

Virginia Drug Treatment Court Programs

Cost-Benefit Feasibility Report

2006



*Office of the Executive Secretary
Supreme Court of Virginia*

PREFACE

The Virginia Drug Treatment Court Act (*Code of Virginia* §18.2-254.1) directs the Office of the Executive Secretary of the Supreme Court of Virginia (OES), in consultation with the state drug treatment court advisory committee, to develop a statewide evaluation model and conduct ongoing evaluations of the effectiveness and efficiency of all local drug treatment courts. This report provides support for planning this evaluation process.

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I. OVERVIEW

In developing an evaluation strategy to assess the effectiveness of Virginia's drug treatment court programs, it is important to consider one of the predominant questions asked by policymakers: Are these programs cost-effective? The Supreme Court of Virginia has taken initial steps in addressing this issue through the development of this report, which focuses on the feasibility of a cost-benefit study for Virginia's drug treatment court programs. This document reviews existing literature on cost-efficiency methodologies generally and drug court cost-benefit research specifically, summarizes the results of a statewide meeting about cost-benefit research for Virginia's drug treatment courts, and assesses Virginia's current readiness for a study of this type.

The prevailing literature on cost-benefit techniques, as well as relevant studies that have been conducted on drug treatment court programs, reveal several guiding principles. To maximize utility and meaningfulness, cost-benefit analyses are most appropriate for mature programs. Participant volume is also important because a relatively large number of cases are needed in order to perform the complex statistical analyses necessary for this type of study. Based on a review of participant volume and years of operation for all Virginia drug treatment court programs, it appears that only three of the 27 programs currently meet these basic requirements.

Furthermore, such studies are recommended only in circumstances when a program's effectiveness has been demonstrated. No statewide evaluation of Virginia's drug treatment court programs has been conducted which convincingly establishes program effectiveness. Selected programs have engaged in impact studies at the local level, however, such research will require thorough review to ensure compliance with established research principles before they can be considered as the foundation for a cost-benefit study.

In addition, cost-benefit analyses require that both costs and outcomes be reduced to monetary terms. Cost-benefit studies have been successfully conducted in other states by converting the most prevalent desired outcome for adult and juvenile drug treatment court programs, reduced recidivism, to a monetary level; however, appropriate and trustworthy data must be available to perform these tasks. While many databases exist in Virginia that may inform this process, preliminary findings from this review suggest that the thoroughness and quality of these data may not be sufficient to support a cost-benefit analysis. The existing drug treatment court information system is currently being re-vamped due to several challenges, such as inconsistent data entry patterns and inadequate data definitions. In addition, the existing MIS does not capture data relevant to the family drug court process or its primary outcome, that is, permanent placement for children of addicted parents.

Given these findings, the future research plan should entail two primary evaluation initiatives. Because local drug court models, processes, and procedures vary widely, a statewide process evaluation is critical to gain a clear understanding of the current conditions in each program site. The process study will also provide the foundation for the second component: impact studies for applicable programs. Impact evaluations are necessary to assess the program's effectiveness in achieving the primary desired outcomes for each model (i.e., reduced

recidivism for adult and juvenile programs; enhanced permanency for family programs). Both the process and impact evaluation studies will provide foundational information to develop the appropriate methodology for cost-benefit analyses, when the underlying prerequisites are satisfied. Taking into account the amount of time required to accomplish the suggested process and impact evaluation components, a realistic timeframe for initiating a cost-benefit study appears to be a minimum of two years.

II. PRINCIPLES OF COST-EFFICIENCY ANALYSES

As Virginia and the national criminal justice community consider the value of drug treatment court programs, examinations of program impact also raise the looming question of cost-benefit. At face value, drug treatment courts provide an intense array of services to a very small number of offenders, putting in question the potential value as compared to costs. However, the potential expense of maintaining these offenders in the criminal justice system may also be significant and problematic. As drug court programs are considered for expansion or continuation, it is important to consider how program outcomes compare to their costs.

Foundations of Cost-Efficiency Analyses

Ideally, the premise behind cost-efficiency research is to identify services which provide the most value, or benefits, at the lowest level of expenditures (Belenko, Patapis, and French, 2005). Such analyses should not be viewed as an isolated decision-making tool, but rather as one part of a larger information collection process that guides the ultimate assessment (Lawrence & Mears, 2006; Rossi, Freeman and Lipsey, 1999). Other factors, including political implications, are not incorporated into cost-efficiency reviews, but may affect decision-making.

The use of cost-efficiency analyses to examine social programs has become increasingly customary in recent years; however, this practice is not universally supported (Rossi et al., 1999). Some stakeholders are reluctant to assign monetary values to the outcomes which result from many social interventions, and this conversion can sometimes be quite difficult. In addition, even when programs show limited impact, there may be unfavorable political implications to discontinuing programs that have been regarded positively over time.

Types of Efficiency Analyses

Two types of efficiency analyses, cost-benefit analysis and cost-effectiveness analysis, are most common in examinations of social programs (Rossi et al., 1999). A brief review of the differences between these types is provided below.

Cost-benefit analysis. In cost-benefit studies, all benefits and costs are reduced to monetary terms and then compared to determine whether the benefits outweigh the costs. Characteristics of cost-benefit analyses include (Rossi et al., 1999):

- Program costs and benefits must be known and quantified,
- The analysis must adopt a particular economic perspective,
- Costs and benefits must be transformed into a common monetary measurement,
- Costs and benefits should reflect the lifetime of the program, and
- Future costs and benefits must be discounted to reflect present values.

For a typical criminal justice program, this analysis would compare dollars spent on an intervention with the cost savings generated from reduced crime (e.g., cost savings due to lower caseloads in courts and reduced incarcerations) to establish a cost-benefit ratio. Cost-benefit analyses are quite complex in social programs and require considerable technical sophistication.

Cost-effectiveness analysis. For cost-effectiveness analyses, effectiveness is assessed using the monetary value of the costs; however, benefits are expressed in terms of a desired level of outcome or results rather than monetary units (Rossi et al., 1999). Programs can only be compared if they have similar goals and the same desired outcomes. Cost-effectiveness studies are most beneficial when evaluating programs with similar outcomes that may be difficult to convert into monetary values, and are consequently seen as a more appropriate technique for examining many human services initiatives. This is particularly advisable in circumstances where it may be politically or socially controversial to convert outcomes into monetary values. Carrying forward with the criminal justice intervention example cited above, a cost-effectiveness review would focus not on the monetary cost-benefit ratio, but rather on the desired outcome, such as estimating the dollars expended to prevent an act of recidivism.

Recommended Conditions for Efficiency Analyses

For programs such as drug treatment courts, efficiency analyses are most typically conducted after a program has been in place for some time and there is an interest in making it permanent or possibly expanding it (Boardman, Greenberg, Vining, and Weimer, 2006; Rossi et al., 1999). To ensure that cost-benefit results are reasonably meaningful, it is also important to consider the total number of participants or observations available to analyze. Outcomes or benefit information should be collected on a sufficient number of participants to provide an adequate sample for drawing conclusions. By selecting programs with sufficient maturity, this consideration is often satisfied.

