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WASHINGTON STATE'S DRUG COURTS FOR ADULT DEFENDANTS: OUTCOME EVALUATION AND COST-BENEFIT ANALYSIS

The 2002 Washington Legislature directed the Washington State Institute for Public Policy to "report on the cost-effectiveness of existing drug courts in Washington and their impacts on reducing recidivism."¹ This report describes our findings.

As recent additions to Washington's criminal justice system, drug courts are specialized courts that attempt to reduce the subsequent criminal behavior of certain drug-involved defendants. The central questions for this study are whether—when compared with regular criminal courts—drug courts achieve this objective, and whether their benefits exceed their costs.

The report is organized in four parts. First, we briefly describe how the number of drug courts has grown in the last decade and how drug courts differ from regular criminal courts. Second, we present a statistical summary of other drug court studies from elsewhere in the United States. This literature review sets the stage for the third section of the report where we describe our outcome evaluation and cost-benefit analysis of Washington's adult drug courts. We conclude by presenting our findings and recommendations. A technical appendix is also available with details on particular aspects of the study.

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Part One: The Emergence of Drug Courts

In the last decade, the number of drug courts has grown rapidly in the United States. The nation's first drug court was started in 1989 in Miami, Florida. Since then, drug courts have been implemented throughout the United States.

Summary

In 2002, the Washington Legislature directed the Washington State Institute for Public Policy to evaluate adult drug courts in Washington. Developed during the 1990s, drug courts use frequent courtroom activity and drug treatment resources in an attempt to modify the criminal behavior of certain drug-involved defendants. The questions for this evaluation are whether drug courts—when compared with regular criminal courts—reduce recidivism and produce more benefits than costs.

We began the study by reviewing previous drug court evaluations undertaken in the United States. We identified 30 evaluations with reasonably strong research designs and found that drug courts, on average, have been shown to reduce recidivism rates by 13.3 percent, a statistically significant reduction.

We then evaluated six adult drug courts in Washington operating during 1998 and 1999 to test whether Washington's drug courts reduce recidivism rates. We found that five of these drug courts reduce recidivism by a statistically significant 13 percent, a reduction almost identical to the national average. This favorable finding, however, must be tempered: one of the courts failed to reduce recidivism significantly.

We conducted a cost-benefit analysis. We estimate that these five drug courts cost \$3,891 more per participant than regular criminal court. These extra costs cover more frequent use of court resources and drug treatment.

The economic question is whether the benefits of reduced recidivism outweigh these extra costs. We found that the five adult drug courts generate \$1.74 in benefits for each dollar of costs. Thus, adult drug courts appear to be cost-effective additions to Washington's criminal justice system.

¹ Second Substitute House Bill 2338, Chapter 290, Laws of 2002, Section 25.

Nationally, as of late 2002, there were 946 drug courts in operation and another 441 in the planning stages. In Washington, there were 25 drug courts operating at the end of 2002, and 12 more were in the planning stages.² Many of these drug courts handle adult cases exclusively, some are juvenile drug courts, a few are combination drug courts that focus on the family, and some are tribal drug courts.

The growth in the number of drug courts was stimulated by early favorable evaluations and by the availability of federal funding. The earliest evaluations of drug courts, published in the mid-1990s, seemed to confirm that they did lower recidivism rates and that they saved taxpayers more money than they cost.³ At the same time, the federal government developed grant programs designed to encourage the implementation of new drug courts.⁴

What Is a Drug Court? While each drug court is unique, they all share the primary goals of reducing criminal recidivism and substance abuse among participants. Of course, traditional criminal courts share these same goals; therefore, it is important to understand how drug courts differ from regular criminal courts.

The National Association of Drug Court Professionals provides a general definition of a drug court.⁵

A drug court is a special court given the responsibility to handle cases involving drug-using offenders through comprehensive supervision, drug testing, treatment services and immediate sanctions and incentives.

Drug court programs bring the full weight of all intervenors (judges, prosecutors, defense counsel, substance abuse treatment specialists, probation officers, law enforcement and

correctional personnel, educational and vocational experts, community leaders and others) to bear, forcing the offender to deal with his or her substance abuse problem.

The basic theory behind drug courts is that, for certain defendants with substance abuse problems, subsequent criminal activity can be reduced if the defendant's drug abuse can be treated successfully. Drug courts attempt to do this more efficiently than regular criminal courts via specialization. The testable proposition is whether focused and timely drug court resources can be more effective than regular criminal court in reducing recidivism by: a) getting a defendant into drug treatment, and b) keeping a defendant in treatment by requiring frequent appearances before the drug court judge.

In Washington, drug court defendants are offered an incentive to participate. Those deemed eligible for participation by the prosecutor are offered drug court as an alternative to formal prosecution. If the alleged offender completes drug court treatment, the prosecutor will not pursue charges. If, on the other hand, the defendant fails to complete treatment, formal prosecution on the original charge takes place. The drug court uses this threat of sanctions to help keep the alleged offender motivated to attend treatment.

The extra resources that drug courts devote to participants causes drug courts, on average, to be more expensive than regular criminal courts. We conducted a cost analysis for this evaluation, described in Part Three, and found that drug courts cost \$3,891 more per defendant than processing similar cases through regular criminal courts. These additional expenses pay for the frequent use of court resources as well and the expenses of drug treatment, urinalysis, and the drug court staff. The cost-benefit question for this evaluation is whether the extra \$3,891 per defendant is a good investment. That is, if drug courts reduce recidivism rates, do the benefits of the reduced subsequent crime outweigh the extra costs?

