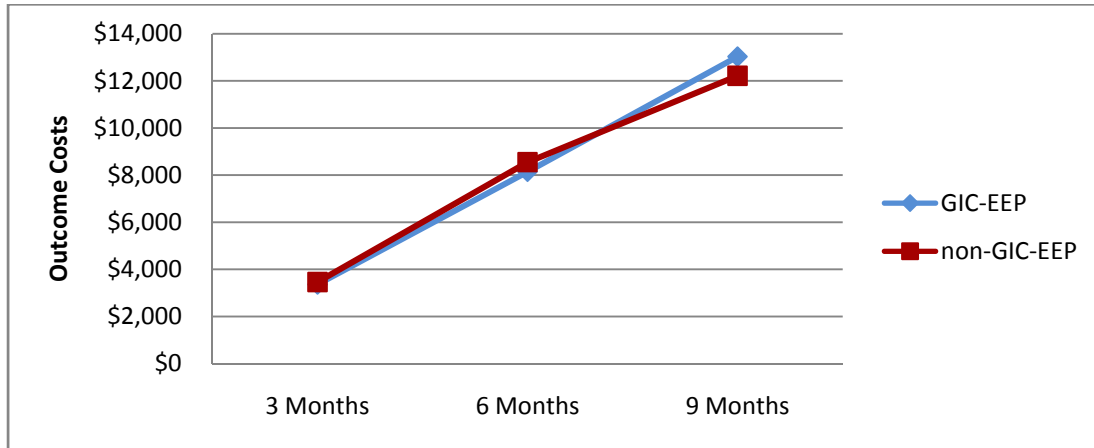
<sup>28</sup> Average costs per participant have been rounded to the nearest whole dollar amount.

<sup>29</sup> This number includes 36 GIC-EEP participants (31%) who were still active in the drug treatment court program during the 9-month outcome period.

<sup>30</sup> This includes 106 non-GIC-EEP participants (52%) who were still active in the drug treatment court program during the 9-month outcome period.

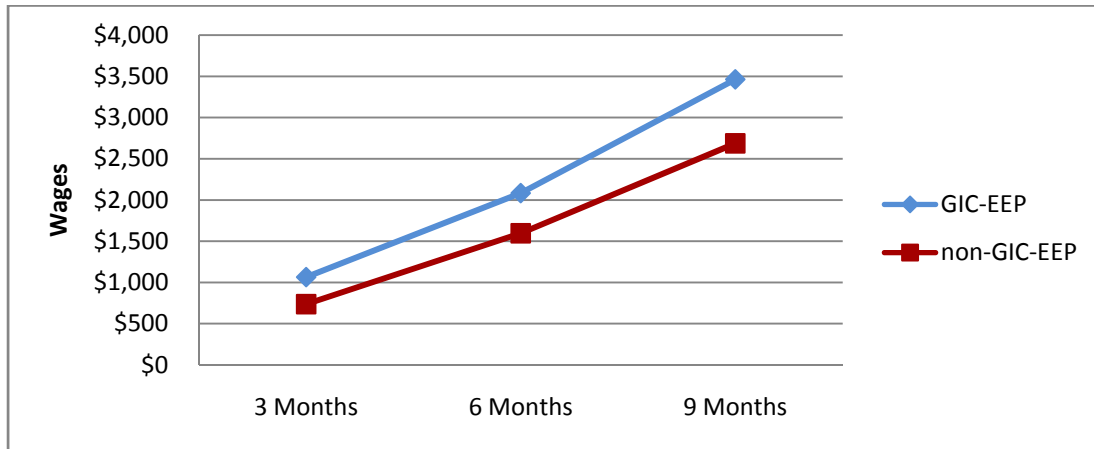
Table 17 reveals that GIC-EEP participants had higher wages on average over the outcome period than the non-GIC-EEP participants (\$3,463 versus \$2,688). This results in a difference of \$775, or 28.8%. The higher income experienced by the GIC-EEP group, when compared to the experience of the non-GIC-EEP group, can be seen as resulting in a benefit to both the GIC-EEP participants and to taxpayers. Participants with higher income are less likely to be reliant on taxpayers for public assistance (food stamps, welfare, housing, etc.) and are also likely to pay more in taxes, which reduces the burden on all taxpayers.

**Figure 5. Comparative Criminal Justice Cost Consequences per GIC-EEP and non-GIC-EEP Participant**



The comparative criminal justice system outcome cost experiences of GIC-EEP and non-GIC-EEP group members over 9 months are graphically represented per quarter in Figure 5 above. Outcomes are cumulative per quarter. Due to lower rates of recidivism, GIC-EEP participants initially experience slightly lower outcome costs when compared to the non-GIC-EEP participants (\$3,360 versus \$3,462 at 3 months; \$8,145 versus \$8,553 at 6 months), but at 9 months the GIC-EEP participants have more criminal justice system events and higher outcome costs than the non-GIC-EEP participants (\$13,033 versus \$12,218). As discussed above, this result may be due to the higher percentage of non-GIC-EEP participants that were still active in the drug treatment court program and receiving drug treatment and other related drug treatment court services.

