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Because the DJS provides case management, drug testing, juvenile detention, residential, and shelter care to JDC participants, it shoulders 57% of the total JDC program costs. Due to the case management conducted by the Deputy Sheriff, the Sheriff's Office incurs the next largest expense for the JDC, followed by the ADAA and its support of drug treatment services.

The other agencies involved in the JDC program (Circuit Court, State's Attorney, Office of Public Defender, Mental Health Authority, Walden Sierra, OPSC, and the St. Mary's County Public Schools) incur their costs primarily through staff attendance at St. Mary's County JDC sessions, conducting case management or drug testing.

Local Versus State Costs for the JDC Program

State policy leaders and administrators may find it useful to examine programs costs by jurisdiction (state or local/county). The majority of JDC program costs accrue to the State of Maryland (70% or \$23,710 per participant), mainly due to the DJS placement services (detention, residential, and shelter care). The local or St. Mary's County portion of costs are 30% of total program costs per participant, or \$10,056.

Costs per Day Compared to Other Program Options

Maryland Department of Juvenile Services (DJS) per diem costs for juvenile placements are shown in Table 11, along with the cost per day of the Juvenile Drug Court (calculated by dividing the average program cost per participant by the average number of days participants spent in the JDC program). Two costs per day are shown for the JDC, one that includes DJS placements (such as detention and residential treatment) that occur while participants are in the program, and one without DJS placements.

This cost comparison makes it clear that while the JDC is more expensive than juvenile probation (\$99 per day vs. \$25 per day) because of the added treatment component, it is still much less expensive to keep youth in the community when possible than any other DJS placements such as detention, youth shelter or residential treatment.

Table 11. Average Cost per Day by Juvenile Placement

Juvenile Placement	Cost per Day
St. Mary’s County Juvenile Drug Court (including Placement Days)	\$99
St. Mary’s County Juvenile Drug Court (not including Placement Days)	\$50
Juvenile Probation	\$25
Juvenile Detention (Baltimore City Juvenile Justice Center)	\$316
Juvenile Detention (Charles H. Hickey, Jr. School)	\$549
Juvenile Detention (J. DeWeese Carter Center)	\$351
Juvenile Detention (Lower Eastern Shore Children’s Center)	\$443
Juvenile Detention (Thomas J. S. Waxter Children’s Center)	\$478
Juvenile Detention (Alfred D. Noyes Children’s Center)	\$416
Juvenile Detention/Youth Shelter (Cheltenham Youth Facility)	\$440
Youth Shelter (Maryland Youth Residence Center)	\$491
Residential Treatment (William Donald Schaefer House)	\$379
Residential Treatment (Victor Cullen Center)	\$499
Residential Treatment (Meadow Mountain Youth Center)	\$259
Youth Center (Western Maryland Children’s Center)	\$405
Youth Center (Backbone Mountain Youth Center)	\$259
Youth Center (Green Ridge Regional Youth Center)	\$214
Youth Center (Savage Mountain Youth Center)	\$259

COST EVALUATION QUESTION #2: OUTCOME/RECIDIVISM COSTS

What is the 18-month cost impact on the juvenile justice system of sending offenders through JDC or traditional court processing?

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

Outcome Cost Data

The outcome statistics reflect data through April 2009. There were 110 individuals for whom at least 18 months of outcome data were available (76 JDC participants and 34 comparison group members). This follow-up period was selected to allow a large enough group of JDC youth to be representative of the program, as well as to allow more robust cost numbers through use of as long a follow-up period as possible (with as many youth as possible having at least some time during the follow-up period that represented time after program involvement). All JDC participants in the cohorts included in these analyses had exited the program (graduated or were unsuccessful at completing the program).