² Drug Court Clearinghouse and Technical Assistance Project, Justice Programs Office, School of Public Affairs, The American University. "Summary of Drug Court Activity by State and County," November 26, 2002, downloaded at: www.american.edu/justice/publications/drgchart2k.pdf.

³ The early drug court evaluation literature is reviewed in S. Aos, *Can Drug Courts Save Money for Washington State Taxpayers?* (Olympia: Washington State Institute for Public Policy, 1999). The study concluded that drug courts were likely to produce a good return on the taxpayer's dollar, but that this was a tentative conclusion until more rigorous drug court evaluations were completed.

⁴ For information, see the Justice Programs Office, School of Public Affairs, The American University, <http://www.american.edu/justice/publications/federalgrants.pdf>.

⁵ The National Association of Drug Court Professionals, <http://www.nadcp.org/whatis/>.

Part Two: A Systematic Review of the Evidence From Other Drug Court Evaluations

Before we describe our evaluation of Washington's drug courts, we present a statistical summary of all other drug court evaluations that have been conducted in the United States. The purpose of

this review is to ascertain whether, on average, adult drug courts have been shown to lower criminal recidivism rates. We use the results from these studies to provide a context for our own study of Washington's adult drug courts.

To conduct this systematic review of the evaluation research literature, we obtained copies of all drug court evaluations we could locate. We identified these studies by 1) searching published reports in peer-reviewed research journals, 2) searching the internet for other evaluations, and 3) reviewing research summaries of drug courts conducted in recent years.⁶ We also contacted researchers who are working in this area.⁷ These searches enabled us to locate over 40 drug court evaluations.

From this set of studies, however, we only considered those evaluations with reasonably strong research designs. Unfortunately, many evaluations of drug courts use comparison groups that do not adequately match the drug court participants. For example, we found several drug court evaluations that compare the recidivism rates of those who complete the drug court with those who drop out or otherwise fail to complete drug court. These studies typically show that drug courts work very well. The validity of this type of evaluation design is questionable, however, since program completers are likely to be more motivated to have successful outcomes regardless of whether they participate in drug court. We do not include these poorly designed studies in our review since, in our judgment, without a fair comparison group it is impossible to determine whether a drug court actually lowers recidivism.

Results From the Literature Review. In all, we found 30 evaluations of drug courts that met our minimum research design standards. That is, each of these studies had a non-treatment comparison group, and the authors of each study undertook some statistical effort to ensure that the drug court and comparison groups were reasonably well matched. These 30 studies were published between 1993 and 2002. Appendix A lists each of these studies as well as their relevant outcome information.

⁶ See, for example, S. Belenko, *Research on Drug Courts: A Critical Review 2001 Update* (New York: The National Center on Addiction and Substance Abuse (CASA) at Columbia University, 2001).

⁷ We contacted two prominent researchers reviewing the drug court literature; both were willing to share lists of study citations: John Roman at the Urban Institute and David Wilson at George Mason University.

Using standard statistical techniques, we analyzed the results of these 30 studies to determine the average effect that drug courts have been shown to have in reducing crime.⁸ In our review of these studies, we gave more weight to studies with stronger research designs and less weight to studies with weaker designs.⁹

FINDING: Our review of these 30 studies found that adult drug courts—on average—produce a statistically significant reduction in recidivism.

In addition to this general finding, our statistical analysis of these studies also indicates the magnitude of the reduction in recidivism rates. Technically, we found the expected “mean-difference effect size” for drug courts is a statistically significant $-.123$ (standard error of $.026$).¹⁰

What does this “effect size” statistic mean in practical terms of recidivism rates? We estimate that *without drug court*, about 45.8 percent of drug-court eligible offenders will be reconvicted for a felony after an eight-year follow-up period.¹¹ *With drug court*, based on our review of the 30 studies, we estimate the recidivism rate would drop to 39.7

⁸ Specifically, we analyzed these studies using meta-analytic methods as described in M. W. Lipsey and D. B. Wilson, *Practical Meta-Analysis* (Thousand Oaks: Sage Publications, 2000). For a complete description of the meta-analytic methods we used in this analysis, see S. Aos, P. Phipps, R. Barnoski, R. Lieb, *The Comparative Costs and Benefits of Programs to Reduce Crime Version 4.0* (Olympia: Washington State Institute for Public Policy, 2001).

⁹ For a discussion of the process we used to adjust for weaker research designs, see Aos et al., (2001) pages 39-41. Specifically, we discount the effect-size findings of studies that use a less-than random assignment research design. For studies that use multivariate controls to adjust for any pre-existing differences between treatment and control groups, we lower the study's effect size by 50 percent. For studies that explicitly model sample- or self-selection in addition to the normal multivariate controls, we discount the effect size by 25 percent. For random assignment studies, we apply no discounting to the study's effect size.

¹⁰ Technical note: The initial meta-analysis of the 30 studies produced a mean difference effect size of $-.121$ with a standard error of $.012$, but with a statistically significant Q statistic ($Q = 66.8$, $p=.0001$). We then computed a random effects model following Lipsey and Wilson (2000) Chapter 7, to adjust the heterogeneous results from the initial analysis. The random effects model produced a mean difference effect size of $-.123$ with a wider standard error of $.026$ (95 percent confidence intervals for the mean difference effect size range from $-.073$ to $-.173$), with a non significant Q statistic ($Q = 25.9$, $p=.631$).

