

NW HIDTA / DASA Washington State
Drug Court Evaluation Project

Final Report

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NW HIDTA/DASA Washington State Drug Court Evaluation

Alcohol and Drug Abuse Institute
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EXECUTIVE SUMMARY

Since the mid-1980s, state and local criminal justice systems have been inundated with felony drug cases. The saturation of state court and prison systems with drug cases and offenders convicted of drug related crimes has been at the expense of court and prison resources to manage more serious, violent felony offenders. Concurrent with these events, research consistently showed that: (1) incarceration for drug offenses does little to break the cycle of use and related crime; (2) the recidivism rate for drug related crimes is very high and (3) treatment is effective in reducing addiction and drug related crime if individuals remain in treatment for an adequate period of time.

In response to this situation, state and local courts in several states started, in the early 90s, to create special drug courts, also known as treatment drug courts. These courts were designed to administer cases referred for judicially supervised drug treatment and rehabilitation. In exchange for the possibility of dismissed or reduced sentences, offenders who met clearly defined criteria, and who agreed to participate, were diverted to drug court programs whose main purpose was to use the authority of the court to reduce crime by changing drug related behavior (GAO, 1997).

Key Elements of Drug Court Programs

Early in the development of Drug Court programs, the Drug Court Program Office identified a set of key elements considered crucial to the program success. These elements include:

- A unified court system with a single judge providing leadership and system-wide focus;
- Intervention by the drug court judge and DC team members with the offender as soon as possible after arrest;
- Access to comprehensive treatment based on the needs of the offender;
- Verification of compliance with treatment and supervision through drug testing and supervision contacts;
- Frequent and personal contact with the drug court judge at status hearings to assure compliance with treatment and supervision goals;
- Immediate and consistent responses to violations through graduated sanctions and incentives; and
- Integration of alcohol and other drug treatment services with justice system case processing (Drug Court Program Office, 1997).

Drug Court Evaluation

Over the decade a number of drug court evaluations have been done. Most have focused on two outcomes: rates of retention and completion, and criminal recidivism. An Office of Justice Programs (1998) report of over 200 programs found retention rates ranging from 31-100% with an average rate of more than 70%, compared to significantly lower retention rates among criminal defendants in traditional treatment programs. Completion rates ranged from 8-95% with an average completion rate of 48%. Substantial reduc-

tions in recidivism rates, ranging from 2 to 20%, were found among programs that reported recidivism. The average recidivism rate for drug related offenses in the US is approximately 45% over a two year post-release period.

Belenko (1998), in a review of Drug Court evaluations, found wide variations in the scope, methodology and quality of the studies, and made a number of recommendation to improve the quality of drug court evaluations. He recommended that future studies document the structural and operational characteristics of the programs and examine how program characteristics contribute to participant outcomes, and that more longitudinal studies be done.

Washington State Drug Courts:

Between 1994 and 1999 six counties in Washington started adult Drug Court programs: King and Pierce in 1994; Spokane in 1996; Skagit in 1997; Thurston in 1998; and Kitsap in 1999 (in addition, there are now programs in Clallam, Clark, Snohomish, Whatcom, and Yakima Counties, as well as four Tribal Drug Courts.) Although the programs vary in a number of organizational and operational details, all reflect the key program elements, and share a common goal of reducing drug related criminal activity by judicial oversight and supervision of mandated chemical dependency treatment. Federal funding has been essential to the development and operation of drug courts in Washington. However, Federal funding was designed to be time limited with the expectation that the effective programs would be continued with State, County, and perhaps municipal funding. As Washington faces the multiple policy decisions related to continuing Drug Court programs, objective information about the organizational structure and operation of the programs and their effectiveness is essential.

In 1999, the Northwest HIDTA (Northwest High Intensity Drug Trafficking Area), working through the Division of Alcohol and Substance Abuse (DASA), contracted with the Alcohol and Drug Abuse Institute at the University of Washington to conduct a three to four year, statewide evaluation of the six adult Drug Court programs. (A program profile was also completed for the Snohomish County DC in 2001). In the course of the evaluation Federal Bryne grant monies, a supplement grant from National Institute of Justice, and support from DASA were added to the Federal HIDTA funding. The evaluation was designed to (1) describe and compare the organizational structure and operational characteristics of the six programs, and (2) examine the impact of the programs on re-arrest, conviction and incarceration rates, earned income among participants, and utilization of public resources including medical, mental health, substance abuse treatment, and vocational services.

The report is in two parts: first, a summary of the organizational and operational characteristics of the six programs, second, a summary of the impact of the programs on selected outcomes.

ORGANIZATIONAL AND OPERATIONAL CHARACTERISTICS OF THE COURTS

Data Generation: Between March 1999 and June 2000 on-site interviews were conducted with key staff members in the six programs, including judges, prosecuting attorneys, public defenders, drug court coordinators, and treatment program staff members. Key informants in Snohomish County were interviewed between March and April 2001. Interview topics included program goals, developmental and implementation processes, target population, inclusion-exclusion criteria, offender movement through the program, monitoring substance use, frequency of treatment and court contacts, treatment programs, and other support services. Program documents were also reviewed. These data were analyzed to develop descriptive profiles of the structure and operational characteristics of each program.

