Benefit-cost calculations for three adult drug courts in Minnesota

A report to the Office of Justice Programs

AUGUST 2007

Benefit-cost calculations for three adult drug courts in Minnesota

A report to the Office of Justice Programs

August 2007

Prepared by:
Paul A. Anton

Wilder Research
1295 Bandana Boulevard North, Suite 210
Saint Paul, Minnesota 55108
651-647-4600
www.wilder.org

Contents

Figures

Acknowledgments

Invaluable help was given by two employees of the Minnesota Department of Public Safety, Kristin Lail, grants specialist coordinator, and Danette Buskovick, research analysis specialist. Ms. Lail provided grant information and facilitated the collection of cost information from the county drug courts. Ms. Buskovick provided several versions of BCA records data and helped us understand what these complicated data meant.

The local drug court coordinators also were very helpful in sharing data with us and filling out a survey that supplemented our other sources. Our thanks go to Jen Wright from Saint Louis County, Brigid Murphy from Stearns County, and Jackie Neve and Matt Kohl from Dodge County.

At Wilder Research, Cheryl Holm-Hansen was lead investigator on the evaluation of the drug courts and suggested including benefit-cost analysis in the final evaluation. Moreover, she was a constant resource in understanding the programs and in communicating with OJP. Allen Burns performed complicated analyses of the extensive individual crime records. Nancy Hartzler edited the final draft and Louann Graham handled document formatting.

Any errors and omissions remain the responsibility of the author.

Summary

This paper presents simple benefit-cost calculations for three adult drug courts in Minnesota. These courts, operated in Stearns, Dodge, and Saint Louis counties, have operated since 2001 as an alternative to processing adult drug offenders through criminal courts. The establishment and operations of these courts was supported by more than one million dollars of Federal Byrne Formula Grant funds provided by the Office of Justice Programs (OJP) beginning in 2001 and extending through 2005.

Our calculations are based on outcomes data provided by the Bureau of Criminal Apprehension (BCA), cost information provided by the counties and OJP, and law enforcement and victim cost information from previous studies.

Findings

- **We estimate that the three drug courts generated $5.08 of benefit for every dollar of operating cost.**
- **Total benefits for the study period are estimated to be $6.8 million.**
- **Total costs for the study period were approximately $1.3 million.**

Benefits are generated from three sources: (1) saved costs of processing and incarcerating drug court participants for their initial offenses, (2) reduced law enforcement cost and crime victim costs from reduced crimes committed by drug court participants after completing the program, and (3) reduced public costs from fewer subsequent convictions for a variety of crimes.

Drug court costs include all aspects of operations including personnel costs, court costs, equipment, supplies and outside consultants.

Discussion

This estimate must be taken as only a rough approximation of the return to the three drug courts being analyzed and should not be compared with more detailed and formal analyses of mature drug courts that have been in operation for many years and have collected more complete, detailed information on outcomes. The outcomes data used here were synthesized from available sources rather than collected specifically as part of a comprehensively designed benefit-cost analysis. In the benefits calculation, many approximations were made, including using cost per case estimates from another state.

Moreover, the cost data may not reflect the true cost of ongoing drug court operations. During their startup phases, these drug courts may have used resources that were not fully accounted for initially. And the courts almost surely operated below capacity for some portion of the time period studied.

All of these shortcomings and others could be addressed in a more complete (and more resource-intensive) study. **Nevertheless, this study does provide evidence that the drug courts in these three counties, Stearns, Saint Louis, and Dodge, have produced net value to government and the public. The benefits they produce appear to outweigh the increased costs of their operation.**

Introduction

This paper presents simple benefit-cost calculations for three adult drug court programs in Minnesota. These courts, operated in Stearns, Dodge, and Saint Louis counties, have operated since 2001 as an alternative to processing adult drug offenders through criminal courts. The establishment and operations of these programs was supported by more than one million dollars of Federal Byrne Formula Grant funds provided by the Office of Justice Programs (OJP) beginning in 2001 and extending through 2005. In addition to the three programs evaluated here, adult and juvenile drug court programs in Ramsey County were also established and funded during this period. The Ramsey County programs are not included in this analysis.