¹¹ We computed the 45.8 percent base felony recidivism rate by selecting all offenders in Kitsap, Pierce, Skagit, Spokane, and Thurston counties who would have been eligible for drug court from 1991 to 1993 (based on the criteria discussed in this report), and then calculating how many were subsequently reconvicted for a new offense in Washington during the following eight years.

percent. This represents a 13.3 percent reduction in recidivism rates.

Thus, if Washington's drug courts are able to achieve the average success rate that we estimated from our review of the national research literature, then we would expect to see Washington's drug courts reduce recidivism rates by roughly 13 percent.

Part Three: An Evaluation of Washington's Adult Drug Courts

We now turn to our evaluation of Washington's drug courts.¹² This section is organized in five parts. First, we identify the six adult drug courts included in this evaluation and present basic information on the defendants in these drug courts. Second, we describe the statistical procedures we employed to select the comparison groups for this evaluation. Third, we present the results of the recidivism analysis comparing the drug court and the comparison groups. Fourth, we describe the analysis we conducted to determine the per-participant cost of the drug courts. We conclude this section by presenting our cost-benefit analysis of five of the six drug courts.

3.1 The Evaluation's Six Drug Courts

To carry out this legislatively directed assignment, Institute staff began by meeting with representatives from the existing drug courts in Washington. We determined that there were six adult drug courts in Washington that had been in operation long enough to be included in our retrospective outcome evaluation. Washington also has several newer drug courts, but we could not study these courts in this evaluation because they have been operating for too short a period of time to conduct a recidivism analysis with an adequate follow-up period.

¹² There have been several helpful earlier evaluations of drug courts in Washington. (1) G. B. Cox, L. Brown, C. Morgan, *NW HIDTA / DASA Washington State Drug Court Evaluation Project: Final Report*, (Olympia, WA, July 13, 2001); Northwest High-Intensity Drug Trafficking Area and Washington Division of Alcohol and Substance Abuse, ADAI Technical Report Series 01-01. (2) M. M. Bell, *King County Drug Court Evaluation: Final Report* (Seattle: M. M. Bell, Inc., 1998). (3) Urban Policy Research, *Evaluation: Spokane County Drug Court Program* (Spokane WA: Spokane County Drug Court, 1999).

In conducting an analysis of recidivism rates, a sufficient follow-up period is necessary to observe whether offenders are convicted for new crimes. We use a two-year follow-up period to cover the time when offenders were in drug court as well as time after they left or completed the program. As we describe later, the recidivism outcome measure we use in this study is re-convictions for new offenses. To allow time for the formal possessing of subsequent convictions through Washington's courts, an additional one-year period is needed. Thus, for this analysis, a total of three years of follow-up time (two for time "at risk" and one for court processing) was needed in order for a court to be included in the evaluation.

This evaluation includes the following six adult drug courts (in parentheses, we list the date each court began operation).

1. King County (8/1/1994)
2. Pierce County (10/1/1994)
3. Spokane County (1/1/1996)
4. Skagit County (4/1/1997)
5. Thurston County (5/1/1998)
6. Kitsap County (2/1/1999)

These six counties are among the most populated of Washington's 39 counties; as of April 2002, the six counties in our study represent 58 percent of Washington's total population of 6.042 million people.¹³ For reasons we describe later, most of our evaluation focuses on five of these six courts: Kitsap County, Pierce County, Skagit County, Spokane County, and Thurston County. We also report some outcomes separately for King County.

From each of these counties, we obtained individual-level data on the defendants who entered drug court.¹⁴ Additionally, four of the counties (King, Pierce, Spokane, and Thurston) were able to supply individual-level data on the defendants screened for drug court. We were able to use this information to help in selecting the comparison groups used for this evaluation.

¹³ Analysis of county population data from the Washington State Office of Financial Management, www.ofm.wa.gov/pop/april1/finalpop2002.xls.

¹⁴ The Institute would like to thank several people from the six courts. Without their help in securing data used in this study, this evaluation would not have been possible: Judge Tari Eitzen, Spokane County; Ellen Goodman, Thurston County; Kelli Luvera, Skagit County; Terree Schmidt-Whelan, Pierce County; Mary Taylor, King County; and Cheri West, Kitsap County. All conclusions drawn in this study are the Institute's, not necessarily these individuals.