Other factors should be considered as well. Efficiency analyses are most appropriately used as an extension of impact evaluation, and are not an appropriate use of resources if effectiveness has not been demonstrated (Rossi et al., 1999). Cost-benefit analyses, when conducted rigorously, can also be quite complicated and expensive, which may be beyond available evaluation resources. In addition, attempts to assign monetary values on selected input and outcomes measures may not be accepted by the primary audience, thereby limiting the utility of findings. Finally, cost-benefit analyses will be limited in usefulness if trustworthy, comprehensive data are not available to support the development of cost and benefit estimates.

Steps in the Cost-Benefit Analysis Process

A recent report by the Urban Institute (Lawrence and Mears, 2006) provides a very straightforward review of the steps in cost-benefit analysis. Table 1 portrays the primary steps, which are explained in this section.

Clearly state the question under consideration. This initial step is often neglected; however, the primary cost-benefit question should be clearly articulated to guide the analysis. Using drug treatment courts as an example, the cost-benefit question may be phrased as follows:

Do the averted costs of criminal offending from reduced recidivism exceed the total cost of operating drug treatment courts?

Table 1
Key Steps in Conducting a Cost-Benefit Analysis

<ul style="list-style-type: none"> • <i>Clearly state the question under consideration.</i> • <i>Determine whose perspective from which costs and benefits will be assessed</i> • <i>Identify benefits and costs.</i> • <i>Assign values to benefit and cost items and compare total benefits and total costs to determine net value and the cost-benefit ratio.</i> • <i>Address issues of uncertainty using sensitivity analysis.</i> • <i>Incorporate time and discounting into analysis.</i> • <i>Articulate the limitations of the methodology and the analysis.</i>
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(Lawrence and Mears, 2006)

Determine the perspective. The perspective taken in an efficiency analysis depends on how the results may be used. Cost-benefit results may be conducted from three primary perspectives, as described below (Rossi et al., 1999).

- *Individual target:* Adopts the viewpoint of the persons, groups, or organizations receiving the intervention or services.
- *Program sponsor:* Adopts the perspective of the funding sources (private foundation, government agency, or for-profit firm). This point of view is most appropriate when the sponsor must make decisions between alternative programs due to finite funding levels.
- *Communal:* Adopts the point of view of the community or society as a whole. While this perspective is most comprehensive and politically neutral, it is also the most complex.

For drug treatment court programs, the individual target perspective would include any costs and benefits for the program participants. The program sponsor perspective would include costs and benefits to the criminal justice system, while the communal perspective would include any costs and benefits to victims and society.

The stakeholder or sponsor audience should generally guide decisions regarding the most appropriate perspective to adopt. Some situations may warrant separate analyses to accommodate multiple perspectives, as the relevant set of benefits and costs depends on the adopted perspective (Lawrence and Mears, 2006). It is also important to recognize that an item which constitutes a cost to one audience may actually be perceived as a benefit to another.

Identify costs and benefits. Generation of a list of costs and benefits should occur early in the process, allowing stakeholders to clarify goals and identify both obvious and non-obvious considerations (Lawrence and Mears, 2006). This question may be useful to guide this discussion:

Will the cost still be incurred (or the benefit still be accrued) if the initiative being considered is not undertaken?

Any costs that would occur, or benefits that accrue, regardless of whether the initiative is undertaken should not be included in a cost-benefit review. Two primary categories of costs are most important to consider (Lawrence and Mears, 2006). *Fixed costs* are constant and do not

vary with the size or amount of activity. *Marginal or variable costs* vary depending on the level of activity, number of clients, or even the specific needs of each client. In criminal justice research, for example, this is a particularly relevant issue when deciding what costs should be used to estimate savings from reduced incarceration. It is important to understand that many of the costs associated with the operation of prisons and juvenile correctional centers are fixed, and may not change with small decreases in daily population. It may be advisable to determine what the marginal or variable costs are so that cost savings based on reduced incarceration are not overestimated.

Assign values to benefit and cost items and compare total benefits and total costs to determine net value and the cost-benefit ratio. Several different strategies exist for measuring costs and benefits, and none can be classified as “correct”. With respect to treatment services, many factors apply that may affect relative costs, such as length of treatment, addiction severity, staff expertise, etc. (Belenko et al., 2005). However, it is important that key stakeholders agree upon the strategies to determine values for the most pertinent costs and benefits. This ensures buy-in that improves ultimate utilization of the research findings.

Stakeholders should also clarify the desired comprehensiveness of valuation, which is a topic of some debate (Lawrence and Mears, 2006). One position is that all relevant costs and benefit items must be assigned a monetary value, and therefore included in the equation. Consequently, both tangible and intangible costs and benefits should be included. This strategy is common in cost-benefit studies for drug treatment court programs. The converse opinion allows the elimination of items that are particularly difficult to value due to lack of appropriate data, as well as those which may be controversial to value based on principle (e.g., feeling safe).

Address issues of uncertainly using sensitivity analysis. In assigning values to costs and benefits, some uncertainty is expected. Statistical techniques such as sensitivity analyses can account for this factor by testing a range of values against cost-benefit results (Lawrence and Mears, 2006). By testing for various scenarios that could occur, this technique allows researchers to determine the “tipping point” when the costs outweigh the benefits and vice versa. For example, statistical analyses may be performed to examine the point at which increases in treatment costs exceed the cost savings from reduced incarcerations.

Incorporate time and discounting into analysis. For many interventions, costs and benefits may actually accrue over an extended length of time. For analyses that include multiyear items (e.g., incarceration), costs should be discounted (i.e., reduced) to reflect the decreased value of money over time (Lawrence and Mears, 2006).

Articulate the limitations of the methodology and the analysis. Finally, cost-benefit analyses entail many assumptions that should be fully explained to the audience. The corresponding limitations, some of which are outlined in the above section, should also be clearly communicated.

Given these principles and practices for cost-benefit analysis, it is clear that many methodological decisions must be determined on a case-by-case basis, in accordance with the needs and characteristics of the program and its stakeholders. A review of prevailing literature which demonstrates this variation for drug court programs is provided below.

III. REVIEW OF DRUG COURT COST-BENEFIT STUDIES

To further inform a potential cost-benefit analysis of Virginia's drug court programs, the most compelling research literature was examined. The four cost-benefit studies described in this chapter were identified as the only methodologically sound cost-benefit studies conducted to date in a recent review of adult drug court evaluations by the U. S. General Accounting Office (GAO, 2005). In addition to describing the various approaches that have been used to examine drug court costs, details regarding the impact evaluation component of these studies are also included, as this is an important preliminary step to performing a cost-benefit analysis.