Outcome costs were calculated for 18 months after JDC program entry. The outcome costs discussed below do not represent the entire cost to the criminal justice system. Rather, the outcome costs include the transactions for which NPC's research team was able to obtain outcome data and cost information. However, we believe that the costs represented capture the majority of system costs. Outcome costs were calculated using information from the St. Mary's County Sheriff's Office, the Maryland Circuit Court in St. Mary's County, the St. Mary's County State's Attorney's Office, the Maryland Office of Public Defender in St. Mary's County, the Maryland Department of Juvenile Services in St. Mary's County, and the Maryland State Operating Budget (FY 2009).

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

Outcome Transactions

Juvenile Arrests for St. Mary's County are conducted by multiple law enforcement agencies. However, the St. Mary's County Sheriff's Office is the primary arresting agency and the agency used for this outcome cost analysis. Other arresting agencies include Maryland State Police and the Department of Natural Resources Police. The average cost of a single arrest conducted by the St. Mary's County Sheriff's Office is **\$218.63**.

Juvenile Court Cases include all court cases, including those cases that are reviewed and rejected by the St. Mary's County State's Attorney's Office, as well as those cases that result in arraignment and are adjudicated. Court case costs are shared among the Maryland Circuit Court, the St. Mary's County State's Attorney's Office, and the Maryland Office of the Public Defender. The average cost of a juvenile court case is **\$5,072.72**.

Juvenile Probation is provided by the Maryland Department of Juvenile Services. A representative of DJS provided NPC's researchers with the cost of juvenile supervision, which was identified as **\$25.06** per day.

Shelter Care is funded by the Maryland Department of Juvenile Services. Facilities providing shelter care are state-owned and operated facilities. The cost of shelter care is **\$440.00** per person per day at Cheltenham Youth Facility, which was used as a proxy for all other shelter care facilities that participants in this cost analysis attended.

Residential Care is funded by the Maryland Department of Juvenile Services. Residential care is **\$379.00** per person per day at the William Donald Schaefer House and **\$259.00** per person per day at the Meadow Mountain Youth Center. The average cost of residential at these two facilities

is **\$319.00** per person per day, which was used as a proxy for other residential facilities that participants in this cost analysis attended.

Juvenile Detention is provided by the Maryland Department of Juvenile Services. Detention facilities are state-owned and operated facilities. These facilities include the Cheltenham Youth Facility (for boys) and the Thomas J. S. Waxter Children’s Center (for girls). Juvenile detention is **\$440.00** per person per day at the Cheltenham Youth Facility and **\$478.00** per person per day at Waxter Children’s Center. The St. Mary’s County juveniles in this analysis also attended other detention facilities throughout the state. The average cost of Cheltenham Youth Facility and Waxter Children’s Center—**\$459.00**—was used as a proxy for other detention facilities.

NPC’s researchers were not able to acquire the individual level **adult** outcome data for the comparison group sample required to assess the impact of the Baltimore County Juvenile JDC on adult criminal justice system costs. As a result, no adult costs are included in this analysis.

Outcomes and Outcome Cost Consequences

Table 12 presents the average number of juvenile justice system outcome events (e.g., the average number of juvenile re-arrests, the average number of juvenile probation days, etc.) incurred per participant for St. Mary’s County JDC graduates, all participants (both graduated and non-graduates combined), and the comparison group for 18 months after entry date (or equivalent date for the comparison group).

Table 12. Average Number of Outcome Transactions per JDC and Comparison Group Member (Including JDC Graduates) Over 18 Months

Transaction	JDC Graduates N = 50	All JDC Participants N = 76	JDC Comparison Group N = 34
Juvenile Arrests	0.62	0.87	0.97
Juvenile Court Cases	0.10	0.24	0.38
Juvenile Probation Days	76.22	173.49	217.17
Cheltenham Detention Days	1.08	6.73	2.10
Waxter Detention Days	0.42	0.41	0.42
Other Detention Days	0.00	4.81	13.79
Schaefer Residential Days	0.00	0.00	6.26
Meadow Mountain Residential Days	0.04	13.26	0.00
Other Residential Days	0.02	2.43	2.06
Cheltenham Shelter Days	0.17	0.59	2.65
Other Shelter Days	0.39	1.55	0.00

As can be seen in this table, JDC participants have fewer re-arrests, juvenile court cases, juvenile probation days, detention days and shelter care days than members of the comparison group. Residential days are the only outcome transaction for which JDC participants show a higher rate

than the comparison group. From these results an interpretation can be reasonably asserted that participation in JDC is associated with less severe juvenile recidivism activity.