Table 1
Characteristics of Drug Court Participants⁽¹⁾ in the Six Washington Counties Included in This Study

	King	Kitsap	Pierce	Skagit	Spokane	Thurston	All Six Counties
Number of Drug Court Participants, 1998-1999	646	43	434	64	115	135	1,437
Percent That Completed Drug Court	29%	44%	35%	58%	34%	47%	35%
Percent That Failed Drug Court	70%	56%	45%	38%	64%	53%	58%
Percent White	60%	88%	79%	91%	86%	92%	73%
Percent Black	36%	5%	18%	0%	8%	4%	23%
Percent Asian	2%	0%	1%	0%	0%	2%	1%
Percent Native American	1%	5%	1%	5%	2%	1%	1%
Percent Missing Ethnicity	2%	2%	1%	5%	4%	1%	2%
Percent Male	69%	56%	63%	63%	56%	61%	65%
Average Age (Years)	35.4	31.6	32.7	33.1	32.2	32.1	33.8
Percent with a Current Felony Drug Charge	100%	100%	100%	98%	95%	99%	99%
Percent with Current Multiple Felony Charges	0%	26%	14%	50%	20%	10%	10%
Percent with Current Violent Felony Charges	0%	2%	0%	9%	4%	1%	1%
Percent Meeting Common Eligibility Criteria	95%	93%	92%	86%	80%	95%	92%
Percent with a Prior Felony Conviction	84%	60%	73%	66%	84%	73%	78%
Average Number of Prior Felony Convictions	2.1	1.2	1.9	1.8	1.6	1.7	1.9
Percent with a Prior Felony Drug Conviction	79%	42%	62%	39%	63%	60%	68%
Average Number of Prior Felony Drug Convictions	1.5	0.6	1.1	0.7	0.9	1.1	1.2
Percent with a Prior Felony Violent Conviction	9%	2%	5%	6%	6%	6%	7%
Percent with a Prior Misdemeanor Conviction	63%	49%	59%	66%	45%	54%	59%
Average Number of Prior Misdemeanor Convictions	1.9	1.0	1.5	1.8	0.9	1.5	1.6
Actual Misdemeanor and Felony Recidivism Rate	42.0%	34.9%	43.8%	34.4%	35.7%	31.9%	40.5%
Actual Felony Recidivism Rate	29.4%	23.3%	32.5%	20.3%	23.5%	20.0%	28.4%
Actual Felony Drug Recidivism Rate	22.4%	14.0%	23.3%	9.4%	7.0%	9.6%	19.4%
Actual Violent Felony Recidivism Rate	2.2%	0.0%	2.8%	0.0%	6.1%	0.0%	2.3%

(1) Drug court participants include those who graduated from drug court, as well as those who failed to complete drug court.

Appendix B lists the screening criteria that each county uses to select those defendants offered drug court as an alternative to regular prosecution.¹⁵

For all defendants in the sample, we obtained information on their gender, age, ethnicity, previous criminal history, and the current offense that made

them eligible for drug court. We also computed recidivism rates for these defendants by accessing the Institute's recidivism database, which includes all subsequent criminal convictions adjudicated in any Washington court through December 2001.

Table 1 provides information on various characteristics of the drug court participants. The participants include both those who ultimately graduated from drug court, and those who failed to complete drug court. In all, there are 1,437 drug

¹⁵ These screening criteria in Appendix B are re-printed from the Cox et al. (2001) study cited earlier. The Cox study reviewed each drug court process intensively.

court participants in the six counties during the time frame (1998 and 1999) of this retrospective study. About 35 percent of those entering drug courts completed the program, while 58 percent failed to complete drug court. The remaining 7 percent were still active.

About two-thirds of drug court participants were male and the average age was about 34 years old. Almost 100 percent of drug court participants were in court on a felony drug charge, while 10 percent were in with multiple current offenses. In terms of criminal history, 78 percent had a prior felony conviction; the average drug court participant had 1.9 prior felony convictions.

While each county uses slightly different criteria to screen candidates for drug court, there are several characteristics common to all courts. In general, to be considered for drug court, a defendant must be charged with a drug possession offense, have a drug/alcohol problem, have no history of violent offenses, and have no history of mental health problems.

After a drug-court-eligible defendant passes the county's initial eligibility screening criteria, participation in drug court is voluntary. If the defendant chooses to participate, he or she must agree to abide by a set of conditions and the charges against the defendant are suspended. Those who successfully complete the program have the charges dismissed, while those who fail to meet the conditions of drug court have the charges reinstated. If a person chooses to enter drug court, they are said to "opt-in." Those eligible defendants who choose not to enter drug court are said to "opt-out."

3.2 The Evaluation's Comparison Groups

The key to evaluating the outcomes of a program such as drug court is creating a valid comparison group. In our judgment, an outcome evaluation that does not have a good comparison group is not worth much. We now describe the steps we took to define the comparison groups for this study.

While it is straightforward to compute the recidivism rate of the drug court participants, the difficult task for an evaluation is to determine what the recidivism rate would have been if, keeping everything else the same, the participants had not gone through drug court. The ideal way to test this is to randomly assign a group of defendants to either drug court or regular court. Under this

optimal research design, one can be quite certain that any observed differences (or lack of differences) in recidivism rates between the treatment and control groups is due solely to the effect (or lack of effect) of the drug court.

For this study, however, we could not use a random assignment research design since our task was to look retrospectively at Washington's early drug courts. Therefore, we developed several alternative approaches to create the comparison groups for this study.

Sample- and Self-Selection Issues. A particular challenge for the evaluation of drug courts in Washington relates to the selective nature of drug court participation in this state. As described, prior to entering drug court, a defendant goes through a considerable screening process carried out by the prosecutor, drug court personnel, and the defendant.

The drug court selection process means there are unobserved factors (that is, these factors are unobserved to the researchers) that define the type of defendants who enter drug court. One of these unobserved variables is often a defendant's motivation to succeed. Perhaps those defendants who are more motivated to improve their lives self-select into drug court. If this is the case, then we could expect that drug court participants may have lower recidivism rates not necessarily due to the effects of drug court, but due to the defendant's motivation to succeed. The prosecutor may observe these characteristics, or the defendant may exhibit them, but the researcher has no variable that measures a factor such as motivation.