In 2005, OJP contracted with Wilder Research to provide technical assistance on evaluation to these drug courts. After the initial work plan had been approved, Wilder Research added a staff economist which provided the ability to conduct benefit-cost analyses. The technical assistance work plan was modified to include an approximate benefit-cost analysis that would be based on the outcomes data requested in the original evaluation plan. However, for a variety of reasons, it was not possible for the programs to provide the desired data in a form that was usable for benefit-cost analysis before the evaluation contract concluded in 2006.

Subsequently, Wilder Research and OJP framed a strategy for extracting data directly from the Bureau of Criminal Apprehension (BCA). These data were not exactly what had been requested in the first work plan nor are they in the form that would be requested as part of a benefit-cost analysis plan designed from scratch. Nevertheless, these data do provide an indication of outcomes that we have adapted, using a variety of additional assumptions, to compare the benefits and costs of the three programs. This paper reports the methods and results of those calculations.[1]

In the "Outcomes" section, we examine arrests and convictions data and estimate arrests and convictions saved by the program in each county. In the section on "Estimating benefits", we break down the benefits and discuss assumptions we used to calculate total estimated benefits. "Measuring costs" covers actual costs of operating the programs for the 2001-2005 time period of analysis. In "Comparing benefits and costs" we calculate the benefit-cost ratio for all three programs combined. Additional perspective on benefit-cost analysis of drug court programs is included in an appendix.

[1] A separate and more thorough analysis of the Ramsey County juvenile drug court was produced in 2006. See "A Cost-Benefit Study of the Ramsey Count Juvenile Substance Abuse Court," typescript, July 2006.

Outcomes

The initial evaluation design called for the outcomes of program participants to be compared with the outcomes of control groups in the three counties. To create the control groups, each county chose a number of individuals from among the drug offenders in the county in the years just prior to the establishment of the county drug court program. The control groups were chosen by evaluating individual records to determine persons who would have been most likely to have been processed in drug court had it been available at the time.

The differences in subsequent arrests and convictions between the program participants and the control groups gives us a basis for estimating benefits from saved arrests and convictions due to the programs.

We estimate that the drug court programs saved 133.7 arrests and 47.2 convictions during the period being studied. Because we reviewed only two years following program participation or incarceration, we consider this result to be a conservative estimate of the actual savings.

Data sample

Data on drug court participants in all three counties and on the designated control groups were obtained from BCA. The data included information on the initial offenses committed by both groups and subsequent arrest and conviction records for two years after completing incarceration or drug treatment. Data were collected both on drug court participants who successfully completed their treatment plans and also on those who left the program and were subsequently returned to the regular court system for processing. A total of 203 individual records were analyzed as summarized in Figure 1 below.

1. Count of drug court participants and control group members

	Completers	Non-completers	Control group	Total records
Stearns County	34	30	24	98
Saint Louis County	38	10	25	73
Dodge County	7	10	25	42
Totals	**79**	**50**	**74**	**203**

Source: *BCA data*

Thus the analysis included the records for 79 individuals who completed drug court treatment, 50 who began in drug court but then dropped out or were terminated, and 74 selected for the control group. It is customary and appropriate to include the non-completers in this analysis since costs are incurred to process these people through drug court. These costs are part of the program operations. Moreover, if these non-completers show a different recidivism from the control group, that effect should be taken into account in the overall comparison of benefits and costs.

Arrests

Data on subsequent arrests in the two years following program completion or incarceration were compared. For each of the three county programs in our sample, arrests per person were calculated for completers, non-completers, and control groups. The results are in Figure 2 below.

2. Arrests per person following program completion or incarceration

	Completers	Non-completers	Control group
Stearns County	0.76	2.40	3.17
Saint Louis County	0.21	0.50	0.56
Dodge County	0.00	1.00	1.48

***Source**: BCA data*

In each county, the relative pattern of arrests was the same among the three groups. Completers were arrested least often, non-completers more often. And both groups were arrested less often than the control group members in the two years following completion of their programs. In Stearns County, the drug court completers were arrested less than one fourth as frequently as the control group. In Saint Louis County, the completers were arrested less than half as often as the control group. And in Dodge County, there have been no arrests of any of the drug court completers. We consider these outcomes to be very positive.

Convictions

Convictions data were analyzed in a similar manner and are summarized in Figure 3. In a pattern similar to arrests, program completers in the three counties were convicted much less often than the control group members. In Stearns County, there were roughly one-sixth as many convictions per person; in Saint Louis County, roughly one-fourth as

many; and in Dodge County, there were no convictions compared to almost one per person in the control group. We consider this a very strong result.