The program profiles and a table comparing the programs on a number of characteristics, are included in the Appendices. It is important to recognize that the profiles describe each program for a specific period in time. As the programs continue to evolve and change in response to local and national needs and demands, changes may have been introduced that are not reflected in the profiles. Some important areas of commonality and difference among the programs are discussed, and a number of key issues facing the programs are identified.

Commonalties Among Drug Court Programs: While there are differences among the programs in

the specifics of implementation, all have strongly incorporated most of the Drug Court Program Office key elements into the ongoing operation of their programs.

Judicial Leadership and the Drug Court Team: All have one judge assigned to the DC who is responsible for the overall leadership of the program and the DC team. The degree to which the DC judges carry a full-time judicial caseload in addition to DC varies among programs, as does the consistent assignment of additional court personnel such as a Court Clerk and docket manager. All of the programs have developed a team approach to managing the legal process. Under the leadership of the DC Judge, prosecutors, defense attorneys, and a representative(s) from the treatment system jointly review each case and develop a recommended approach. Team members in all of the programs cite the team approach as a major strength of the program.

Access to Comprehensive Treatment Based on the Needs of the Offender: All the courts have attempted to put into place a comprehensive treatment system, and ensure access for offenders in the program. By their very nature DC programs have expanded the demand for treatment in a State system that is not characterized by excess capacity. Thus, timely access to comprehensive treatment services has been a common challenge among the programs.

All of the programs use one or more treatment providers to provide a carefully outlined phased approach to treatment. Minimum frequency of treatment modalities required in each phase are specified in the DC contract, as are the criteria for successful completion and movement to the next phase. The number and length of phases vary among programs but all have very specific treatment participation requirements that are clearly defined for treatment providers and participating offenders. Intensive outpatient treatment is the primary treatment modality in all programs. The use of residential treatment, a scarcer and more expensive modality, varies among the programs but all use it when deemed appropriate. All treatment programs are expected to keep the court informed about offender compliance on a regular basis to enable the court to enforce treatment requirements and to integrate treatment services with justice system case processing, another key element of DC programs.

Monitoring: A carefully specified system of random urine and breath monitoring is a common feature of all the programs. While the frequency of monitoring and specific reporting procedures vary among the programs, all require strict adherence to the monitoring program. In addition, all have developed effective communication procedures between the Court and the monitoring agency to ensure the timely exchange of information necessary to allow the Court to act swiftly in cases of continued drug use.

Frequent and Personal Contact with the Drug Court Judge: All of the programs are characterized by frequent status hearings in which the DC Judge, in direct interaction with the offender, reviews his/her participation in the program. If the offender successfully moves through the program, status hearings become less frequent, but in all of the programs the offender is seen by the Judge at least once a month to review his/her progress in the program.

Differences Among Drug Court Programs: Although the programs are similar in many important ways, there are several areas of significant differences.

Eligibility Criteria: While eligibility criteria in all the programs reflect broad Drug Court Program Office guidelines, they are also shaped by local politics and community attitudes. The two major areas of difference are definitions of previous violent offenses, and the range of other drug related offenses that are considered eligible for DC. Federal guidelines prohibit the inclusion of individuals with a history of violent offenses, but individual programs have some discretion in identifying such offenses. A number of the programs accept individuals with previous history of **misdemeanor** domestic violence on a case-by-case basis, while others exclude individuals with any history of violence. Some consider only adult violent offenses while others consider juvenile offenses that included violence. Similarly, some programs consider a broad range of property crime offenses in which substance abuse played a significant role as eligible for participation in DC while other programs define eligible crimes more narrowly.

Response to Violations: One of the key elements of DC programs is immediate and consistent response to violations through the use of graduated sanction and incentives. The programs in the study vary widely in both timing and consistency of responses to violations. Several factors seem to contribute to these variations

including: (1) how clearly the Drug Court team has considered their approach to sanctions and developed a clearly articulated set of graduated sanctions and violations to which the sanctions will apply; (2) the timeliness with which violations are reported to the DC and the Judge; and (3) the organization of the program that either facilitates or inhibits the enforcement of a range of sanctions. The programs that have a clearly articulated set of graduated sanctions and strong working relationships with law-enforcement are better able to use sanctions than those who do not.

Relationships with Law Enforcement: The programs vary widely in the relationships they have with law enforcement agencies. In several of the programs, law enforcement agencies, including local representatives from the Department of Corrections (DOC), were involved in program planning and are an integral part of the program. In others, there has been very little law enforcement involvement. All of the programs need the support of law enforcement in a number of ways, the most obvious of which in the bench warrant process that is invoked when an offender fails to appear for DC status hearings. Developing relationships with law enforcement is a goal of several of the programs.