Since random assignment was not possible for this evaluation, and since selection bias issues are important ones for a drug court evaluation, we first explored the possibility of using the econometric approach of "instrumental variables" to estimate program effects. With instrumental variables, the task is to identify a variable that is related to a defendant's participation in drug court, but that is otherwise unrelated to whether the offender recidivates. If such an instrumental variable can be found, then two stage least squares can be used to provide a statistically reliable estimate of the effect of drug court participation on the recidivism outcome.¹⁶

¹⁶ Standard references for instrumental variables include: J. M. Wooldridge, *Introductory Econometrics: A Modern Approach*, 2nd Ed. (Cincinnati: South-Western College Publishing, 2003, Chapter 15); J. M. Wooldridge, *Econometric Analysis of Cross Section and Panel Data* (Cambridge: The MIT Press, 2002, Chapter 5); and W. H. Greene, *Econometric Analysis*, 4th Ed. (New Jersey: Prentice Hall, 2002, Chapter 16).

Unfortunately, we could not find an instrumental variable for our evaluation of Washington's adult drug courts. As far as we know, only one drug court study has found a good instrumental variable. Truitt et al. (2000) evaluated drug courts in Missouri and Florida and found that the participation in those drug courts was affected by when the participant was eligible for drug court.¹⁷ Those offenders eligible when the drug court first began operations were much less likely to enter drug court than those offenders who began after the drug court had been in operation. Truitt et al. was able to use this instrumental variable to control for unobserved motivation and to isolate the effect of drug court on recidivism. We attempted to develop a similar instrumental variable for our evaluation of Washington's drug courts. Unlike Truitt et al., however, we did not find that the defendants who entered drug court in the early stages of the court's operations had a lower chance of entering drug court. Apparently, when Washington's drug courts began operations, they "hit the ground running" and, thus, we were not able to utilize the clever instrumental variable used by Truitt et al.

Having ruled out random assignment or finding an instrumental variable, we then developed three alternative statistical approaches to select the comparison groups for this study.

Method #1: Standard Regression. In this approach, we estimate, using logistic regression, whether drug court participation affects recidivism after controlling for the various characteristics we have on cases in our study sample. These factors include age, gender, ethnicity, prior criminal convictions, and the defendant's current charges. This method's main limitation is that it does not directly measure the self-selection process that occurs in drug courts. This method is one of the most often employed approaches in drug court research.

Method #2: Propensity-to-Participate Matching. In a second approach, we create a comparison group by finding a non-drug court case that matches each drug court case. This approach proceeds in two steps. First we use logistic regression to develop an equation that distinguishes cases that opt into drug court from those that are eligible but do not participate in drug

court. This drug court participation equation is based on a defendant's age, gender, ethnicity, prior criminal activity, and the nature of the current charge.

Next, a comparison group is chosen by finding an eligible non-drug court case with an propensity score that exactly matches a drug court case. The result is a one-to-one match between a drug court case and a non-drug court case where both cases have identical "propensity-to-participate" scores. Finally, we estimate the difference in recidivism between the matched cases using logistic regression to control for factors that are related to recidivism, as in the standard regression method.

Method #3: Risk-Score Matching. A third method, similar to the second, involves finding non-drug court cases that match the drug court cases. This time the cases are matched on those variables that predict recidivism, rather than those factors that predict program participation. We use the results of our standard regression model to identify the variables most associated with recidivism. We then construct a comparison group by finding an eligible non-drug court case with the values on the recidivism prediction variables that exactly matches a drug court case. To obtain a sufficient number of matched pairs, we restrict the matching characteristics to 14 variables describing age, gender, ethnicity, current charges, juvenile record, prison commitments, and adult felony and misdemeanor convictions. This results in a smaller number of one-to-one matches where both cases are identical with regard to the set of 14 variables. We then estimate the difference in recidivism between the matched cases using logistic regression, just as we did in the "propensity-to-participate" method.

Two Comparison Group Sampling Frames. For each of the three methods, we created comparison groups from two pools of defendants. First, for all six drug courts in our study, we selected comparison group cases that were filed in the same counties two years prior to the start of drug court in the county. The logic of this approach is that the offenders in the comparison group would have probably been selected for the drug court had it existed in the county at that time. One drawback is that this sampling approach is susceptible to changes in recidivism rates over time. That is, any differences in recidivism between in the pre- and post-drug court groups, may, in part, be impacted by when the offenders were observed as well as the influence of the drug court process.

¹⁷ L. Truitt, W. M. Rhodes, A. M. Seeherman, K. Carrigan, and P. Finn, *Phase I: Case Studies and Impact Evaluations of Escambia County, Florida and Jackson County, Missouri Drug Courts* (Cambridge: Abt Associates, March 2000).

Our second sampling scheme involves selecting similar cases from non-drug court counties at the same time the drug court counties were in operation. The logic for this second group is that if the non-drug counties had a drug court, then we can estimate a group of offenders who would have been admitted into the court based on the drug court eligibility requirements. This type of comparison group avoids the timing problem described for the first comparison group, but it introduces a problem of geography: the drug court counties may be fundamentally different than the non-drug court counties, and this may influence observed differences in recidivism rates. We had to exclude Pierce and King County's drug courts from this second sampling scheme because there are no comparable non-drug court counties; the size and location of these counties makes them unique.