3. Convictions per person following program completion or incarceration

	Completers	Non-completers	Control group
Stearns County	0.21	1.73	1.29
Saint Louis County	0.11	0.20	0.40
Dodge County	0.00	0.60	0.96

***Source**: BCA data*

One difference between the pattern of convictions and arrests is that non-completers in Stearns County had more convictions per person than the control group. By examining additional data on the types of crimes, we found that the non-completers in Stearns were convicted of drug-related crimes at a rate almost identical to the control group, but were convicted of non-violent, non-drug-related crimes at a distinctly higher rate than the control group.

To identify drug-related offense patterns that might be masked by broad totals, we sorted offenses into four categories: (1) drug-related, (2) driving while intoxicated (DWI), (3) non-violent, non-drug-related offenses, and (4) violent, non-drug-related offenses. Figure 4 below shows the incidence of drug-related arrests and convictions.

4. Drug-related arrests and convictions per person following completion of program

	Completers	Non-completers	Control group
Arrests			
Stearns County	0.29	1.10	1.33
Saint Louis County	0.05	0.40	0.20
Dodge County	0.00	0.20	0.48
Convictions			
Stearns County	0.06	0.70	0.67
Saint Louis County	0.00	0.10	0.16
Dodge County	0.00	0.20	0.20

***Sources**: BCA data and Wilder calculations*

The data on drug-related arrests and convictions show the same patterns as the overall arrest and convictions data for completers. Drug court program completers in all three counties were much less likely to be arrested for or convicted of drug-related crimes than the control group. However, the data on drug-related crimes for the non-completers are quite similar to the data for the control groups in the three counties.

Taken as a whole, BCA data on the three groups show that drug court programs reduced subsequent crime by program participants. To incorporate this into the benefit-cost analysis, we estimated how many arrests and convictions were saved as a result of the operation of the drug courts in the three counties.

Arrests and convictions saved

To estimate the total arrests and convictions saved by the drug courts in each county, we estimated the number of arrests and convictions that would have been experienced by program participants if their records matched the control groups and then subtracted the number of actual arrests and convictions experienced.[2] Since the costs of arrests and convictions vary by type of crime, our estimates are disaggregated into the four broad types outlined above. The results are shown in Figure 5 below.

As the table indicates, we estimate that the drug court programs saved 133.7 arrests and 47.2 convictions during the period being studied. To calculate the societal savings as a result of these outcomes, we estimate the dollar value of saved arrests and offenses by type of crime in the next section.

[2] When the program participants had committed more crimes than the control group, this method actually produces a negative number of crimes saved. It could be argued that the drug court program is unlikely to actually encourage crime, but, in order to produce conservative estimates of benefits, the negative entries were included in subsequent calculations. In any case, their effect is small.

5. Estimated arrests and convictions saved by type of crime

	Stearns County	Saint Louis County	Dodge County	Total
Arrests				
Drug related	42.3	3.6	6.2	52.1
DWI	4.3	0.0	6.1	10.5
Non-drug, non-violent	47.7	11.3	2.8	61.7
Non-drug, violent	-1.7	0.0	0.0	-1.6
Unknown type	12.0	-1.0	0.0	11.0
Total				**133.7**
Convictions				
Drug related	19.7	6.7	1.4	27.7
DWI	1.7	-0.1	8.8	10.4
Non-drug, non-violent	6.3	2.8	1.1	10.2
Non-drug, violent	-4.0	3.8	0.0	-0.2
Unknown type	0.0	0.0	-1.0	-1.0
Total				**47.2**

***Sources**: BCA data and Wilder calculations*

Estimating benefits

In this section, we estimate the dollar values of societal savings generated by the outcomes of drug court operations. Three broad classes of benefits were analyzed: (1) saved costs of the initial offense, (2) saved costs of subsequent arrests, and (3) saved costs of subsequent convictions.

In total, we estimate the benefits from all three programs to be roughly $6.8 million for the 2001-2005 period of analysis.

Saved costs of initial offense

Costs are incurred to process offenders in drug court programs and these costs will be reviewed in the section "Measuring costs." However, eliminating the alternative costs of (1) processing these offenders through the regular courts and (2) incarcerating them must be counted among the benefits as societal cost savings.