Data Systems: The programs vary widely in the data systems they use to document and track the program. While a standardized data system for all of the programs has been a goal for the last three years, the system is not in place and the programs use a broad array of local systems in an attempt to meet their data needs.

COMMON ISSUES FACING THE DRUG COURT PROGRAMS

Developing a Stable and Adequate Funding Base: At the present time the Drug Court programs are funded by multiple sources. Most continue to rely heavily on Federal funding provided by planning and implementation grants from the Department of Justice/Drug Court Program Office (DOJ/DCPO) which are designed to be time limited. Other important funding sources include Federal monies from Northwest HIDTA and Byrne grants, State and County funding. County funding in most programs has been largely in the form of providing the Court personnel including the Drug Court Judge, and, in some programs, the County has provided monies for urine and breath testing. The use of Byrne grant funds is now restricted to treatment costs. As programs reach the time limits of DOJ/DCPO funding, they are increasingly dependent on State and County monies. While the State Legislature has approved some funding for specific programs in the last two years, neither the State nor the counties have yet institutionalized funding for Drug Court program. Thus, the programs exist in an uncertain financial environment. At the same time, public demands are growing for the kinds of alternatives Drug Court programs provide to deal with drug related crime.

Developing and Supporting Adequate Data Systems: Given the multi-system nature of Drug Court programs, the cross-system communication that is key to successful program functioning, and the importance of demonstrating program effectiveness, data systems that support system integration and program evaluation are essential. At the present time, most of the programs do not have the resources to support adequate data system development, and there is little to no standardization of data system across the programs. While several efforts have been made to address data system development, it remains a problem area for most of the programs.

ANALYSES OF ADMINISTRATIVE DATA SETS

The eleven data sets analyzed are:

- Arrests, from the Washington State Patrol.
- Superior Court filings, from the Office of the Administrator for the Courts.
- Time incarcerated in prisons, from the Department of Corrections.
- Earned income, from the Department of Employment Security.
- Length of time in drug courts, from the respective drug court programs.
- Chemical dependency treatment, from the Division of Alcohol and Substance Abuse.
- Vocational training services, from the Division of Vocational Rehabilitation.
- Mental health services, from the Division of Mental Health.
- Washington State death records, from the Department of Health.
- Medicaid claims, from the Medical Assistance Administration.
- Superior Court convictions, from the Office of the Administrator for the Courts.

In addition, the two integrative analyses were performed:

- Analyses to determine whether there was a relationship between the amount of chemical dependence treatment received and outcomes.
- Analyses to examine whether graduation from the drug court program in less than a year was related to outcomes (this analysis used data only from King County).

All quantitative analyses have used participant identifying data from the courts, and archival data from state administrative data sets. No data have been collected directly from subjects. All procedures have been reviewed and approved by the DSHS Human Research Review Board. The study design has been to use the naturally occurring groups formed by program and self selection. This introduces almost certain bias in the composition of the groups. The effect of the bias is to make it difficult to determine whether group differences result from the bias or from the effects of the drug court programs. Results must be interpreted with these design limitations in mind.

METHODOLOGY

Identifying Subjects: The subjects used in most of these analyses were those identified in August-September, 2000. Where identifiers were available (which included the three oldest, largest courts), we obtained data for all offenders who had been referred to the drug court, even if they had not entered the court.

Comparing Results Across Counties: County drug court programs, and the contexts in which they operate, differ from one another in many ways, including criteria for admission, types and backgrounds of offenders admitted, retention policies, types and amounts of treatment and other interventions offered, policies and practices in dealing with violations, graduation criteria, and county arrest and conviction rates, among many others. Further, a single court can vary on the same factors across time. The effect of all the differences is to render any cross-county comparisons of sizes of results inappropriate. We *report* these differences as part of the descriptions of results, but we explicitly do not intend to suggest that observed differences have any implications about program merit. We do look at *patterns* of outcomes across counties, either relative sizes of outcomes across groups within counties, and/or patterns of changes across time for groups in each county. Given the many differences among the counties, we feel that when we find common patterns across counties, the likelihood of the pattern being a reliable result is increased.

Strengths And Weaknesses:

Strengths. Relative to most other research on drug courts, this study has three major strengths:

First, it is a multi-site study. There are at least three counties with analyzable data (sometimes six counties), which allows comparisons of patterns of results across counties. If similar patterns of results occur across sites, it lends greater confidence to the results, and suggests it is reasonable to expect to see this result in additional drug courts.

Second, using data from administrative data sets, we are able to examine a substantial number of outcome measures, many of them of central interest to drug court evaluation. These include several indices of criminal justice involvement, earned income, several measures of social services received, and several measures of health and/or medical treatment system involvement. This gives us a singularly rich and multifaceted view of drug court outcome.

Finally, we have unusually long baseline and follow-up periods for most subjects (that is, data for a long period of time prior to and following referral to the courts). Further, because the data are from archival sources, they are relatively "objective," at least compared to the usual self-report data.