Graduates of the JDC show smaller numbers than all drug court participants and comparison group members across every transaction. It is also clear from Table 12 that participants who ultimately are discharged from the program are responsible for the majority of the consumption of juvenile justice system services during the outcome time period, especially in terms of detention and residential care.

Outcome Cost Results

Table 13 demonstrates the costs associated with the outcomes described above for all JDC participants, JDC graduates, and the comparison sample.

Table 13. Juvenile Justice System Outcome Costs per JDC and Comparison Group Member (Including JDC Graduates) Over 18 Months

Transaction	Transaction Unit Cost	JDC Graduates N = 50	All JDC Participants N = 76	JDC Comparison Group N = 34
Juvenile Arrests	\$218.63	\$136	\$190	\$212
Juvenile Court Cases	\$5,072.72	\$507	\$1,217	\$1,928
Juvenile Probation Days	\$25.06	\$1,910	\$4,348	\$5,442
Cheltenham Detention Days	\$440.00	\$475	\$2,961	\$924
Waxter Detention Days	\$478.00	\$201	\$196	\$201
Other Detention Days	\$459.00	\$0	\$2,208	\$6,330
Schaefer Residential Days	\$379.00	\$0	\$0	\$2,373
Meadow Mountain Residential Days	\$259.00	\$10	\$3,434	\$0
Other Residential Days	\$319.00	\$6	\$775	\$657
Cheltenham Shelter Days	\$440.00	\$75	\$260	\$1,166
Other Shelter Days	\$440.00	\$172	\$682	\$0
Total		\$3,492	\$16,271	\$19,233

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

Table 13 reveals that JDC participants cost less for every transaction except residential, due to less severe juvenile justice recidivism. The cost for detention (\$5,365) is the most expensive transaction for JDC participants, followed by juvenile probation (\$4,348) and residential care (\$4,209). If the use of detention and residential care had been less for the JDC participants (and especially the JDC participants who did not successfully graduate), the overall cost savings due to program participation would have been substantially greater.

The total average cost savings after 18 months is **\$2,962** per JDC participant, regardless of whether or not the participant graduates. If the JDC program continues in their current capacity of serving a cohort of 25 participants annually, this savings of \$1,975 per participant per year

(\$2,962 divided by 1.5) results in a yearly savings of **\$49,375** per cohort year, which can then continue to be multiplied by the number of years the program remains in operation and by the number of cohorts over time. This savings continues to grow for participants every year after program entry. If savings continue at the same rate, after 10 years the savings *per cohort* will total **\$493,750**.

Another interesting point of analysis involves the graduates. We have previously introduced the idea of considering this group from an epidemiological perspective—this is the group that has received the designed “dosage” and term of treatment for the therapeutic intervention under consideration. From this perspective the difference in average total cost between this group and the comparison group of \$15,741 after 18 months is an immediate return on the therapeutic investment in the graduate group. However, it is important to remember that the graduates are not directly comparable to the comparison group as they are the most successful participants.

Outcome Costs by Agency

As was noted above in our discussion regarding the attractiveness of the TICA approach to program cost analysis, in this study NPC was able to identify the juvenile justice outcome costs on an agency-by-agency basis. In Table 14 we present the outcome costs by agency.