The first savings are the foregone costs of prosecuting drug offenders through the regular criminal courts. Since it was beyond the scope of our study to estimate the cost per case of this type of prosecution directly, we used an estimate of $1,522 per case that was produced as part of careful study published by the Washington State Institute for Public Policy (WSIPP) in 2006 (Aos, et al, 2006). This dollar figure was multiplied by the number of successful program completers to estimate the benefit to taxpayers. It would not have been proper to include non-completers in this calculation because it is our understanding that they are processed through the regular courts upon leaving the program.

The second savings are the public costs of incarcerating the drug offenders – the usual result had they not been assigned to community-based treatment programs. To estimate this benefit, we multiplied the number of program completers times the estimated incarceration costs saved per person. We assumed a sentence of 18 months which was somewhat less than the average sentence handed to the control groups in the three counties for their initial offenses. We used an average of $85 a day for prison costs, a figure confirmed by OJP. Incarceration costs saved for each program completer are then over $46,000.

Saved costs of subsequent arrests

According to our estimates, the drug court programs have saved a total of 133.7 arrests of different types. To estimate the value of these foregone crimes we calculated two quantities: (1) the reduced law enforcement costs and (2) the reduced victim costs.

To estimate the reduced law enforcement costs we multiplied the number of fewer crimes by type by an estimate of costs per arrest. Again, we used estimates from the Washington State Institute for Public Policy study of 2006: $5,370 for drug offenses and other non-violent crimes and $6,438 for violent crimes, the Washington State study estimate for robberies and aggravated assaults.

To estimate the saved losses to victims of crimes, we used estimates from the most widely used study of victim costs (Miller, Cohen and Wiersema, 1996). These estimates include average out-of-pocket costs as well as quality of life costs due to pain and suffering. We assumed average savings from a foregone non-violent crime were $5,170; we assumed savings for a foregone violent crime were $10,025. We do not have data on victim costs in drug-related and DWI crimes. For the purposes of this study, we assumed that there were no victim costs in drug crimes and DWI offenses.

Saved costs of subsequent convictions

We estimate that the drug court programs reduced subsequent convictions by 47.2 for the population of participants. Again we estimated two elements of saved cost for each conviction: (1) saved prosecution costs and (2) saved incarceration costs.

As before, we used prosecution cost estimates ($1,522 per case) from the Washington State study. We multiplied the number of saved convictions by $1,522 to yield an estimate of the savings to superior courts and county prosecutors.

The estimation of saved incarceration costs was more involved. First the number of saved convictions was multiplied by the average length of conviction for each type of crime and each county. This reflects the mix and severity of crimes in the different counties. Then incarceration costs for each offense in each county were estimated using $85 per day for prison costs and $75 per day for jail costs. Jail costs were used for sentences of less than a year. Then the total incarceration costs for all classes of convictions in all three counties were added together.

Finally, we added the totals of these components of benefits together to estimate the total benefits generated by these three adult drug court programs during their first four years of operation. As the numbers in Figure 6 show, we estimate the total benefits to be roughly

$6.8 million. Of that total, about $3.8 million is due to the saved cost of processing and incarceration for the initial offense. It must be remembered these court costs are offset by drug court program costs which are analyzed in the next section of this paper.

An additional benefit of about $3.0 million is the societal savings from the reduced number of subsequent arrests and convictions of program participants. Approximately one-third of this amount is due to reduced arrests and two-thirds is due to reduced prosecutions and incarcerations.

6. Estimated benefits from drug court programs by type of benefit

Saved costs of initial offense		
Court costs – initial offense	$120,870	
Incarceration costs – initial offense	$3,673,105	
		$3,793,975
Saved costs of subsequent arrests		
Law enforcement costs	$716,268	
Victim costs	$302,923	
		$1,019,190
Saved costs of subsequent convictions		
Court costs	$72,196	
Incarceration costs	$1,949,958	
		$2,022,154
Total estimated benefits		**$6,835,319**

Source: *Wilder calculations*

This total of $6.8 million represents the return to all levels of government and to the general public as potential crime victims. This total must be compared to the costs of the drug court programs, the subject of the next section.