Weaknesses. In common with the majority of other drug court evaluations, this study also has a major weakness in comparison to generally accepted research standards: we do not have an adequate control or comparison group. When subjects are selected or self-selected into groups (rather than being randomly assigned), there is a likelihood that the groups will differ on characteristics such as motivation, intelligence, work history or skills, social support, or any of a multitude of other factors that could influence their outcomes. This makes it extremely difficult to determine whether the program or the pre-existing differences are what are leading to differences in outcomes.

While attractive for some reasons, administrative data sets also have the weakness of being limited to

the data available, both in terms of the types of information available, and its accuracy and completeness. In addition, data sets may not be current with the time the analyses are being done.

Definition Of Drug Court Outcome Groups: Subjects were divided into these naturally occurring outcome groups:

- **Ineligibles** are persons who passed an initial legal screen and were referred to the court, but on closer examination were found to be ineligible on either legal or clinical grounds.
- **Opt Outs** are persons who met all criteria, and were offered entry to the court, but who personally declined to participate.
- **Did Not Finish (DNF)** are individuals who were admitted to a drug court program but either failed or dropped out.
- **Graduates** are individuals who graduated from a drug court.
- **Active** cases are those still involved with the drug court program. Active groups are used in some analyses, but not in others.

Outcome Vs. Process Variables: Some of the data sets that follow may be thought of as reflecting drug court **outcomes**, in particular, arrests, court filings, incarceration, earned income, and possibly mortality. Others give a view of the **process** involved in the court programs, these being the time in drug court, utilization of Chemical Dependency services, time to admission to service modalities, use of vocational rehabilitation services, and use of medical and mental health services. Vocational rehabilitation, Medicaid utilization, and possibly mental health could become outcomes if programs had goals or objectives concerning their use, but at this point seem to be mostly descriptive.

SUMMARY OF FINDINGS

Arrests

- Graduates have fewer re-arrests than any of the other outcome groups (significantly less than the Opt Outs).

Court Filings

- Only Pierce shows any statistically significant differences among outcome groups on new court filings: there Graduates, Actives and Did Not Finishes are similar, and different from Opt Outs and Ineligibles. Across counties the Graduates have the lowest post court filing rate. However, all groups show declines in filings following court contact (except Spokane, due to dating practices).

Convictions

- Offenders who graduate from drug court are less likely than offenders in any other group to be re-convicted in the three years following referral to drug court.

Prison Time

- Graduates have zero rates of imprisonment in the post drug court referral period in all counties except King. The post drug court referral imprisonment rates for Graduates in King and Pierce counties are significantly lower than the Ineligible, Opt Out and Did Not Finish group rates.

Earned Income

- Graduate groups show systematic and substantial increases in incomes, with some tail-off in the third year. Graduates are the only group to show this improvement.

Mortality

- There are no differences in mortality rates between counties or compared to general population.

Time Spent in Drug Courts.

- In general the counties have similar lengths of stay for the groups. However, King County begins graduating participants in as little as 6 months, and graduates over 20% by one year. Other courts begin graduating at one year.

Chemical Dependency Treatment Service Utilization

- Not all Graduates have a TARGET record of Outpatient treatment.

- Counties vary in mean levels of Outpatient treatment offered to Graduates during drug court: means range from 67 to 114.
- Counties vary in the use of services for outcome groups both during and after drug court.

Chemical Dependency Treatment and Outcomes

- The service data included in TARGET appear to be incomplete
- Overall, based on the available data, the amount of group and individual treatment being received by drug court participants appears to be adequate.
- There is mixed evidence for a relationship between higher amounts of group and individual treatment and lower risk of *re-arrest*. This relationship holds for Graduates, but for DNFs the effect is reversed (more therapy is associated with *higher* risk for re-arrest), and there is no relationship for Opt Outs or Ineligibles.
- For Graduates but not for DNFs, there is support for a relationship between higher amounts of group and individual therapy being related to lower risk of *re-conviction*.
- For Graduates and DNFs there is no relationship between higher amounts of treatment and increased *income*.

Drug Court Length of Stay and Outcomes (King County)

- There are drug court participants who can be graduated with less than a year, even substantially less than a year, in the court program, with every reason to anticipate that their long-term outcomes will be among the best expected from the program. Whatever criteria King County is using to identify such participants seem to be effective.

Vocational Rehabilitation

- Overall rates for applications for the use of DVR services are very low, about 2% in King and Pierce counties, and 4% in Spokane County, and are similar for all groups pre court referral.
- Application rates for Graduates in King, and Graduates and Did Not Finishes in Spokane, roughly double, into the 8% to 11% range (toward the high values in Spokane).

Mental Health

- Use rates for Inpatient services are generally very low, one half percent or less., and do not differ significantly across the three counties or between outcome groups.
- Outpatient use is generally between 2% and 5%, occasionally 8% to 12%. There is little change between pre and post court referral (except in King, where there is a general upward trend).
- Outpatient use varies across counties, but not much within counties across outcome groups.