Breaking the Cycle Program (Harrell, Mitchell, Merrill, and Marlowe, 2003)

In this study, evaluators examined the impact of the Breaking the Cycle (BTC) demonstration projects conducted in the following sites between 1997 and 2001: Birmingham, Alabama; Jacksonville, Florida and Tacoma, Washington. The primary components of the BTC program included early intervention, judicial oversight, use of graduated sanctions and incentives, and close collaboration among criminal justice and drug treatment agencies. Specifically, all offenders with felony charges in the demonstration sites were ordered to BTC for drug screening in order to be eligible for pretrial release. Those defendants who reported drug use, tested positive for drugs, or who were arrested on drug related charges were placed in drug testing. Based on the results of the drug testing, defendants were then referred to drug treatment or drug education classes.

To determine the impact of the program on drug use and crime, researchers compared BTC participants with comparable samples of defendants arrested the year before BTC implementation on several different outcome measures. Impact information is based on interviews conducted with both the drug court participants and the offenders in the comparison sample shortly after arrest and approximately nine months later. In addition, official arrest records were used to determine arrests before and in the year after the arrest for both BTC and comparison offenders. For each of the outcome variables studied, statistical techniques were used to control for pre-existing differences between the BTC sample and the comparison sample.

In two of the demonstration sites, Birmingham and Jacksonville, BTC participants reported less drug use within the past 30 days than the comparison groups during the 9-month follow-up interviews. Self-reported criminal activity was also lower among BTC participants than comparison groups in all three demonstration sites. Additionally, official arrest data reviewed for all defendants one year following entry into the study sample revealed significantly fewer re-arrests for BTC participants than for comparison groups in both Birmingham and Tacoma. Reductions in family problems, psychological problems, employment difficulties and social difficulties were found among BTC participants as well.

Researchers also examined the costs and benefits of the BTC program. The methodology used to collect this information is shown in Table 2. The results of this analysis indicated that the monetary benefits outweighed the costs for all three sites. The value of averted crime costs for every dollar of investment was estimated to be \$2.30 in Birmingham, \$2.60 in Jacksonville, and \$5.30 in Tacoma. The researchers noted that additional benefits related to reduced medical costs, reduced mental health costs, reduced public assistance, and increased employment income

were not included because significant benefits were not observed, possibly because the follow-up period was inadequate for assessing these impacts. The researchers also pointed out that not all cost savings could be immediately converted into budget dollars for the participating agencies since the cost of crime included in the analysis represented costs to other stakeholders, such as victims of crime.

Table 2 Methodology for Breaking the Cycle (Harrell, Mitchell, Merrill, and Marlowe, 2003)	
1. Estimating the additional per-person cost of BTC	Costs considered in this analysis included program operating costs (i.e., testing and assessment, referral and case management, direct services from BTC and ongoing operations of the MIS), and the costs of treatment outside of BTC. These costs were based primarily on NIJ/ONDCP funding and costs for services supplied by and to the treatment agency to operate BTC. The costs to the courts (judges and court staff), prosecutors, and defense bar, including sanctions, were included as well. These costs were based on staff salary levels and the estimated amount of time devoted to BTC efforts. Total costs were calculated for a defined period of time, and then divided by the number of persons served during that time period to estimate the cost per person for the BTC program.
2. Estimating the per-person value of averted offending (benefit)	Criminal offending was measured from self-reported criminal activity, regardless of whether an arrest was made. The costs of each offense type were based on estimates provided by Roman and Harrell (2001) and included direct costs to the public (e.g., criminal justice system costs), as well as direct costs to the victims of crime (e.g., medical care, mental health care, lost productivity, and property loss, but <u>not</u> pain and suffering). Examples of these estimated costs include the following: \$23,832 for arson, \$2,035 for assault, and \$3,576 for robbery.
3. Estimating the per-person value of averted arrests (benefit)	For this analysis, arrest information was based on official arrest data. The costs of arrests were based on the estimated days of incarceration following the first arrest in the year after BTC participation. Costs for law enforcement and courts were not included because researchers determined that staff resources at these agencies would not have been significantly affected by the relatively small change in the number of arrestees. The daily cost of averted incarceration was based on the cost of a day in jail. Based on previous studies examining the average length of incarcerations following arrests, researchers estimated the average length of incarceration to be six months (Bureau of Justice Statistics, 1995; Camp and Camp, 1996).
4. Calculating the benefit-cost ratio	The benefit-cost ratio was calculated by dividing the total per-person benefits by the total per-person costs. If the ratio is greater than one, then the benefits are greater than the investment.

Multnomah County (Oregon) STOP Drug Diversion Program (Carey and Finigan, 2003)

The cost-benefit study conducted for the STOP (Sanctions, Treatment, Opportunities and Progress) drug court in Multnomah, Oregon is perhaps the most intensive drug court study conducted to date. This drug court program, which is the second-oldest drug court in the United States, was instituted in 1991. In this program model, individuals who are arrested on drug charges may have the charges dropped upon successful completion of program requirements. Although some of the eligibility requirements for this program have changed over the years, the basic conditions include no evidence of drug distribution, no holds in other jurisdictions, no gang associations, no other felony or class A misdemeanors and no driving under the influence of intoxicants (DUII) charge associated with the drug offense that qualified them as a potential candidate for drug court.

To determine drug court program outcomes, researchers identified a group of comparison offenders who were drug court-eligible, but chose not to participate in the drug court program. The comparison group was matched to the drug court group on demographic characteristics and criminal history to eliminate these variables as a potential source of bias. However, it should be noted that differences in motivation between the two groups is a likely source of bias that cannot be ruled out.

One unique aspect of this study is that researchers tracked a sub-sample of the drug court and non-drug court participants through both the criminal justice and drug treatment court system for 18 to 22 months in order to collect detailed data that is generally not available in administrative databases. After documenting how the drug court and non-drug court cases move through the criminal justice system and the specific transactions that occur throughout the system, researchers examined the resources used by each agency and the costs of these resources for each of the offenders in the sub-sample. For example, court sessions, attorney visits, and treatment sessions were actually timed to the second with stopwatches to determine the average length of time spent on these activities. These methods were used to develop more precise cost information than previous studies which have relied on less intensive methods of measuring criminal justice resources, such as workload estimates provided by key informants. The results of this intensive tracking were then applied to the larger sample. Total costs to the criminal justice system were calculated for both the drug court group and the non-drug court group for 30 months following the drug court eligible arrest. Victimization costs were also considered. A more detailed description of the methodology for this study is shown in Table 3.

A review of official arrest data indicated the drug court participants had significantly fewer re-arrests in the 30 months following the drug court eligible arrest than non-drug court participants. In addition, the cost for processing a drug court offender was over \$1,400 less than the cost for processing a non-drug court offender. An analysis of total costs for drug court and non-drug court offenders for each agency over 30 months indicated total savings that exceeded \$3770 per drug court participant. Despite the overall cost savings, it should be noted that not all agencies reclaimed their investment costs. Although the public defender, law enforcement and probation agencies each experienced savings by the end of the 30-month period studied, the court, District Attorney and treatment agency did not recoup their investment. The researchers

suggested that greater cost savings may have been realized for these agencies if participants had been tracked for a longer period of time.