Measuring costs

Some studies of mature drug court programs involve very complicated analysis of the minute by minute operations of various offices and institutions to estimate the marginal cost of a case. However, for our analysis, it is sufficient to consider the total costs incurred by the three programs. In each case, the county was the recipient of Federal Byrne Grant funds distributed by OJP. The county then contributed one dollar of local funding for every three dollars of federal/state funding. Figure 7 shows the total of all funds used to support these three programs during the study period.

7. Total costs of the drug courts programs in three counties, 2001-2005

	Byrne grant	Local matching	Total cost
Stearns County	$432,846	$144,282	$577,128
Saint Louis County	$345,325	$115,108	$460,433
Dodge County	$230,000	$76,667	$306,667
Total costs			$1,344,228

Source: *OJP data*

It should be noted that using these costs may overstate the cost per case of the drug courts since they were all startups during this period. To the extent that the drug courts were below their ultimate capacity or were less efficient during the first part of their implementation period, using total costs may bias the benefit-cost calculation toward lower returns than might be achieved at higher, or more normal, levels of usage. If the programs could handle more cases without incurring extra costs, then the cost per case would decrease, producing a more favorable comparison.

In the next section we compare the estimated benefits and actual costs of these three drug court programs.

Comparing benefits and costs

The estimated benefits and total costs of the three drug court programs have been pooled in Figure 8 below.

We estimate a return of $5.08 for every dollar of program cost. Thus, we estimate that the savings to government and the general public are over five times the cost of the drug courts program.

8. Comparison of estimated benefits and actual costs of drug court operations: Stearns, Saint Louis, and Dodge counties

Benefits	
Saved costs of initial offense	$3,793,975
Saved costs of subsequent arrests	$1,019,190
Saved costs of subsequent convictions	$2,022,154
Total estimated benefits	**$6,835,319**
Total costs	**$1,344,228**
Benefit-cost ratio	**5.08**

Source: *Wilder calculations*

Discussion

This estimate must be taken as only a rough approximation of the return to the three drug courts being analyzed and should not be compared with more detailed and formal analyses of mature drug courts that have been in operation for many years and have collected more complete, detailed information on outcomes. The outcomes data used here were synthesized from available sources rather than collected specifically as part of a comprehensively designed benefit-cost analysis. In the benefits calculation, many approximations were made, including using cost per case estimates from another state.

Moreover, the cost data may not reflect the true cost of ongoing drug court operations. During their startup phases, these drug courts may have used resources that were not fully accounted for initially. And the courts almost surely operated below capacity for some portion of the time period studied.

All of these shortcomings and others could be addressed in a more complete (and more resource-intensive) study. Nevertheless, this study does provide evidence that the drug courts in these three counties, Stearns, Saint Louis, and Dodge, have produced net value to government and the public. The benefits they produce appear to outweigh the increased costs of their operation.

References

Aos, Steve, Marna Miller, and Elizabeth Drake (2006). Evidence-based Public Policy Options to Reduce Future Prison Construction, Criminal Justice costs, and Crime Rates, Olympia: Washington State Institute for Public Policy.

Butts, Jeffery and John Roman, eds. (2004). Juvenile Drug Courts and Teen Substance Abuse, The Urban Institute Press. (See especially Appendix entitled "The Drug Court Evaluation Literature, 1993-2004.)

Finigan, Michael and Shannon Carey (2003). A Detailed Cost Analysis in a Mature Drug Court Setting: A Cost-Benefit Evaluation of the Multnomah County Drug Court," NPC Research.

Harrell, Adele, Shannon Cavanaugh, and John Roman (1998). "Relative Costs and Benefits of the D.C. Superior Court Drug Intervention Program," The Urban Institute.

Logan, T.K., W.H. Hoyt, K.E. McCollister, M.T. French, Carl Leukefeld and Lisa Minton (2004). "Economic evaluation of drug court: methodology, results, and policy implications," Department of Behavioral Science, University of Kentucky.

Miller, Ted R., Mark A. Cohen, and Brian Wiersema (1996). Victim Cost and Consequences: A New Look," National Institute of Justice.

Rajkumar, A. and M.T. French (1996). "Drug Abuse, Crime Costs and Economic Benefits of Treatment," Journal of Quantitative Criminology, 13(3), pp. 294-302.