Medicaid

- In the two areas of greatest use of Medicaid services, Chemical Dependency and Medical Outpatient services, the Graduates tend to have the highest level of use, with the DNF group generally second.
- DNFs are the highest utilizers of Emergency and Medical Inpatient services.
- In the post period, the utilization percentages for Medical Outpatient are considerably higher than for Chemical Dependency services, suggesting that there is a potential additional resource for supporting drug court Chemical Dependency treatment for a sizable group, up to as many as 20%, of court participants.
- Pre-referral to drug court the quarterly percentages of utilization of Medicaid reimbursements tend to be between 0% and 2% for most categories. Use rates for Chemical Dependency and Emergency services are generally higher, up to 4%, and rates for Medical Outpatient higher yet, ranging between about 10% and 19%.
- Post drug court referral quarterly percentages show little change from pre rates, except Graduates and DNFs show increased percentages of Chemical Dependency service reimbursements (3% - 6% in King and Pierce, and 6% - 10% in Spokane) and Medical Outpatient reimbursement percentages (between 15% and 26%).
- Mean quarterly reimbursements vary widely across counties and especially across Medicaid categories.
- Pre-referral mean quarterly Chemical Dependency reimbursements range between \$0 to \$20, post-referral \$15 - \$30 in King and Pierce, and \$30 - \$90 in Spokane.
- Reimbursement for Emergency and Medical Inpatient services are highly variable in all three counties,

tending to range between \$0 and \$100, with some higher values, in all three counties, pre and post-referral.

- Medical Outpatient pre-referral reimbursement group means are largely between \$40 and \$100, while post-referral levels are between \$50 - \$150.

CONCLUSIONS AND RECOMMENDATIONS

- The overall pattern of results across all four outcome variables (arrests, court filings, incarceration time, and earned income, excluding mortality) and for the three drug courts with sufficient follow-up for interpretation (King, Pierce and Spokane courts) is that participants who graduate have better outcomes than those in any other group. These differences are not always statistically significant, and when they are, the Graduates are generally not significantly better than all other groups. Where statistically significant differences were found and effect sizes were calculated, these were generally small.
- In general, the gains made by the Graduates after referral to drug court were retained over a three year post-referral period, although on some measures there were weakening patterns in the third year post-referral.
- Among the other groups (DNF, Opt Out, and Ineligible) there were no consistent orderings on relative outcomes. There is some tendency for the DNFs to show the worst results, but this is not reliable across counties or outcome variables.
- The patterns of results vary in several ways across the counties. No single court shows overall superiority.
- Although Graduates as a group have significantly superior outcomes compared to the other outcome groups, membership in the graduated group is the result of a process that will automatically select a subgroup of participants with better outcomes. Thus the extent to which the drug courts are themselves producing or contributing to these improved outcomes, as opposed to them resulting from offender characteristics, is difficult to determine.
- Medicaid is underutilized as a source of funding for Chemical Dependency treatment in the drug courts.
- Appropriately chosen participants can be graduated substantially earlier than one year with no reduction in favorable outcomes. Outcomes for participants who stay longer than about 15 months, and especially longer than 26 months, become increasingly less favorable, hinting that there may be a length of stay beyond which improvement is minimal.
- Drug court participants appear to be receiving, on average, as much treatment as is useful. There does not appear to be a strong relationship between amount of treatment received and outcomes: Graduates sometimes show the expected patterns, but other groups do not. It is clear that other factors are as important for outcomes as amount of treatment, and in this context it is likely that there is a level beyond which more treatment does not improve results. That level may be lower than mean levels being provided now (although there may be other reasons for continuing treatment).
- We were not able to check on the relationships among violations, sanctions, and outcomes. The general thinking is that quick and standardized responses to violations is the most effective policy. Courts varied in practices on this matter. In those courts lacking it, a more standardized approach might be considered. A study of this issue would be desirable, but would hinge on the availability of data.
- Non-Chemical Dependency services that might be desirable for drug court participants, e.g., mental health counseling and vocational training, are not frequently used. A more aggressive approach to providing these ancillary services might improve retention and graduation rates, and subsequent outcomes. A closer examination of the relationships between these services and outcomes might be beneficial.

NW HIDTA/DASA Washington State Drug Court Evaluation¹

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INTRODUCTION

Since the mid-1980s, state and local criminal justice systems have been inundated with felony drug cases. The saturation of state court and prison systems with drug cases and offenders convicted of drug related crimes has been at the expense of court and prison resources to manage more serious, violent felony offenders. Concurrent with these events, research consistently showed that: (1) incarceration for drug offenses does little to break the cycle of use and related crime; (2) the recidivism rate for drug related crime is very high and (3) treatment is effective in reducing addiction and drug related crime if individuals remain in treatment for an adequate period of time (Department of Justice, 1998).

In response to this situation, state and local courts in several states started, in the early 90s, to create special drug courts, also known as treatment drug courts. These courts were designed to administer cases referred for judicially supervised drug treatment and rehabilitation. In exchange for the possibility of dismissed or reduced sentences, offenders who met clearly defined criteria, and who agreed to participate, were diverted to drug court programs whose main purpose was to use the authority of the court to reduce crime by changing drug related behavior (GAO, 1997).