Table 3 Methodology for Multnomah County (Oregon) STOP Drug Diversion Program (Carey and Finigan, 2003)	
<p>1. Estimating the cost per transaction for each aspect of the criminal justice system</p>	<p>After documenting how the drug court and non-drug court cases move through the criminal justice system, researchers developed a list of all possible agency transactions. Transactions were defined as an offender’s interaction with a publicly funded agency. Based on this information, researchers determined that the following agencies contributed resources to these cases: the court, the public defender, the district attorney, law enforcement, probation, and treatment. The amount of time spent on these cases by each agency was determined through intensive tracking, chart reviews, and administrative data. This information was supplemented with staff interviews to obtain more complete information on system resources for each transaction.</p> <p>Next, the costs associated with resources contributed by each agency were examined. These included both direct costs (staff time and materials) and indirect costs (facilities, support costs and overhead costs). This information was used to calculate the cost per transaction. The costs incurred by each agency, including direct and indirect costs, that were involved in a transaction were added together to create an agency cost for each transaction. Costs were calculated based on budgets and other financial information during the time period under study. The total cost per transaction was calculated by adding together the costs for each agency involved.</p> <p>For example, the cost of drug court hearings included the per hour cost for courts, law enforcement agencies, district attorneys, public defender offices, treatment agencies, and probation agencies. These costs were combined and calculated to determine a total per hour cost for drug court hearings. Using the average amount of seconds used per participant for a single drug court hearing, this cost per hour was then translated into the cost for a single drug court hearing per participant. The cost per hearing was then multiplied by the number of drug court hearings for each participant to obtain the overall cost of drug court hearings per participant.</p>
<p>2. Investment costs for drug court and non drug-court transactions (per-person costs for the drug court and non-drug court samples)</p>	<p>The costs for the drug court program and the non-drug court process were calculated by summing the costs per individual for every transaction in the process that resulted from the drug court eligible arrest. For each participant, the type and number of transactions of each type were collected through administrative data. The total cost for each drug court and non-drug court individual in the sample was calculated by adding up the individual cost of each transaction in the process. This information was used to calculate an overall average cost per offender for the drug court and non-drug court group.</p>

3. Costs for drug court and non-drug court outcomes (per-person value of averted crime)	The cost per individual for all outcome transactions were calculated using the same process described above. Outcomes were defined as any transaction that occurred <u>after</u> the drug court eligible arrest, not including those directly related to the eligible arrest. Total outcome costs included the following transactions: arrests, bookings, court time, jail time, treatment, and probation time. Crime victim cost estimates, including both monetary and quality of life costs, were also considered and were based on previous estimates developed by Miller, Cohen, and Wiersema (1996).
4. Cost savings	Cost savings were analyzed three different ways. First, the difference in investment costs was calculated by subtracting the investment costs for the drug court participant group from the investment costs for the comparison group. Second, the difference in outcome costs were calculated by subtracting the outcome costs for the drug court participant group from the outcome costs for the comparison group. Finally, the difference in total costs was examined. For this calculation, the investment and outcome costs for each group were added to obtain the total cost to the system for the drug court and non-drug court groups. The difference between the two costs was examined to determine which group had the greatest total cost.

Washington State Drug Courts (Barnoski and Aos, 2003)

In this study, researchers conducted a cost-benefit analysis on six adult drug courts in Washington operating between 1998 and 1999 located in the following counties: King County, Pierce County, Spokane County, Skagit County, Thurston County, and Kitsap County. In the Washington drug court programs, eligible offenders were offered the opportunity to avoid prosecution by participating in drug court treatment. Charges were pursued only against those offenders who did not complete treatment. Although there were some differences in eligibility criteria between the six local drug courts in this study, the following requirements were common to most local programs: a drug possession charge, a drug/alcohol problem, no history of violent offenses, and no history of mental health problems. Drug court participation for eligible defendants was voluntary in all localities.

Researchers developed several different approaches to identify comparison groups for determining program outcomes. Comparison groups were drawn from two different sampling timeframes. The first involved cases that were filed in the two years prior to the start of the drug court for each of the six counties. The second sample identified similar cases in counties that did not operate drug court programs, but selected those which occurred at the same time the drug courts were in operation. In addition, three alternative statistical approaches were developed to control for pre-existing differences between the drug court participant samples and the comparison samples. The first approach used logistic regression to estimate the impact of drug court participation on recidivism after controlling for various characteristics that may differ between the samples, including age, gender, ethnicity, prior criminal convictions and current charges. The second approach involved the development of an equation to measure a participant’s propensity to participate, which was then used to identify a matched sample. The third approach involved the development of an equation to measure a participant’s propensity to recidivate, which was used to identify another matched sample. These three alternative

statistical techniques were used for both sampling timeframes, resulting in a total of 6 different comparison groups for each drug court site. An overall effect was calculated based on all of these sampling procedures to indicate the degree to which drug court participation affects recidivism results.

In this study, recidivism was defined as a criminal conviction for a new offense, and was estimated from official data sources. The results indicated that for five of the six counties studied, drug court participation was associated with a 13% reduction in felony recidivism. A cost-benefit analysis was conducted for the five programs that showed reduced recidivism for drug court participants. As shown in Table 4, this analysis only considered the effect of drug courts on recidivism, and did not include other outcomes such as substance abuse, employment and welfare use. The results of this analysis indicated that drug courts do cost more to operate than regular criminal court processing. However, researchers also found that the five adult drug courts generate \$1.74 in benefits for every dollar spent. Therefore, it appears that the avoided costs due to reduced recidivism outweigh the extra expenses involved in operating these drug court programs.

Table 4 Methodology for Washington State Drug Court Program (Barnoski and Aos, 2003)	
1. Estimating the additional per-person cost of drug courts	Based on an intensive analysis of the Washington State Auditor’s Local Government Finance Reporting System and other official expenditure data, researchers estimated total costs for the drug court cases and the regular criminal court cases. Specifically, researchers considered court-related processing costs, direct program operation costs, and the cost of sanctions as follows: 1) the court-related processing costs included costs associated with the operation of the superior court, including costs associated with the judge, county clerk, prosecutor, public defender, and other courtroom staff; 2) the sanctions-related costs included those sanctions (i.e., jail time and community supervision) associated with disposition of the charge that made the defendant eligible for the drug court or the sample group; and 3) the direct costs of administering the drug court program included the drug court administrator salary, the drug court funds used to pay for treatment, urinalysis, and other costs specific to the operation of the drug court. The difference between the total cost for drug court cases and the total cost for regular criminal court case files was computed to estimate the additional per-person cost of drug courts.
2. Estimating the criminal justice costs avoided per participant (benefit)	A review of the Washington State Auditor’s Local Government Finance Reporting System and other official expenditure data also provided information on the avoided costs of the following components of the criminal justice system: police and sheriffs, superior courts, county prosecutors, local adult jails, and state adult corrections.
3. Estimating the crime victim costs avoided per participant (benefit)	Crime victims cost estimates were based on Miller, Cohen, and Wiersema (1996), which divides costs into monetary and quality of life costs. Monetary costs include medical and mental health care expenses, property damage and losses, and the reduction in future earnings incurred by crime

	victims. Quality of life costs, which place a dollar value on the pain and suffering of crime victims, are computed from jury awards for pain, suffering, and lost quality of life.
4. Calculating the benefit-cost ratio	The benefit-cost ratio was calculated by dividing the total per-person benefits by the total per-person costs. If the ratio is greater than one, then the benefits are greater than the investment.