Roman, John, Jennifer Woodard, Adele Harrell, and Stacia Riggs (1998). "A Methodology for Measuring Costs and Benefits of Court-based Drug Intervention Programs using Findings from Experimental and Quasi-experimental Evaluations," The Urban Institute.

Shaffer, Deborah, Kristin Bechtel, and Edward Latessa (2005), Evaluation of Ohio's Drug Courts: A Cost Benefit Analysis, Center for Criminal Justice Research, University of Cincinnati.

Washington State Institute for Public Policy (2003). Washington State's Drug Courts for Adult Defendants: Outcome Evaluation and Cost-Benefit Analysis. Document No. 03-03-1201. Olympia: Washington Institute for Public Policy.

Appendix

Benefit-cost analysis of drug courts

Benefit-cost analysis of drug courts

This section presents guidance and background on benefit-cost analysis of the operations of drug courts in Minnesota. It does not purport to be the last word on the subject nor does it prepare someone without the requisite training in evaluation and economics to perform such a study. Instead, it lays out the basics of the approach to benefit-cost analysis that is emerging as this field develops, refers the reader to some of the best references and examples of such analysis, and gives some advice on the types of data that need to be collected in order to facilitate a full-fledged benefit-cost analysis. Since complete benefit-cost analyses of mature, established drug courts are very detailed and costly, this appendix closes with some advice on practical approaches to data collection and analysis where financial resources are limited and/or the court is in the early stages of operation.

Background and overview

Specialized drug courts for adults and juveniles are relatively new and therefore, the evaluation of them through benefit-cost analyses is a developing field. While numerous evaluations of drug courts have been performed, it is only recently that benefit-cost analyses are being included in those evaluations. Analyses are being performed at universities, private consulting firms, and at research organizations interested in the criminal justice system. The studies vary greatly in their experimental design, their approach to various methodological issues, and their results. The most complete listing of drug court evaluations we are aware of is contained in an appendix to **Juvenile Drug Courts and Teen Substance Abuse** (see Butts and Roman eds., 2004). That appendix lists 54 separate evaluations of both adult and juvenile drug courts performed between 1993 and 2004 and contains extensive information on the attributes and results of each. At that time, only three of the evaluations listed included benefit-cost analysis, but several more studies have come to our attention since that publication and additional ones are under way.

As a result of the newness of this field, the practice of benefit-cost analysis of drug courts is not yet standardized nor is there a "textbook" approach that can be routinely applied. Analysts make differing decisions on a number of issues including the types of benefits to be included, the valuation of outcomes, and the measurement of costs. Two references would be particularly useful to build understanding of these and other issues:

- **A Methodology for Measuring Costs and Benefits of Court-based Drug Intervention Programs Using Findings from Experimental and Quasi-experimental Evaluations,** (Roman, et al, 1998) contains specific discussion of different methodological choices that must be faced and makes recommendations for

the handling of those issues. It then goes on to provide an illustration using data from an analysis of drugs courts in the District of Columbia. (That information is also included in a separate reference (see Harrell et al, 1998.)

- **Washington State's Drug Courts for Adult Defendants: Outcome Evaluation and Cost-benefit Analysis,** (WSIPP, 2003) contains an analysis of drug courts in six Washington counties. The report rests on an extensive meta-analysis of evaluations of other drug courts and includes especially clear and extensive appendices that explain many of details behind the analysis.

The key element about drug court benefit-cost analyses that needs to be clearly understood is that they are most credible (and, thus, most useful) if they are based on strong, reliable outcomes data. The strongest data would come from experimental designs that include randomized assignment of individuals. But there are ethical considerations that may rule out such truly randomized experimentation with people's lives. Therefore, extreme care must be taken to use strong quasi-experimental methods to produce the most valid comparison groups possible. Given the methods of operation of these courts, it is probably impossible to completely eliminate self-selection bias in analyses this type. Accordingly, the use of statistical methods that correct for these effects should also be employed where possible, even where the quasi-experimental design is relatively strong.

In the balance of this paper, we will not go into greater detail about experimental design, but will rather go on to discuss other elements of the emerging practice of benefit-cost analysis of drug courts and the implications for local courts interested in such analyses.

Benefits

There are a number of benefits that successful drug courts can be expected to produce for different units in society. These benefits should (at least) include the following list.

- *Reduced criminal justice system costs from drug-related crimes:* Lower recidivism should result in lower costs for processing and incarcerating repeat offenders.