Key Elements of Drug Court Programs

Early in the development of Drug Court programs, the Drug Court Program Office identified a set of key elements considered crucial to the program success. These elements include:

- A unified court system with a single judge providing leadership and system-wide focus;
- Intervention by the drug court judge and DC team members with the offender as soon as possible after arrest;
- Access to comprehensive treatment based on the needs of the offender.
- Verification of compliance with treatment and supervision through drug testing and supervision contacts;
- Frequent and personal contact with the drug court judge at status hearings to assure compliance with treatment and supervision goals;
- Immediate and consistent responses to violations through graduated sanctions and incentives; and
- Integration of alcohol and other drug treatment services with justice system case processing (Drug Court Program Office, 1997).

Drug Court Evaluation

Over the decade a number of drug court evaluations have been done. Most have focused on two outcomes: rates of retention and completion, and criminal recidivism. An Office of Justice Programs (1998) report of over 200 programs found retention rates ranging from 31-100% with an average rate of more than 70%, compared to significantly lower retention rates among criminal defendants in traditional treatment programs. Completion rates ranged from 8-95% with an average completion rate of 48%. Substantial reductions in recidivism rates, ranging from 2 to 20%, were found among programs that reported recidivism. The average recidivism rate for drug related offenses in the US is approximately 45% over a two year post-release period.

Belenko (1998), in a review of Drug Court evaluations, found wide variations in the scope, methodology and quality of the studies, and made a number of recommendation to improve the quality of drug court evaluations. He recommended that future studies document the structural and operational characteristics of

¹ This study has received funding from the North West High Intensity Drug Trafficking Area, the State of Washington Division of Alcohol and Substance Abuse, and the National Institute of Justice.

the programs and examine how program characteristics contribute to participant outcomes, and that more longitudinal studies be done.

Washington State Drug Courts

Between 1994 and 1999 six counties in Washington started adult Drug Court programs: King and Pierce in 1994; Spokane in 1996; Skagit in 1997; Thurston in 1998; and Kitsap in 1999. (There are now programs in Clallam, Clark, Snohomish, Whatcom, and Yakima Counties, as well as four Tribal Drug Courts.) Although the programs vary in a number of organizational and operational details, all reflect the key program elements, and share a common goal of reducing drug related criminal activity by judicial oversight and supervision of mandated chemical dependency treatment. Federal funding has been essential to the development and operation of drug courts in Washington. However, Federal funding was designed to be time limited with the expectation that the effective programs would be continued with State, County, and perhaps municipal funding. As Washington faces the multiple policy decisions related to continuing Drug Court programs, objective information about the organizational structure and operation of the programs and their effectiveness is essential.

In 1999, the Northwest HIDTA (Northwest High Intensity Drug Trafficking Area), working through the Division of Alcohol and Substance Abuse (DASA), contracted with the Alcohol and Drug Abuse Institute at the University of Washington to conduct a three to four year, statewide evaluation of the six adult Drug Court programs. (In January 2001 the Snohomish County DC program was added to the evaluation). In the course of the evaluation, Federal Byrne grant monies, a supplement grant from National Institute of Justice, and from DASA were added to the Federal HIDTA funding. The evaluation was designed to (1) describe and compare the organizational structure and operational characteristics of the six programs, and (2) examine the impact of the programs on re-arrest, conviction and incarceration rates, earned income among participants, and utilization of public resources including medical, mental health, substance abuse treatment, and vocational services.

The following report is a two-part summary of the findings of the evaluation. The first part summarizes the organizational and operational characteristics of the six programs, while the second part summarizes the impact of the programs in the areas listed above.

A COMPARATIVE DESCRIPTION OF THE COURTS

ORGANIZATIONAL STRUCTURE AND OPERATIONAL CHARACTERISTICS

Data Generation: Between March 1999 and June 2000 on-site interviews were conducted with key staff members in the six programs, including judges, prosecuting attorneys, public defenders, drug court coordinators, and treatment program staff members. Key informants in Snohomish County were interviewed between March and April 2001. Interview topics included program goals, developmental and implementation processes, target population, inclusion-exclusion criteria, offender movement through the program, monitoring substance use, frequency of treatment and court contacts, treatment programs, and other support services. Program documents were also reviewed. These data were analyzed to develop descriptive profiles of the structure and operational characteristics of each program.

The program profiles and a table comparing the programs on a number of characteristics are included in the Appendices. It is important to recognize that the profiles describe each program at a specific period in time. The programs, as they have since their inception, continue to evolve and change in response to local needs and conditions, funding, and changes in State and Federal requirements. Thus, each program may have introduced changes not reflected in the profiles. The materials in the Appendices provide a richly detailed look at each program. In the following discussion, some important areas of commonality and difference among the programs are discussed and a number of key issues facing the programs are identified.