D.C. Superior Court Drug Intervention Program (Harrell, Cavanagh, and Roman, 1998)

This study examined the impact of three different court-based interventions which were implemented in D.C. Superior Court in 1992. Researchers randomly assigned felony drug defendants to a standard docket, a treatment docket, or a sanctions docket. The research design differs from the other three cost-benefit studies described above in that it lacks a control group of offenders who were given traditional sanctions such as probation or incarceration. All three interventions in this study included the following common elements: early intervention, frequent drug testing, judicial monitoring of each defendant’s progress, and a computerized system that provided judges immediate access to defendants’ drug test results. The standard docket incorporated twice weekly drug tests with judicial monitoring only. The treatment docket included weekly drug testing and a court-based day treatment program, while the sanctions docket combined weekly drug testing and referrals to community-based treatment with a system of graduated sanctions. Unlike many drug court programs that receive federal funding, these programs did not exclude defendants convicted of a violent offense or facing pending charges for a violent offense. Therefore, program participants varied widely in the severity and duration of their drug use.

Researchers examined drug use, criminal activity, and social/economic outcomes to determine the impact of the three court-based interventions. The results indicated that defendants assigned to the treatment docket and the sanctions docket had fewer positive drug screens than those assigned to the standard docket. In addition, a review of official arrest data indicated that offenders who participated in the sanctions program were less likely than those assigned to the standard docket to be arrested in the year following sentencing. However, it should be noted that not all offenders assigned to the sanctions docket agreed to participate, so these findings are subject to selection bias. On the other hand, if the study had included a group of offenders who were given a traditional sanction of probation or incarceration, the comparative results may have been more substantial.

For the cost-benefit analysis, total net benefits were calculated by subtracting the total net benefits from averted crime from the total net costs of operation. Based on this formula, the sanctions program yielded a net benefit of \$2973 per participant. Researchers estimated a return of almost \$2 for every \$1 spent. A more detailed description of the cost-benefit portion of this study is presented in Table 5.

Table 5
Methodology for D.C. Superior Court Drug Intervention Program
(Harrell, Cavanagh, and Roman, 1998)

1. Estimating the additional per-person cost of the sanctions docket	<p>The cost of operating the sanctions docket was calculated as the difference in cost between the sanctions and standard docket. Program cost categories included the following: 1) project expenditures paid out of project funds, including salaries, fringe benefits, supplies, contractual services, and drug testing; 2) court expenditures, including cost of hearings based on the hourly rate of the judge, prosecutor, defense attorney, clerk and aid; and 3) in-kind costs of detoxification and jail space for those being sanctioned.</p> <p>The per participant cost was determined in multiple steps. First, the annual total program costs were divided by the average number of days in the program. This number was then divided by the number of participants to determine the daily cost of treatment. The cost per participant was calculated by multiplying the daily cost of treatment by the average number of days participants spent in the program.</p>
2. Estimating the value of averted offending (benefit)	<p>Criminal offending was based on self-reported criminal activity one year following sentencing. The costs of each offense type were based on the estimated costs of crimes to victims derived from Miller, Cohen, and Wiersema (1996) and Rajkumar and French (1997). These costs included the value of property losses, productivity losses, medical costs, pain, suffering and risk of death.</p>
3. Estimating the value of averted arrests (benefit)	<p>Cost savings due to averted arrests were based on official arrest data and the estimated costs of arrests provided by Cohen, Miller and Rossman (1994). In addition, cost savings due to averted penalties and convictions were based on the estimated number of convictions that did not occur as a result of the program, which were derived from estimates published by the Bureau of Justice Statistics (BJS, 1995) and the <i>Corrections Yearbook</i> (Camp and Camp, 1996).</p>
4. Net benefits	<p>The total net benefits are the difference in total net costs of operation and total net benefits from averted crime.</p>

Summary of Drug Court Cost-Benefit Studies

This review of cost-benefit studies in drug court settings revealed many common themes in terms of the types of costs and benefits considered for analysis, but the methodological approaches used to measure the relevant constructs varied from study to study. For example, most of the studies attempted to measure costs related to direct program operations, judges, prosecutors, defense attorneys, other court staff, treatment, and sanctions (i.e., probation and jail time). While the study of the Multnomah County drug court included intensive tracking methods to quantify the exact agency resources used by the sample defendants, other studies

relied on estimates derived from expert sources and agency financial information to determine this same information.

Additionally, all studies defined benefits as the cost savings from averted criminal offending, but these costs were also measured differently. While each study considered averted costs to the victims as a potential benefit, calculations used to estimate cost savings to the criminal justice system varied widely. For example, the evaluation of the BTC program excluded costs savings for law enforcement and courts based on the assumption that the small number of arrests averted would not impact staff resources at these agencies. However, most of the other studies did include these cost savings in their analyses. These decisions may reflect local differences in program operations and participant volume, and underscore the importance of understanding all the local factors that may impact costs before planning a cost-benefit analysis study. Regardless of how costs and benefits were measured, all four studies suggested significant cost savings for the drug court program interventions. These findings are summarized in Table 6.

Table 6
Summary of Drug Court Cost-Benefit Studies

Study	Costs Measured	Benefits Measured	Program Maturity at time of study	Results
Breaking the Cycle (Harrell, Mitchell, Merrill, and Marlowe, 2003)	<ul style="list-style-type: none"> • direct program operating expenses • treatment outside of BTC • judge • court staff • prosecutor • defense bar • sanctions 	<ul style="list-style-type: none"> • averted criminal justice costs, including the estimated cost of incarceration (not including costs to law enforcement and courts) • attempted to include benefits related to reduced medical and mental health costs, reduced public assistance costs and increased employment income, but no impact found in these areas • averted costs to public and victims 	<ul style="list-style-type: none"> • Birmingham- funded in 1997; sample included 374 BTC participants recruited between 9/98 and 12/98 • Jacksonville- funded in 1998; sample included 332 BTC participants recruited between 2/2000 and 7/2000 • Tacoma- funded in 1998; sample included 382 BTC participants recruited between 2/2000 and 8/2000 	<ul style="list-style-type: none"> • The value of averted crime costs for every dollar of investment was estimated to be \$2.30 in Birmingham, \$2.60 in Jacksonville, and \$5.30 in Tacoma.
Multnomah County (Oregon) STOP Drug Diversion Program (Carey and Finigan, 2003)	<ul style="list-style-type: none"> • judge • court staff • public defender • district attorney • law enforcement • jail time • probation • treatment 	<ul style="list-style-type: none"> • averted criminal justice costs, including those associated with arrests, bookings, court time, jail time, treatment, and probation time • averted costs to crime victims, including both monetary and quality of life costs 	<ul style="list-style-type: none"> • program became operational in 1991 • 594 drug court participants were selected from the 1999 to 2000 timeframe 	<ul style="list-style-type: none"> • Total savings exceeded \$3770 per drug court participant.