- *Reduced criminal justice system costs from non-drug-related crimes*: Lowered substance abuse by program completers should reduce the likelihood that they would commit property crimes and personal crimes that would generate additional prosecution and incarceration costs for society.

- *Reduced costs resulting from reduced usage of welfare and other social services*: If substance abuse is reduced by drug courts, it is likely that there will be less use of social services by program completers and their families.

- *Reduced victimization costs for persons affected by crimes committed by drug offenders:* If fewer people are victimized as a result of reduced criminal activity among program completers, that represents another benefit, one accruing to society at large.

- *Improved employment outcomes and other benefits to program completers themselves:* If graduates do not abuse drugs and their lives become more stable, they may experience improved outcomes in the labor market and greater success and satisfaction in other areas of their lives.

In theory, all of these elements should be included in a thorough benefit-cost analysis. Almost all of the actual studies that have been completed have limited benefits to reduced costs of prosecution and incarceration of repeat offenders. The main reason behind that focus is probably that those elements are thought to be the largest dollar values on the list. But other practical considerations are also part of the decision to limit benefits in this way.

For one thing, the data necessary to calculate the impact on the usage of other services may simply not be available or may require large amounts of resources to assemble. This is especially true when the data must be culled from the records of many different agencies. In contrast, crime statistics are usually available from one or a small number of agencies.

It may be impossible, or nearly impossible, to trace a variety of life outcomes for program completers in detail. Even obtaining income information on completers and comparison groups is often resource intensive, and, in fact, may not be possible because of data privacy considerations. Another reason for excluding this element is that most analyses are done to inform public policy and the focus of decision-making is on whether the operation of drug courts is a good "investment" from the point-of-view of the public sector.

Victimization costs have been included in a few existing studies and may well become a more common element of analyses as practice evolves. One key difficulty to overcome is how to place a dollar value on the reduction in non-drug-related crimes of different types. We are aware of some useful references with regard to the costs of crime (Rajkumar and French, (1996) and Miller, et al., 1996). (In the Miller paper, see especially Table 4.) Even where victimization costs are included in the analysis, only those effects which are easiest to monetize such as lost wages and healthcare costs are included. Valuation of intangibles such as reductions in pain and suffering or reductions in fear is seen by most analysts as just too tenuous to attempt.

Just to reiterate, all of these estimates of benefits are predicated on the use of a valid comparison group to generate measurements of the net effect of the drug courts. If the attributes of the comparison group differ significantly from those of drug court

participants, the benefit estimates should be approached with caution even if the data collection and valuation have been handled well.

Costs

The general approach to counting costs of drug courts is, of course, to compare the actual costs incurred in the treatment process to the costs that would have been incurred if the same offenders had been processed in the standard way. In most studies, the costs per participant were higher for drug court than for the regular process.[3] Those costs are then compared to the monetary value of the benefits mentioned above.

The costs that should be counted are all costs incurred by the different agencies involved in the processing of offenders in either drug court or the standard system. These agencies include:

- the court,
- the district attorney,
- the public defender,
- law enforcement agencies, and
- the agencies involved in drug treatment and probation.

While the actual operations of different programs can differ, here is a list of standard cost items that would be included in most analyses.

- *Costs of operating and overseeing the drug courts program*: personnel, materials and supplies.
- *Treatment costs*: drug testing and drug treatment while in the program.
- *Court cost*s: costs of hearings and other proceedings.
- *Jail and probation costs*.

In general, estimates of all of these costs are included in all of the benefit cost analyses we have looked at. However, studies differed considerably in the degree to which they relied on actual detailed measurement of costs or the used of assumptions or proxies for

[3] In at least one study (Finigan and Carey, 2003), it was estimated that drug court actually cost less per participant. In that study of a mature drug court in Multnomah County, Oregon, drug court actually cost the taxpayers less than "business-as-usual" because the increased treatment costs were more than outweighed by the decreased costs of jail time and probation for drug court participants.

actual measurement. Some studies used actual data for individual cases for some or all quantities while others formed estimates by multiplying the number of cases by some estimated (or assumed) average cost per case.