Table 14. Juvenile Justice System Outcome Costs by Agency JDC and Comparison Group Member (Including JDC Graduates) Over 18 Months

Jurisdiction/Agency	JDC Graduates N = 50	All JDC Participants N = 76	JDC Comparison Group N = 34	Difference (Benefit)
St. Mary’s County Circuit Court	\$138	\$330	\$523	\$193
St. Mary’s County State’s Attorney’s Office	\$258	\$619	\$981	\$362
St. Mary’s County Sheriff’s Office	\$136	\$190	\$212	\$22
Maryland Office of the Public Defender	\$111	\$268	\$424	\$156
Maryland Department of Juvenile Services	\$2,849	\$14,864	\$17,092	\$2,228
Total¹⁶	\$3,492	\$16,271	\$19,232	\$2,961

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

Similar to many of the drug court studies in which NPC has been involved, greater outcome savings associated with JDC participants accrue to some agencies than others:

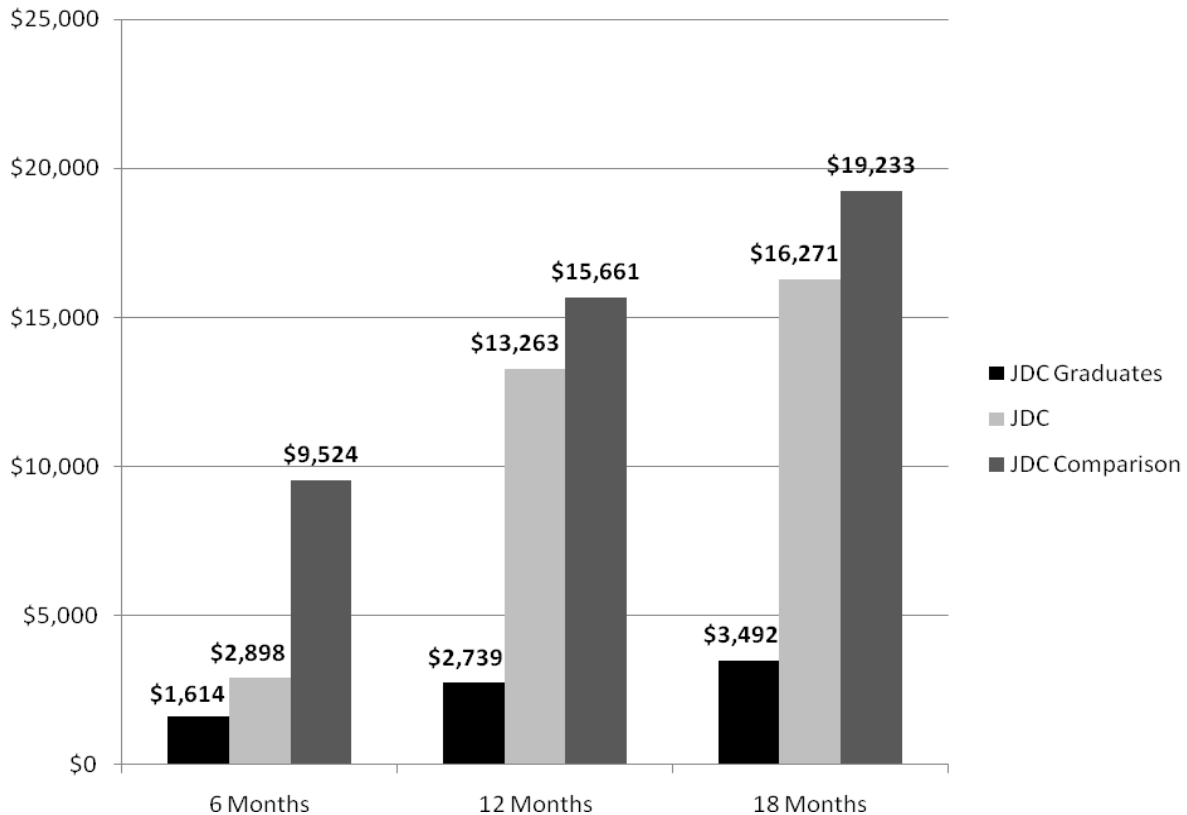
- 10% in outcome costs savings was shown for the St. Mary’s County Sheriff’s Office, due to fewer juvenile re-arrests;
- 13% in outcome costs savings was shown for DJS, due to fewer placements for JDC participants than for comparison group juveniles;
- 37% in outcome costs savings was demonstrated for the Circuit Court, State’s Attorney’s Office, and Office of the Public Defender.