Commonalties Among Drug Court Programs

Importance of Key Elements: While there are differences among the programs in the specifics of implemen-

tation, all have strongly incorporated most of the Drug Court Program Office key elements into the ongoing operation of their programs.

Judicial Leadership and the Drug Court Team: All have one judge assigned to the DC who is responsible for the overall leadership of the program and the DC team. The degree to which the DC judges carry a full-time judicial caseload in addition to DC varies among programs, as does the consistent assignment of additional court personnel such as a Court Clerk and docket manager.

All of the programs also demonstrate a commitment to reexamine the traditional adversarial judicial process and have developed a team approach to managing the legal process. Under the leadership of the DC Judge, prosecutors, defense attorneys, and a representative(s) from the treatment system jointly review each case and develop a recommended approach. While the stage of team development varies among the programs, team members in all of the programs cite the team approach as a major strength of the program.

Access to Comprehensive Treatment Based on the Needs of the Offender: Although the details of implementation are different among the programs, all have attempted to put into place a **comprehensive treatment system and ensure access** for offenders in the program. To achieve this goal the programs are dependent, at least in part, on the capacity of the State treatment system. The comprehensiveness of the treatment program and consistent, timely access to treatment varies among the programs and over time depending on the level of demand and the capacity of components of the treatment system both locally and at the State level. By their very nature, DC programs have expanded the demand for treatment in a State system that is not characterized by excess capacity. Thus, timely access to comprehensive treatment services has been a common challenge among the programs.

All of the programs use one or more treatment providers to provide a carefully outlined phased approach to treatment. Minimum frequency and treatment modality (i. e. group, individual, etc.) required in each phase are specified in the DC contract, as are the criteria for successful completion and movement to the next phase. The number and length of phases vary among programs but all have very specific treatment participation requirements that are clearly defined for treatment providers and participating offenders. Intensive outpatient treatment is the primary treatment modality in all programs. The use of residential treatment, a scarcer and more expensive modality, varies among the programs but all use it when deemed appropriate. All treatment programs are expected to keep the court informed about offender compliance on a regular basis to enable the court to enforce treatment requirements and to **integrate treatment services with justice system case processing**, another key element of DC programs.

In addition, all of the programs require offenders to attend a specified number of community-based sober support groups such as Narcotics or Alcoholics Anonymous. Participants must provide the Court with proof of attendance and are held accountable if this requirement is not met.

Monitoring: A carefully specified system of random urine and breath monitoring is a common feature of all the programs. While the frequency of monitoring and specific reporting procedures vary among the programs, all require strict adherence to the monitoring program. In addition, all have developed effective communication procedures between the Court and the monitoring agency to ensure the timely exchange of information necessary to allow the Court to act swiftly in cases of continued drug use.

Frequent and Personal Contact with the Drug Court Judge: All of the programs are characterized by frequent status hearings in which the DC Judge, in direct interaction with the offender, reviews his/her participation in the program. If the offender successfully moves through the program status hearings become less frequent, but in all of the programs the offender is seen by the Judge at least once a month to review his/her progress in the program.

Differences Among Drug Court Programs

Although the programs are similar in many important ways, there are several areas of significant differences.

Eligibility Criteria: While eligibility criteria in all the programs reflect broad Drug Court Program Office

guidelines, they are also shaped by local politics and community attitudes. (See the Appendices for specific eligibility criteria) The two major areas of difference are definitions of previous violent offenses, and the range of other drug related offenses that are considered eligible for DC. Federal guidelines prohibit the inclusion of individuals with a history of violent offenses, but individual programs have some discretion in identifying such offenses. A number of the programs accept individuals with previous history of misdemeanor domestic violence on a case-by-case basis, while others exclude individuals with any history of violence. Some consider only adult violent offenses while others consider juvenile offenses that included violence. Similarly, some programs consider a broad range of property crime offenses in which substance abuse played a significant role as eligible for participation in DC while other programs define eligible crimes more narrowly.

Response to Violations: One of the key elements of DC programs is immediate and consistent response to violations through the use of graduated sanction and incentives. The programs in the study vary widely in both timing and consistency of responses to violations. Several factors seem to contribute to these variations including: (1) how clearly the Drug Court team has considered their approach to sanctions and developed a clearly articulated set of graduated sanctions and violations to which the sanctions will apply; (2) the timeliness with which violations are reported to the DC and the Judge; and (3) the organization of the program that either facilitates or inhibits the enforcement of a range of sanctions. The programs that have a clearly articulated set of graduated sanctions and strong working relationships with law-enforcement are better able to use sanctions than those who do not.

Relationships with Law Enforcement: The programs vary widely in the relationships they have with law enforcement agencies. In several of the programs, law enforcement agencies, including local representatives from the Department of Corrections (DOC), were involved in program planning and are an integral part of the program. In others, there has been very little law enforcement involvement. All of the programs need the support of law enforcement in a number of ways the most obvious of which in the bench warrant process that is invoked when an offender fails to appear for DC status hearings. Developing relationships with law enforcement is a goal of several of the programs.