Thus, for this evaluation, our research strategy included creating six different comparison groups. Since each of these six comparison groups has different methodological advantages and disadvantages, we opted to test drug court effectiveness using all six groups in order to provide a range of estimates for drug court outcomes.

3.3 Recidivism Outcomes

The recidivism outcome measure for this evaluation is criminal convictions for new offenses. This definition of recidivism is consistent with that requested by the Washington Legislature.¹⁸ In this evaluation, we subdivide re-convictions into four different categories: total recidivism (felonies and misdemeanors), felony recidivism, violent felony recidivism, and drug felony recidivism.

We would have preferred to analyze each of the six counties separately, but we needed to pool four of the counties (Kitsap, Skagit, Spokane, and Thurston) in order to obtain a sufficient sample size. We were able to analyze the two largest counties, Pierce and King, separately.

The statistical results for our recidivism analysis of the four-county group, Pierce County, and King County, are shown in Appendix C.

¹⁸ For a discussion of follow-up periods and recidivism measures, see: R. Barnoski, *Standards for Improving Research Effectiveness in Adult and Juvenile Justice* (Olympia: Washington State Institute for Public Policy, 1997) available at: <http://www.wsipp.wa.gov/crime/pdf/ResearchStandards.pdf>.

Summary of Recidivism Results. Appendix C presents a considerable amount of technical information on the results of our statistical analyses. Since we could not use a random assignment method for this evaluation, and given the relative advantages and disadvantages of the different modeling approaches we employed, we decided to use the results from all the different methods and sampling frames to test for the sensitivity of the results.

We calculated an overall effect that we believe best indicates the degree to which the drug courts affect recidivism rates. For the effect of drug courts on felony re-conviction rates, our estimates are summarized on Table 2. We computed these estimates by meta-analyzing all the results for felony recidivism as reported in Appendix Tables C-1, C-2, and C-3. We also used our standard procedures to discount the effect sizes for each method's research design score. The technical details behind Table 2 are shown in Appendix C-4.

Table 2 shows that for five of the six counties, drug court reduces felony recidivism rates by 13 percent. That is, without drug court, the eight-year

Table 2
Estimated Effect of Drug Court Participation
on Felony Reconviction Rates

	Effect Size Summary Estimate	Eight-Year Felony Reconviction Rate		
		Without Drug Court	With Drug Court	Percent Change
Kitsap, Skagit, Spokane, and Thurston Counties*	-.116	38.8%	33.2%	-14.4%
Pierce County**	-.123	47.9%	41.8%	-12.8%
Five County***	-.120	45.8%	39.9%	-13.0%
King County****	-.04	52.3%	50.2%	-4.0%

* Four of the six statistical tests were significant.

** One of three statistical tests was significant.

*** The five counties are: Kitsap, Pierce, Skagit, Spokane, and Thurston.

**** None of the three statistical tests was significant.

felony re-conviction rate is 45.8 percent.¹⁹ With drug court, based on the evidence in this evaluation, we expect the recidivism rate to drop to 39.9 percent.

We discovered King County's court did not reduce recidivism significantly so we did not conduct a cost-benefit analysis for that court. We do not know why King County's effectiveness was different than the other five counties; perhaps one reason was the high drug court termination rate in the 1998-1999 period.

We also tested for possible treatment effects on the average number of re-offenses among those who re-offend. We estimated negative binomial regression models and found no significant difference for drug court on the average number of re-offenses among re-offenders. Thus, for the five courts listed on Table 2, we conclude that drug court does significantly affect the overall recidivism rate, but it does not lower the number of re-offenses of those who re-offend.

3.4 Cost of Drug Court Compared With Regular Criminal Court—Five Court Analysis

We conducted an analysis of the costs of the five drug court group estimated in the evaluation of recidivism rates.²⁰ The purpose of this analysis was to estimate the per-participant cost of a defendant who enters drug court compared with the cost of a similar defendant who entered regular criminal court. The difference between these two cost figures represents an estimate of the added cost of drug court. We use this cost estimate in our cost-benefit analysis of the drug courts, described in Section 3.5.

We analyzed three types of costs. First, we examined court-related processing costs associated with the operation of the superior court (judge, other courtroom staff, county clerk, prosecutor, and public defender). Second, we included the direct costs associated with the drug court administrator, the drug court funds used to pay for treatment, urinalysis, and other costs

specific to the operation of the drug court. Third, we estimated sanctions-related costs associated with disposition of the charge that made the defendant eligible for drug court.

Table 3 summarizes the results of our cost analysis, and additional technical information is contained in Appendix D-2.

Superior Court Processing Costs. We estimate that a defendant who goes through drug court uses \$3,206 in Superior Court processing costs associated with the judge, courtroom personnel, clerk, prosecutor, and public defender. If that individual had gone through regular criminal court, we estimate those court processing costs would have been \$1,717. The difference for these court processing costs reflects the relatively frequent nature of drug court involvement in the defendant's treatment. We estimated these superior court costs by first reviewing each court's weekly calendar. We tallied the hours per week each court spends on: (a) non-criminal court matters, (b) non-drug court criminal matters, and (c) drug court. We then applied this distribution of functional hours to the total expenditures for the five counties for 2001 for the superior court, the county clerk, the prosecutor, and the public defender.²¹

Drug Court Specific Costs. Next, Table 3 shows that drug court specific costs amount to \$4,427 per average defendant entering drug court. These costs pay for substance abuse treatment, urinalysis, the drug court administrator and any assistants. We obtained these costs by contacting each of the five drug courts in this analysis.