¹⁶ Totals in this row may not match the totals in the outcome costs by transaction table due to rounding.

A focus on JDC graduate outcome costs illuminates even more dramatic agency-specific outcome cost impacts. Due to low rates of recidivism, JDC graduates show outcome costs of \$3,492 (\$12,779 less than all JDC participants and \$15,740 less than the comparison group) after 18 months.

Figure 7 displays a graph of the cumulative outcome costs over the 18 months post-JDC entry (or the equivalent for the comparison group). Note that these results by 6 month periods are not the same participants over time, but represent those different cohorts of participants who had at least 6, 12, and 18 months of follow-up time, respectively.

Figure 7. Juvenile Justice Recidivism Cost Consequences per JDC and Comparison Group Member (Including JDC Graduates) Over 18 Months



COST EVALUATION QUESTION #3: COST OF TIME BETWEEN ARREST AND JDC PROGRAM ENTRY

What is the impact on the juvenile justice system of the time between the eligible arrest and JDC program entry (in terms of arrests and detention)?

Key Component #3 of the Key Components of Drug Courts is about identifying eligible individuals quickly and promptly placing them in the drug court program. A shorter time between arrest and program entry helps ensure prompt treatment while also placing the offender in a highly supervised, community-based environment where he or she is less likely to be re-arrested and therefore less likely to be using other juvenile criminal justice resources. The longer the time between arrest and program entry, the greater the opportunity for offenders to re-offend before entering treatment. This gap leads to the question, what is the impact in terms of re-arrests and detention in the time between arrest and entry into the JDC program for participants? These two areas were selected to highlight this question because detention is the primary cost incurred by

the program and arrests are representative of the public safety impact of individuals in the community committing additional crimes.

This section describes the juvenile criminal justice costs for arrests and detention experienced by JDC participants between the time of the JDC eligible arrest and JDC program entry. Both transactions were described in the outcome costs section above. Costs were calculated from the time of the program eligible arrest to program entry (an average of 101 days for JDC participants and 94 days for JDC graduates).

Costs Between Arrest and JDC Entry

Table 15 represents the costs of re-arrests and detention time per person for JDC graduates and all JDC participants (graduates and non-graduates combined) from the program eligible arrest to program entry.

Table 15. Re-arrest and Detention Costs per JDC Member (Including JDC Graduates) From Arrest to Program Entry

Transaction	Transaction Unit Cost	Average Number of Transactions per JDC graduate	Average Cost per JDC Graduate N = 51	Average Number of Transactions per JDC Participant	Average Cost per JDC Participant N = 90
Arrests	\$218.63	0.00	\$0	0.00	\$0
Cheltenham Detention Days	\$440.00	1.00	\$440	1.47	\$647
Waxter Detention Days	\$478.00	0.75	\$359	0.73	\$349
Other Detention Days	\$459.00	10.35	\$4,751	8.06	\$3,700
Total			\$5,550		\$4,696

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

As can be seen in Table 15, there are substantial costs accruing to the juvenile justice system from the time of the JDC eligible arrest through entry into the JDC program (\$4,696 for all JDC participants and \$5,550 for JDC graduates). It should be noted that these costs only include arrests and detention time during the time from the JDC eligible arrest to entry into the JDC (an average of 101 days for JDC participants and 94 days for JDC graduates). Other criminal justice costs, such as court cases and juvenile probation days are also most likely accruing. These costs emphasize that the sooner the JDC gets offenders into the program, the more criminal justice system costs can be minimized.