A very interesting experiment with regard to the collection of cost data was performed as part of a benefit-cost analysis of drug courts in Multnomah County, Oregon (Finigan and Carey, 2003). Each of the cost elements was estimated using three different approaches which they labeled high-intensity, moderate-intensity and low-intensity data collection. The results and the actual costs of each method were then compared. This allowed researchers to assess the accuracy of the proxies and gross approximations and also facilitated an analysis of the trade-off between cost and accuracy among the three levels of effort.

The researchers concluded that their "moderate level" data collection methods produced the best value for the resources expended. However, it should be stressed that the methods that they termed "moderate" might well be too expensive for many benefit-cost evaluation budgets. For example, their "moderate" approach to the cost of hearings involved using a stopwatch to time the hearings for a random sample of the hearings for each program participant being studied and then using administrative data on the number of hearings for each client to estimate cost. (The "high-intensity" option involved following every member of the sample to every hearing armed with a stopwatch!) In contrast, the "low-intensity" option that involves getting expert opinion on the frequency and duration of hearings may well be the preferred (or only) option for many studies.

The compilation of cost data is further complicated by the fact that not all participants in drug court are successful completers of the treatment program. The costs incurred in treating all participants must, of course, be included. In addition, any added costs of jail time and trials for early exiters from the drug court program must also be included in overall cost measures.

Implications for data collection

A careful reading of a number of benefit-cost analyses and the "lessons learned" by several analysts lead to some general principles for drug courts administrators who are interested in having benefit-cost analyses performed in the future.

Implement a management information system from the outset of the program, or as soon as possible

The authors of one study of three drug courts in Kentucky (Logan et al., 2004) were especially candid by stating, "First, the level of effort required to collect and analyze data reported in this manuscript was grossly underestimated." While those researchers had to

deal with a system that was, in part, paper-based, their general point (echoed in other studies) is that drug court programs need to plan for evaluation from the beginning and implement systems to track as much client information as possible from the outset.

Build interagency data collaboration from the outset

The data needed to perform a useful benefit-cost analysis will normally reside in several agencies and the data from all of those agencies should be pulled into the aforementioned management information system early in the program. This should include both cost and outcomes data.

The experience of researchers in Washington State (WSIPP, 2003) underscores the wisdom of including different agencies from the outset. In their study, they had to forego plans to include the cost of prison time served by non-drug-court offenders and those who dropped out of the drug court program and were subsequently sentenced (for their original offense). Different information systems gave different answers to the question of which group served longer sentences and the differences could not be reconciled so that element of the proposed analysis had to be left out.

Consider experimental design at the beginning of the process

While it is true that an evaluation and a benefit-cost analysis cannot be done until the program has been in operation for at least several years, it is important to design certain aspects of the evaluation at the beginning. This will facilitate (and improve) the evaluation and benefit-cost analysis in two ways.

First, it will enable the program to collect and store the appropriate outcomes data contemporaneously rather than having to recover and/or reconstruct it later. In some cases, it may be not only costly but impossible to reconstruct or recover all of the data the evaluator would have specified at the beginning of the process.

Second, and more importantly, it will facilitate the formation of a control group to which program participants can be compared. The program needs to obtain and keep detailed information on the control group and it would also be valuable to collect information on all other potential clients who are assessed but do not enter the drug court program. Keeping certain data used in assessment of individuals will be very helpful to evaluators and economists in later years and improve the quality of their final products.

Cost estimation in early stage drug courts

Benefit-cost evaluations can only be done after a court has been in operation for a long enough time to generate usable data on outcomes. However, even when enough outcome data has been collected to make the estimation of the benefits from the program feasible, a reliable benefit-cost analysis may be still be difficult to perform because of a problem with estimating costs. This is because using historical spending data for a drug court that is developing, as opposed to a mature drug court, maybe bias the analysis toward producing a higher cost per case and, hence, a lower net value or benefit-cost ratio. During the time when the court is building its caseload but not yet at its long-term operating capacity, certain fixed costs, such as a coordinators salary, need to be spent to operate and maintain the program. But when there are only a few cases being handled, standard methodology can produce a high estimate of the true cost of each case by spreading those fixed costs across that small number of cases.

One way to deal with this difficulty and produce estimates that make a more accurate comparison of the costs and benefits of a program that is building its case load is to spread the total costs of the program over the planned or perceived caseload capacity for the program at its current level of resource use. This will produce a potential cost per case that can be compared to the benefits per case calculated from the outcomes data on the first cases that have been handled by the court.