Table 6
Summary of Drug Court Cost-Benefit Studies

Study	Costs Measured	Benefits Measured	Program Maturity at time of study	Results
Washington State Drug Court Program (Barnoski and Aos, 2003)	<ul style="list-style-type: none"> • direct program operating expenses • judge • clerk • prosecutor • public defender • other courtroom staff • jail time • community supervision 	<ul style="list-style-type: none"> • averted criminal justice costs, including costs associated with police and sheriffs, superior courts, county prosecutors, local adult jails, and state adult corrections • averted costs to crime victims, including monetary and quality of life costs 	<ul style="list-style-type: none"> • King County-operational on 8/1/94; sample included 646 participants from the 1998 to 1999 • Pierce-operational on 10/01/94; sample included 434 participants from the 1998 to 1999 • The Spokane, Skagit, Thurston and Kitsap county drug courts became operational on 1/1/96, 4/1/97, 5/1/98, and 2/1/99, respectively; a total of 357 participants from these localities were combined for all analyses. 	<ul style="list-style-type: none"> • Drug courts generated \$1.74 for every dollar spent.
D.C. Superior Court Drug Intervention Program (Harrell, Cavanagh, and Roman, 1998)	<ul style="list-style-type: none"> • direct program operating expenses • judge • prosecutor • defense attorney • court staff • sanctions 	<ul style="list-style-type: none"> • averted criminal justice costs, including the costs of court and penalties, including (prison, jail and probation) • averted costs to crime victims 	<ul style="list-style-type: none"> • all three dockets for drug offenders were established in 1992 • the following number of cases were selected from the 1994 to 1996 timeframe: Treatment- 346 cases Sanctions- 365 cases Standard- 395 cases 	<ul style="list-style-type: none"> • Drug courts generated a return of almost \$2 on every \$1 spent.

IV. SUMMARY OF STATEWIDE COST-BENEFIT MEETING

The Evaluation Subcommittee of the Virginia Drug Treatment Court Advisory Committee convened in February 2006, with representation from local adult and juvenile courts, drug treatment court staff, local treatment providers, and state agencies including the Department of Juvenile Justice; the Department of Mental Health, Mental Retardation, and Substance Abuse Services; and the Supreme Court of Virginia. Guests with specific content expertise were also invited to maximize the availability of pertinent information.

The subcommittee meeting focused on the feasibility of conducting a cost-benefit analysis for Virginia's drug treatment courts. Such an analysis is being considered as one possible component in an overall evaluation initiative for the drug court programs. Because cost-benefit reviews are not always feasible or advisable due to program complexity, consistency of data collected, and other factors, the evaluators sought subcommittee feedback to guide decision-making.

The attendees received information about selected key issues, generated from the recent General Accounting Office study (2005) on drug treatment court cost-benefit studies. Three small workgroups independently discussed issues related to cost-benefit for adult drug treatment courts, juvenile drug treatment courts, and family drug treatment courts. The following assumptions were provided to guide idea generation.

Adult Drug Treatment Courts: The primary purpose is to reduce recidivism by reducing offenders' substance-abusing behavior. Incarceration, probation, and diversion are possible baseline alternatives.

Juvenile Drug Treatment Courts: The primary purpose is to reduce recidivism by reducing offenders' substance-abusing behavior. Incarceration, probation, and diversion are possible baseline alternatives.

Family Drug Treatment Courts: The primary purpose of the family drug treatment courts is to increase safe, permanent placements. Reasonable alternatives include traditional processing through the J&DR courts and DSS.

Stakeholders of the Drug Treatment Court Program

As a first step, each workgroup identified relevant stakeholder groups for their respective drug treatment court model. All three groups identified several different types of critical stakeholders, spanning from the individual participant, the local criminal justice and related delivery systems, and higher-level funding authorities such as state and federal agencies and foundations. A summary of the subcommittee's results is shown in Table 7.

**Table 7
Primary Stakeholders Identified by Statewide Evaluation Subcommittee**

Adult	Juvenile	Family
<p><i>Criminal Justice System, including:</i></p> <ul style="list-style-type: none"> • Local and State Courts • Law Enforcement • Supervision Agencies • Jails/Prisons <p><i>Related Systems:</i></p> <ul style="list-style-type: none"> • Mental Health • Social Services 	<p><i>Criminal Justice System, including:</i></p> <ul style="list-style-type: none"> • Facilities (DJJ, Detention Centers) • Attorney • Courts • Law Enforcement <p><i>Related Systems:</i></p> <ul style="list-style-type: none"> • Education • Substance Abuse/Mental Health <p><i>Victims</i></p>	<p><i>Criminal Justice System, including:</i></p> <ul style="list-style-type: none"> • Local and State Courts • Attorneys <p><i>Related Systems</i></p> <ul style="list-style-type: none"> • Local and State Social Services • Child Advocacy and Voluntary Action Groups • Education • Substance Abuse/Mental Health • Other (Public Health, Housing, etc.) <p><i>Parents in treatment and their children</i></p> <p><i>Funding authorities</i></p> <ul style="list-style-type: none"> • Local, State, and Federal Government Agencies • Foundations

Benefits of the Drug Treatment Court Program

Each workgroup also generated benefits of their respective drug treatment court model, and ultimately identified those that are most important. A list of the most relevant benefits for each model is shown in Table 8.

The benefits deemed most important for adult and juvenile drug treatment courts were somewhat similar, specifically, reduced recidivism (leading to other benefits, such as reduced case processing, reduced incarceration, and reduced law enforcement calls-for-service) and increased restitution. Group members also highlighted increased employment as a high priority for adults (reaping additional benefits, such as increased tax revenues). For juveniles, decreased disciplinary actions in schools were also viewed as an important benefit.

For family drug courts, a very different list of benefits emerged. Specifically, the work group listed the following benefits as priorities: improved treatment delivery (e.g., longer retention in treatment), reduced time in foster care, increases in effective parenting, and enhanced interagency collaboration and communication.