COST EVALUATION SUMMARY

Overall, the JDC results in cost savings and a return on taxpayer investment in the program. The program investment costs are \$33,768 per JDC participant. When DJS placements are excluded, the program investment cost is \$17,060 per participant. When program costs are divided by the average number of days in the program, the cost per day per participant for the JDC program is

\$99.09 (\$50.06 when DJS placement costs are excluded), which is lower than the per day cost of every type of DJS placement (detention, residential, and shelter care). If the program made a policy decision to suspend or revoke program participation of youth who are sent to longer term placements, the program costs would be reduced and those placement costs would only be attributed to the outcomes equation.

The cost due to recidivism over 18 months from program entry was \$16,271 per JDC participant compared to \$19,233 per comparison individual, resulting in a savings of \$2,962 per participant (regardless of whether they graduate). The majority of the cost in outcomes for JDC participants over the 18 months from JDC entry was due to time in DJS placements (\$10,516), mostly for participants who were unsuccessful in completing the program.

In sum, the JDC program had a cost savings of \$2,962 per participant over 18 months, so there is a clear benefit to the taxpayer in terms of juvenile justice related costs in choosing the JDC process over traditional court processing.

DISCUSSION-SUMMARY OF FINDINGS

This study of the St. Mary's County Juvenile Drug Court program shows preliminary outcomes that are very positive for drug court participants, compared to youth who had similar demographic characteristics and criminal histories but who did not participate in drug court. JDC youth had significant reductions in substance use and offending over time. Some of these results were not statistically significant, due to small numbers in both drug court and comparison groups for the follow-up periods of interest. However, the trends in re-arrest rates and average numbers of new arrests look promising for the drug court program participants. In addition, JDC participants cost the juvenile justice system less money after program participation than youth in the comparison group who experienced traditional court processing. Youth who graduate from the program cost the juvenile system substantially less than program participants overall, mostly due to their low rates of recidivism and their less use of detention and other out-of-home placements.

The main cost that drives the difference between graduates and non-graduates (and comparison group members) is placement—longer term stays in detention and residential treatment programs. It is important to pay close attention to the use of detention compared to the use of needed treatment/therapeutic settings, as the youth with greater detention stays did not appear to gain benefits (reduced recidivism or increased program graduation) due to the extensive use of this sanction. The program has had policies of admitting youth who need intensive services and who have not previously been successful under community supervision. Some of these youth, while otherwise heading to placement, have been able to avoid these placements due to the support of the drug court program. Perhaps one comparison to consider is the cost that would have accrued if there had been no drug court alternative and thus all drug court participants had been sent to placement instead. Additionally, the program has chosen to retain in the program youth even after they have been sent to placement, which could be seen as artificially inflating program costs. One consideration might be to revoke participation after a specified number of detention days have accumulated. In this study, the cost of detention were the largest single cost, and while a small proportion of youth (11%) had extended detention stays, they did affect the per person cost of the program overall as well as the program's outcome costs. The program may want to discuss its policy of retaining youth regardless of placement durations while in the program and the cost implications of this decision balanced with the potential benefits.

Another important discussion for program staff to engage in is the distinction between substance use that represents a treatment need [e.g., using substances as a coping mechanism because the youth has not learned healthier tools], which requires increased treatment and other supports, from substance use as an acting-out or rebellious behavior [e.g., partying with friends because the youth thinks he or she can get away with it] that are best addressed with incentives and sanctions. Once the program ensures it has implemented distinctions between sanctions and treatment responses, then the program can hold other discussions about program policies regarding use of detention as a sanction and how to address unsuccessful participation.

This program may also want to review the services available for participating youth, to make sure that the intensity of services matches the need as indicated by the substance abuse assessment and juvenile justice risk assessment. In addition, the program should ensure that all youth have access to aftercare and transitional services, to maximize their chance for success after the end of treatment and program participation.

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

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