Adding these first two components together, we find that a drug court defendant consumes \$7,633 in court-related costs compared with \$1,717 for a similar defendant who enters regular criminal court. Before considering sanctions-related costs, the difference between these two numbers, \$5,916, represents an estimate of the extra court-related costs used by an average drug court participant; 75 percent of this difference is the cost of drug treatment and monitoring.

¹⁹ We computed the 45.8 percent base felony recidivism rate by selecting all offenders in Kitsap, Pierce, Skagit, Spokane, and Thurston Counties who would have been eligible for drug court from 1991 to 1993 (based on the criteria discussed in this report), and then calculating how many were subsequently reconvicted for a new offense in Washington during the following eight years.

²⁰ Appendix D-1 also contains cost information on all counties, even though only five counties are included in this five-court cost analysis.

²¹ The county expenditure data are from the Washington State Auditor's Local Government Finance Reporting System (LGFRS), as described in the Appendix to this report. The total expenditures in the LGFRS system for the prosecutor and the public defender exclude the costs of the civil portions of those offices. As described in Appendix D-2, we also conducted a statistical analysis of the court and legal expenditures to isolate those costs that change with caseloads from those operating costs independent of caseload size.

Table 3 Estimated Per-Participant Costs of Drug Court Eligible Defendants Who Go Through Drug Court or Regular Criminal Court (see Appendix D-2 for details)			
	Drug Court	Regular Criminal Court	Difference
Superior Court Costs (judge, assistant, clerk, prosecutor, and public defender)	\$3,206	\$1,717	\$1,489
Drug Treatment & Monitoring	\$4,427		\$4,427
Total Court-Related Costs	\$7,633	\$1,717	\$5,916
Sanctions-Related Costs*	\$3,594	\$5,618	-\$2,024
Total Costs	\$11,227	\$7,335	\$3,891
* The sanctions-related costs for Regular Criminal Court cases are estimated with data for drug court eligible offenders who opted out of the drug court process, (see Appendix D-2). Our estimates of these sanctions costs are incomplete because we could not reliably estimate the number of prison days by drug court participants compared with those non-participants who were otherwise eligible for drug court.			

Sanctions-Related Costs. Also summarized on Table 3 (and in Appendix D-2) are our estimates of the sanctions-related costs for disposition of the current charge of the drug court defendants compared with similar offenders processed through the regular criminal court. It is important to note that these sanctions-related costs do not measure the subsequent criminal justice costs associated with recidivism; they only include the costs linked to disposition of the original charge. Separately, in our cost-benefit analysis in Section 3.5, we measure the costs of recidivism.

For just the sanctions-related costs, we found that the average drug court participant uses \$3,594 worth of criminal justice resources compared with \$5,618 for similar cases that go through regular criminal court. We calculated these sanctions-related costs by comparing the jail and community supervision days for the drug court participants and the “opt-outs.”

We had also hoped to estimate the number of state prison days for these two groups, but we could not resolve some of the apparent inconsistencies in the prison data we had for this study. We found some data that show that prison use by drug court participants was greater than non-participants, and some other data indicating the opposite. We recommend that a careful examination be undertaken to estimate the impact of drug court participation on prison sentences.

Therefore, our sanctions-related costs only reflect jail and community supervision differences between the drug court and opt-out groups, not differences in prison usage.

Unfortunately, Washington does not have a statewide individual-based information system on the use of county jails. For the jail analysis in this study, Spokane and Pierce counties were able to supply us with information on the amount of jail time of the drug court participants and the “opt-outs.” These data indicate that drug court participants used an average of 57 jail days, while the opt-outs used 90 days.

We then multiplied these estimates of jail days by the average daily operating cost of jails in Washington. We chose to use average operating costs rather than marginal costs because most operating costs are for labor. Over the course of even a few governmental budget cycles all of these costs are marginal; that is, they are budgeted in direct relationship with changes in average daily jail population. We did not include capital costs in these estimates. All of these calculations are detailed in Appendix D-2.

3.5 Cost-Benefit Analysis

Given the study’s recidivism findings described in Section 3.3 and the drug court cost estimates presented in Section 3.4, we conducted a cost-benefit analysis for five of the adult drug courts in this evaluation—Kitsap, Pierce, Skagit, Spokane, and Thurston Counties.

We quantified the benefits of the reductions in recidivism by estimating the dollar value of the costs that are avoided when recidivism is reduced. When crimes are avoided, taxpayers do not have to spend as much money on the criminal justice system. Fewer crimes also mean that there are fewer crime victims. In our cost-benefit analysis of Washington’s drug courts, we estimate the present value of future avoided crimes to both taxpayers and crime victims. These benefits are then compared with the extra costs of the drug court to determine the economic “bottom line” of the drug courts.²²

²² For a complete description of the cost-benefit methods we used in this analysis, see: S. Aos, P. Phipps, R. Barnoski, R. Lieb, *The Comparative Costs and Benefits of Programs to Reduce Crime Version 4.0*, (Olympia: Washington State Institute for Public Policy, 2001).