Table 8 Primary Benefits Identified by Statewide Evaluation Subcommittee		
Adult	Juvenile	Family
<ul style="list-style-type: none"> • Reduced jail/prison expenditures • Increased employment • Increased restitution for crimes committed • Reduced recidivism • Increased coordination among agencies (less duplication/ rework) • Decreased health care costs • Increased system efficiency 	<ul style="list-style-type: none"> • Reduced incarcerations (JCC, detention home, etc.) • Reduced overall caseload • Fewer disciplinary actions • Reduced calls-for-service • Reduced recidivism • Increased restitution • Increased expertise in handling drug offenders • Reduced victim costs, including: <ul style="list-style-type: none"> • Time away from work • Counseling • Medical costs 	<ul style="list-style-type: none"> • Reduced time in foster care • Increases in effective parenting • Longer retention in treatment • Increased/enhanced interagency collaboration and communication • Reduced likelihood of criminal involvement for parents and kids • Better education and vocational outcomes for parents and kids • Slowing/reversing growth rate of foster care costs

Costs of the Drug Treatment Court Program

Attendees were also asked to generate ideas about costs associated with the program’s operation specifically from the perspective of the criminal justice system. As shown in Table 9, the majority of the costs identified focused primarily on staff time and direct expenses to the relevant criminal justice and service delivery systems.

**Table 9
Primary Costs Identified by Statewide Evaluation Subcommittee**

Adult	Juvenile	Family
<ul style="list-style-type: none"> • Increased court time • Longer period of supervision • Increased drug testing costs • Increased training costs • Increased treatment expenses 	<ul style="list-style-type: none"> • Increased staff time across all aspects of the process, including those for: <ul style="list-style-type: none"> • Supervision staff • Treatment staff • Attorneys • Judges and court staff • Increased treatment costs, including: <ul style="list-style-type: none"> • Program development • Offender assessment • Service delivery 	<ul style="list-style-type: none"> • Increased staff time to manage cases for all involved staff, including: <ul style="list-style-type: none"> • Judges and court staff • Treatment staff • Social services staff • Attorneys • Increased drug testing costs • Increased treatment expenses • Expanded administrative costs, including grant-writing time • Program marketing

Potential Data Sources for Cost-Benefit Analyses

Attendees also identified a number of potential sources for cost and benefit data regarding the adult, juvenile, and family drug treatment court programs. Sources of specific types of data are listed below.

Department of Juvenile Justice: juvenile recidivism and probation officer caseload

Department of Corrections: adult recidivism and probation officer caseload

Supreme Court of Virginia: court caseload, case flow time, and drug court data

Compensation Board: jail costs

Virginia Health Information: health care and emergency costs

Virginia Department of Medical Assistance: Medicaid data

Local Drug Court Administrators: monetary value of community service work

Department of Motor Vehicles: driver's licensing

Department of Criminal Justice Services: pretrial/community corrections

Department of Taxation: taxes paid by participants

Additional potential sources of relevant data include the Virginia State Police, the Virginia Employment Commission, Community Services Boards, state and local Departments of Social Services, the Virginia Crime Commission, the Virginia Association of Counties, the Virginia Municipal League, the Virginia State Bar, the Indigent Defense Commission, and VASAP.

V. ISSUES TO CONSIDER FOR A COST-BENEFIT STUDY OF VIRGINIA DRUG COURT PROGRAMS

In general terms, the prevailing literature described in this document provides a model for cost-efficiency research of drug court programs. Cost-benefit studies, as opposed to cost-effectiveness reviews, have been successfully conducted with an acceptable level of rigor in other states. In addition, these studies routinely adopt the program sponsor perspective, which primarily assesses costs and benefits to the criminal justice system, in order to address pressing questions from policymakers and guide future funding decisions for these initiatives. Also, the literature typically identifies recidivism as the primary outcome measure (which is most relevant to adult and juvenile drug courts). Although interesting, additional outcomes such as reduced medical costs and increased employment income are much more challenging to examine and doing so significantly increases the costs of conducting such research. None of the four cost-benefit studies identified in the GAO (2005) review successfully included these variables in their analyses.

The guidance from existing studies is also quite consistent with the priorities and concerns which emerged in a meeting with the statewide Evaluation Subcommittee to the Virginia Drug Treatment Court Advisory Committee. Assessing costs to the criminal justice system, and by extension the use of taxpayer dollars, is clearly desired as a focus of any forthcoming cost-benefit analyses for this program. In addition, an examination of recidivism, as well as related outcomes such as system caseloads and staff resources, is a high-level priority. Virginia stakeholders unmistakably demonstrated an intention to include family drug courts in cost-benefit studies, as this becomes feasible. Although the family court model is relatively new, planning should begin to pursue both impact and cost-benefit research, addressing its priority outcome: permanency for children of addicted parents.

CRITICAL ISSUES

Both the literature and stakeholder opinions can assist in the development of a reasonable cost-benefit plan for the future. However, several conditions must be met in order to ensure that this endeavor will provide meaningful and credible information. To assess readiness for a cost-benefit study, a few critical questions should be considered. This chapter concludes with a review of those questions and a strategy for implementing a future cost benefit study of Virginia's drug treatment courts. While this discussion focuses primarily on implications for adult and juvenile drug court models, as the existing research is more robust for these types of programs, similar issues apply to the development of a parallel strategy for family drug court programs.

Are the Virginia drug court programs at an appropriate stage of maturity for a cost-benefit study?

Before resources are expended on a cost-benefit study of Virginia drug courts, it is important to consider whether the program has been operational long enough to ensure that basic program processes and costs are stable. Significant changes in program operations will likely impact the results, possibly making the findings of a cost-benefit study invalid. Older programs

may be less likely to make significant changes to their program models that would impact study results, and therefore are better candidates for such a study. However, process stability should be confirmed prior to onset of a cost-benefit analysis. In addition, programs that have been operational for longer periods of time are more likely to have sufficient participant volumes to perform the complex statistical analyses inherent in such a study. The cost-benefit studies reviewed in Chapter 3 were based on sample sizes of 300-500 drug court participants. Based on a recent survey of local drug court coordinators in which they were asked to identify the total number of cases served since the program's inception, it appears that only three of the adult drug treatment courts (Roanoke, Charlottesville, Richmond City, and Chesterfield County) meet the maturity and volume requirements needed for a cost-benefit study. Although a few of the juvenile and family drug treatment courts have been in operational for five or more years, it appears that none of these drug treatment courts have had sufficient volume for conducting such a study. These results are shown in Tables 10.