**Figure 6. Comparative Income Consequences per GIC-EEP and non-GIC-EEP Participant**



The comparative effect of the GIC-EEP on the income of GIC-EEP and non-GIC-EEP group members over 9 months are graphically represented per quarter in Figure 6 above. Wages are cumulative per quarter. GIC-EEP participants show higher income at all points when compared to the non-GIC-EEP participants (\$1,064 versus \$736 at 3 months; \$2,083 versus \$1,597 at 6 months; \$3,463 versus \$2,688 at 9 months). This result shows that GIC-EEP services are effective in providing results for GIC-EEP participants. Namely, it results in participants finding jobs and earning more income than they would have without the GIC-EEP.

Note that these costs are those that have accrued in just the 9 months since GIC-EEP entry, and while many participants were still involved in the GIC-EEP and in drug treatment court. NPC was not able to cost outcomes beyond 9 months. A longer outcome period may reveal different results, so the impact of this program should be investigated further.

While the effect of the GIC-EEP on criminal justice system outcome costs was not positive for GIC-EEP participants by the 9-month follow-up time period, the effect on income was. It is possible that the higher income for GIC-EEP participants more than makes up for the negative criminal justice system outcomes because the reduction of participants’ use of public assistance and other taxpayer-funded services, as well as the increased taxes paid by participants, are not taken into account in this analysis. The higher income for GIC-EEP participants in subsequent quarters and years can be expected to continue to accrue over time, further repaying the program investment costs and providing further savings in opportunity resources to public agencies and to the participants themselves.

In NPC’s analysis of the GIC-EEP, employment services do not appear to have an impact on reducing criminality. It should be noted that the outcome period (9 months) was relatively short for an outcome cost analysis, so a future study with a longer outcome period is recommended. While the GIC-EEP employment services do have the benefit of assisting participants in finding jobs and earning more income (even for an oftentimes difficult to employ population), other interventions may be more appropriate for the purposes of lowering recidivism.



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## RECOMMENDATIONS

- Further study of the longer term and broader impacts of employment support services is needed using a larger sample and longer follow-up time, to test whether the lack of significant differences between the GIC-EEP and non-GIC-EEP groups were due to a lack of statistical power. Patterns may emerge later to indicate that the GIC-EEP program does positively impact DTC graduation rates or recidivism. The lack of findings in the current study should not be interpreted as conclusive evidence that there was no impact.
- Related to the sample size issue, referrals to this program need to be increased, or the program continued for a longer period of time, to result in a large enough sample to evaluate. GIC could increase outreach and education to probation agents to inform them about the program and develop relationships to increase referrals. This information needs to include clear instructions on when, who, and how to refer to the program.
- Efforts to obtain data for this study highlighted some areas where data quality could be improved.
  - Complete documentation of who is referred to the GIC-EEP program, and the program services that each person receives
  - Quality controls related to the location of data elements at the GIC offices
  - Quality controls related to the location of paper files and the contents of those files at the probation offices
  - Complete documentation of the individuals participating in each Drug Treatment Court (regardless of whether or not they are referred to GIC) and their current/completion status [that is, who is actively participating, date when they leave the program, and whether they graduate or leave prior to graduation]. Other data that were needed included:
    - Treatment completion
    - Phase changes (or alternatively, reductions in the number of drug court sessions or UAs)
    - Referrals to (and receipt of) other programs and services





## SUMMARY AND CONCLUSIONS

**D**ue to lower than anticipated numbers of referrals from Probation to Goodwill, and the necessary timing of the completion of this study, the sample size for the GIC-EEP group in this study was small. The low numbers required the evaluation team to use data from all participants, even during the program's early implementation. The small numbers may have prevented significant findings from appearing, especially when looking at sub-groups of participants. In addition, data for the full group of participants and the comparison group were not available or complete for many of the research questions of interest, further reducing the opportunity to find significant outcomes.

Based on available data, employment services did not appear to have an impact on increasing graduation rates or reducing criminality. It should be noted that the outcome period (9 months) was relatively short for an outcome cost analysis, so a future study with a longer outcome period is recommended. Close to half of the GIC-EEP participants were still participating in DTC by the end of the follow-up time period, and in other studies of drug courts, some recidivism results did not appear until 24 months after program entry.

While the GIC-EEP employment services do have the benefit of assisting participants in finding jobs and earning more income (even for an oftentimes difficult to employ population), other interventions may be more appropriate for the purposes of lowering recidivism. Because of the low rate of reoffending overall, and the lower rate of prior offending of the GIC-EEP group, it is possible that the lack of findings in this area was also related to characteristics of the group of people who probation agents selected for referral to GIC (as this selection process was not random). However, it is also possible that other interventions may be more appropriate than employment services for the purposes of lowering recidivism.

While the effect of the GIC-EEP on criminal justice system outcome costs was not positive for GIC-EEP participants by the 9-month follow-up time period, the effect on income was. It is possible that the higher income for GIC-EEP participants also reduced participants' use of public assistance and other taxpayer-funded services, as well as contributed to increased taxes paid by participants. These potential benefits are not taken into account in this analysis. The higher income for GIC-EEP participants in subsequent quarters and years can be expected to continue to accrue over time, further repaying the program investment costs and providing further savings in opportunity resources to public agencies and to the participants themselves.



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