In this evaluation, we only estimated the effect that drug courts have on crime. We did not attempt to determine whether drug courts improve other outcomes, such as decreases in substance abuse, increases in employment, or reductions in welfare or medical costs. As a result, our cost-benefit analysis does not include these other potential benefits of drug courts. Instead, our economic analysis is limited to quantifying the crime-related benefits and costs of drug courts. As we discuss in Part Four of this report, the legislature may wish to consider expanding the scope of future drug court evaluations to measure some of these other non-crime outcomes of drug courts.

Table 4
Summary of the Cost-Benefit Analysis
of Five Adult Drug Courts in the Evaluation

Benefits of Reduced Recidivism	
Criminal Justice Costs Avoided per Drug Court Participant	\$3,759
Crime Victim Costs Avoided per Drug Court Participant	<u>\$3,020</u>
Total Crime-Related Costs Avoided per Drug Court Participant	\$6,779
Costs of the Drug Court	
Total Added Cost of the Drug Court per Participant (from Table 3)	\$3,891
Net Gain (Loss) per Drug Court Participant	\$2,888
Benefit-to-Cost Ratio	\$1.74

Table 4 displays a summary of the results of our cost-benefit analysis, while Appendix D-3 provides more detail. We estimate that the average drug court participant produces \$6,779 in benefits that stem from the estimated 13 percent reduction in recidivism rates reported in Section 3.3. These benefits are made up of \$3,759 in avoided criminal justice system costs paid by taxpayers, and \$3,020 in avoided crime costs that otherwise would have been incurred by victims.

Table 4 also shows that, compared with regular criminal court processing, the incremental cost of drug courts is estimated to be \$3,891 per participant. Subtracting these costs from the benefits produces the net benefit of \$2,888 per drug court participant. Dividing the benefits by the costs produces a ratio of \$1.74 of benefits per dollar of cost.

Part Four: Summary of the Findings

Our evaluation of Washington's adult drug courts produced the following findings.

1. **Nationally, drug courts appear to reduce recidivism.** We began our analysis by reviewing all previous drug court evaluations undertaken in the United States. We identified 30 evaluations with reasonably strong research designs and found that adult drug courts, on average, have been shown to reduce recidivism rates by 13.3 percent, a statistically significant reduction.
2. **Our evaluation of five Washington drug courts indicates that they reduce recidivism.** We evaluated six adult drug courts in Washington operating during 1998 and 1999 to test whether Washington's drug courts reduce recidivism rates. We found that five of these drug courts, compared with regular criminal court, reduce recidivism by a statistically significant 13 percent, a reduction almost identical to our finding for the national average. This favorable finding, however, must be tempered: King County's drug court failed to reduce recidivism significantly.
3. **Drug courts are more expensive to operate than regular criminal courts.** We estimate that these five drug courts cost \$3,891 more per participant than if the defendant had been processed through regular criminal court. These extra drug court costs pay for the intensive use of court resources (the judge, court personnel, prosecutor, and defense attorney) as well as the costs of drug treatment.
4. **Overall, drug courts produce more benefits than costs.** Drug courts cost more to operate, but they also reduce recidivism rates. Therefore, the economic question is whether the benefits of reduced recidivism outweigh the extra costs. We found that the five adult drug courts generate \$1.74 in benefits for each dollar of costs. That is, the 13 percent reduction in recidivism rates achieved by the drug courts saves taxpayers and crime victims more money than the cost of drug courts. As with any business, however, a key to profitability is keeping costs under control—drug courts must control operating costs in order to provide a positive cost-benefit return for taxpayers.

Limitations to this Study and Recommendations

The results in this study provide some indication that adult drug courts are cost-effective additions to Washington's criminal justice system. There are, however, four significant qualifications to this finding that need to be noted and, perhaps, resolved through additional research.

First, and most important, in this retrospective study of Washington's adult drug courts, we were unable to use the strongest research design to test whether drug courts lower recidivism. Instead, we had to use methods that cannot control completely for the self-selection inherent in the drug court process. This means that there is some doubt about the conclusions we reached in this study. The best way to resolve this uncertainty is to design a prospective random assignment study to test more rigorously the efficacy of Washington's adult drug courts.

Second, independent of the effect that drug court has on recidivism, we discovered in this study that there is considerable uncertainty about how drug courts affect the use of jail and prison confinement for those that fail drug court. In order for drug

courts to be cost-effective, drug court participants must use fewer jail and prison resources than similar defendants processed through regular criminal court. In this study, we were not able to analyze this issue satisfactorily. If these jail and prison costs are not reduced as a result of drug court, then drug courts may not be a cost-beneficial criminal justice resource. Future studies should focus on accurately tracking the use of jail and prison resources.

Third, in this evaluation of the costs and benefits of drug courts, we only measured the effect of drug courts on recidivism. Drug court may also affect other outcomes such as substance abuse, employment, and welfare use. A future study of drug courts could attempt to quantify these outcomes and include the results in a more comprehensive cost-benefit analysis.

Finally, drug courts include three components that distinguish them from regular criminal court: voluntary participation, frequent court appearances, and participation in drug treatment programs. It would be valuable to study the impact of each component on the cost/benefit outcome. To do this, a study would need to vary explicitly the presence of each component among the drug court participants.

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