Table 10
Program Maturity and Participant Volume for Virginia's Drug Treatment Courts

Locality	Date Established	Participant Volume as of March 2006
<i>Adult Drug Treatment Courts</i>		
Roanoke City/Salem City/Roanoke County	September 1995	857
Charlottesville	July 1997	363
Richmond City	March 1998	339
Fredericksburg	October 1998	277
Newport News	November 1998	232
Norfolk	November 1998	175*
Chesterfield County	September 2000	295
Portsmouth	January 2001	205
Staunton	July 2002	26
Hopewell, Prince George County	September 2002	Unavailable
Henrico County	January 2003	94
Hampton	February 2003	77
Suffolk	May 2004	20
Loudon County	May 2004	20
Tazewell	February 2005	11
Chesapeake	August 2005	8
<i>Juvenile Drug Treatment Courts</i>		
Stafford	November 1998	166
Richmond City	July 1999	60*
Newport News	March 2002	45*
Lee County and Scott County	September 2002	91
Chesterfield County and Colonial Heights	January 2003	30
Hanover County	May 2003	38
Fairfax County Juvenile Drug Court	May 2003	Unavailable
Prince William County Juvenile Drug Court	May 2004	30
<i>Family Drug Treatment Courts</i>		
Alexandria	September 2001	Unavailable
Albemarle County	July 2002	Unavailable
Richmond City	September 2002	22

*This number reflects an approximation based on participant volume figures provided in prior evaluation documents. Updated information was not available.

Has impact been demonstrated for any Virginia drug courts?

In addition to program maturity and participant volume, demonstrated impact is also a prerequisite to a cost benefit study. There have been no methodologically sound statewide evaluations efforts demonstrating impact for Virginia drug treatment courts thus far. Although some local evaluations have been conducted, the methodology and results should be reviewed to determine if they meet generally accepted standards of research design before being used as the basis for a cost-benefit study. Suggested criteria for making this determination include a valid measure of recidivism based on official arrest or conviction data, as well as the inclusion of an appropriate comparison group of similar offenders who did not participate in the drug treatment court program. Specifically, convincing impact studies are generally based on an experimental design in which cases are randomly assigned to either the drug court program or an alternative sanction to rule out selection bias. A quasi-experimental design in which the comparison group is screened to determine whether they meet basic program eligibility criteria would also be an acceptable alternative, if statistical methods are used to control for pre-existing differences between groups. In the absence of local evaluation data demonstrating impact, the Supreme Court of Virginia would need to begin planning its own series of impact studies, perhaps beginning with those three adult drug treatment courts (Roanoke, Charlottesville, Richmond City, and Chesterfield County) that appear to be at a level of program maturity necessary for conducting a cost-benefit analysis.

Are appropriate data sources available for a cost-benefit analysis of Virginia drug courts?

The third major issue that would need to be addressed is the availability of information for the analysis. Although the statewide Virginia Drug Treatment Court MIS has been in place since 2003, the appropriateness of its data for research and evaluation purposes is questionable. Based on anecdotal information provided to the evaluators, it appears that information has not been consistently entered into the statewide database. A lack of definition for some of the variables in the database may have also resulted in inconsistencies in the type of information that has been entered into the system. Furthermore, the current system does not adequately address the data needs for family drug courts, which adopt a different program model from the adult and juvenile drug courts and target dissimilar outcomes. Due to these challenges, plans are already in motion to replace the current MIS with a new web-based application. Although implementation of the new MIS is scheduled for August 2006, it will likely require a testing and break-in period which will necessitate some refinements before it can be used for evaluation purposes. If the data collected prior to the new web-based MIS is found to be unusable, then it may not be possible to begin data collection for the impact study until the new system is fully operational, which could be January 2007 or later.

In addition to client level data, evaluators will need to review budgets and expenditure data for the drug court programs and the agencies that provide resources to the drug courts so that cost estimates may be developed. Several relevant databases, such as caseload and offender tracking through the Department of Juvenile Justice and the Department of Corrections, were identified by the Evaluation Subcommittee as potential sources of evaluation data. However, the exact information needed to estimate these costs will likely be dependant upon local program models, and will require evaluators to be familiar with the flow of cases through each system and

all of the relevant agencies. An extensive review of cost information, as well as interviews with agency staff familiar with budget issues, will be necessary to ensure that the appropriate cost estimates are included in the cost-benefit analysis. In the event that certain agencies are unable to provide reliable estimates of the resources contributed to the drug court program, researches may be required to develop methodology for collecting this information. For example, in order to determine in-kind resources contributed by a circuit court with a drug court docket, researchers could examine court expenditures, along with court records and weekly court schedules to determine the percentage of time spent on the drug court cases and the total cost of the drug court cases. Similar analyses may be necessary to determine prosecutor and public defender costs as well.

Even for those agencies that have relevant cost information available for use in a cost-benefit study of Virginia's drug courts, a number of decisions will have to be made. As an example, researchers must determine whether to use operating costs or marginal operating costs when estimating the cost of incarceration per offender. It should be noted that the studies reviewed in the previous chapter have used different approaches to address this issue. In estimating the averted cost of incarceration for the evaluation of the Breaking the Cycle program, researchers used marginal operating costs, based on the assumption that a significant portion of jail costs are fixed and do not change as the number of inmates change (Harrell, Mitchell, Merrill, and Marlowe, 2003). However, in the evaluation of the Washington State Drug Court Program, researchers used operating costs to estimate the cost of jail time, based on the premise that changes in the average daily population can have an impact on funding over just a few budget cycles (Barnoski and Aos, 2003). The difference between total operating costs and marginal operating costs can be significant. According to DOC staff contacted for this report, the FY05 total operating cost per offender at a DOC correctional facility was \$21,809 per year. However, the marginal operating cost per offender comprises only \$3,752 of that total figure per year. Selection of the appropriate cost data is one of the many critical steps in the overall cost-benefit evaluation process.

RESEARCH PLAN

Given the issues outlined above, the following research activities are suggested as part of an overall plan to conduct a future cost-benefit study:

Process Evaluation

As with most criminal justice programs, drug treatment courts show tremendous variation in the procedures and processes implemented at the local level. To date, these differences have not been compiled and articulated. Because of the difficulties related to the current MIS, it also appears that comprehensive statewide data on basic program characteristics are lacking. A statewide process evaluation should be implemented to collect and analyze basic program information (number of clients served, graduates, non-graduates, correlates of successful program completion, etc.) for all programs. In addition, foundational descriptions of program processes, including how cases move through the system, are also needed for each program. The process evaluation level of analysis will be sufficient for many drug treatment courts programs because several are relatively new and are not at an appropriate level of maturity for an impact

study. For programs that are at a suitable stage of development for additional evaluation, this information is an important preliminary step to designing a meaningful impact study.

Impact Evaluation

Once a process evaluation has been completed, researchers should develop methodologies to examine program impact in the most applicable localities. The first few program sites to become operational and those with the highest participant volumes should be the initial programs to undergo an intensive impact evaluation. As noted earlier, it is important that any impact evaluations that are conducted include an appropriate comparison group of non-drug court offenders and incorporate valid measures of recidivism (for adult and juvenile programs) or permanency (for family programs). If the results of these impact studies demonstrate that drug court programs do have an impact on the targeted outcomes, the findings provide the basis for a future cost-benefit study. Although the exact timeframe of a cost-benefit study would depend on the resources available for implementing these recommended research activities, it will likely require a minimum of two years to adequately prepare for a meaningful cost-benefit study of Virginia drug court programs.

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