Data Systems: The programs vary widely in the data systems they use to document and track the program. While a standardized data system for all of the programs has been a goal for the last three years, the system is not in place and the programs use a broad array of local systems in an attempt to meet their data needs. At the present time, some of the programs rely primarily on paper records that make efficient sharing of data among DC team members difficult, and cross program evaluation inefficient and difficult. Only one of the programs has an integrated automated data system that links all components of the program.

Common Issues Facing the Drug Court Programs

Developing a Stable and Adequate Funding Base: At the present time the Drug Court programs are funded by multiple sources. Most continue to rely heavily on Federal funding provided by planning and implementation grants from the Department of Justice/Drug Court Program Office (DOJ/DCPO), which are designed to be time-limited. Other important funding sources include Federal monies from Northwest HIDTA and Byrne grants, State, and County funding. County funding in most programs has been largely in the form of providing the Court personnel including the Drug Court Judge, and, in some programs, the county has provided monies for urine and breath testing. The use of Byrne grant funds is now restricted to treatment costs. As programs reach the time limits of DOJ/DCPO funding, they are increasingly dependent on State and county monies. While the State Legislature has approved some funding for specific programs in the last two years, neither the State nor the counties have yet institutionalized funding for Drug Court program. Thus, the programs exist in an uncertain financial environment. At the same time, public demands are growing for the kinds of alternatives Drug Court programs provide to deal with drug-related crime.

Developing and Supporting Adequate Data Systems: Given the multi-system nature of Drug Court programs, the cross-system communication that is key to successful program functioning, and the importance of demonstrating program effectiveness, data systems that support system integration and program evaluation are essential. At the present time, most of the programs do not have the resources to support adequate data system development, and there is little to no standardization of data system across the programs. While several efforts have been made to address data system development, it remains a problem area for most of the programs.

ANALYSES OF ADMINISTRATIVE DATA SETS

The first quantitative reports on the King, Pierce and Spokane courts were produced beginning in January 2000, and the first reports covering Thurston, Skagit and Kitsap courts in July, 2000. In at least four cases data sets have been updated and second versions of the analyses have been reported (there have been four reports on earned income data). In all cases there are brief reports (generally with two to four pages of text plus supporting graphs and/or tables) and also fact sheets (usually one to 1.5 pages of text, often with a representative graph or table). By the end of year 2000, reports (and fact sheets) on at least nine data sets had been completed (four of these were further updated in January and February, 2000). Two additional data sets have been analyzed in 2001, and additional integrative statistical analyses have also been performed.

The nine data sets analyzed by the end of 2000 were:

- Arrests, from the Washington State Patrol.
- Superior Court filings, from the Office of the Administrator for the Courts.
- Time incarcerated in prisons, from the Department of Corrections.
- Earned income, from the Department of Employment Security.
- Length of time in drug courts, from the respective drug court programs.
- Chemical dependency treatment, from the Division of Alcohol and Substance Abuse.
- Vocational training services, from the Division of Vocational Rehabilitation.
- Mental health services, from the Division of Mental Health.
- Washington State death records, from the Department of Health.

The two data sets analyzed in 2001 are:

- Medicaid claims, from the Medical Assistance Administration.
- Superior Court convictions, from the Office of the Administrator for the Courts.

In addition, the two integrative analyses performed in 2001 were:

- Analyses to determine whether there was a relationship between the amount of chemical dependence treatment received and outcomes.
- Analyses to examine whether graduation from the drug court program in less than a year was related to outcomes (this analysis used data only from King County).

All quantitative analyses have used participant identifying data from the courts, and archival data from state administrative data sets. No data have been collected directly from subjects. The study design has been to use the naturally occurring groups formed by program and self selection. This introduces almost certain bias in the composition of the groups. Original hopes that there would be enough eligible offenders to allow the possibility of random assignment to the courts, which could lead to much stronger results, have not been realized. Nor are we optimistic about the possibility of acquiring enough data to allow statistical control for the bias resulting from the selection process. The effect of the bias is to make it difficult to determine whether group differences result from the bias or from the effects of the drug court programs. Results must be interpreted with these design limitations in mind.

METHODOLOGY

Identifying Subjects

Subjects were identified in three waves. First, in August through October, 1999, for King, Pierce and Spokane counties only, second in January, 2000, for Thurston, Skagit and Kitsap counties only, and third, in August-September, 2000 for all six counties. Where possible we obtained identifying information for all offenders who had been referred to the drug court, even if they had not entered the court. In general, courts maintained information for persons who passed some preliminary legal screen performed by the Prosecutor's office. Some early analyses used identifiers from only the first wave, or the first and second wave, but where possible we used the full subject set from the third wave.

Data Sets

Data were collected from multiple sources, and sometimes multiple times from a single source. The sections below give information on data sources for each data set. For various reasons and to varying degrees the data we received were usually not completely up to date, partly because there is always some lag in data collection for these administrative data sets, and partly because we sometimes were using secondary sources, which introduced additional delays. In each section we give the span of data involved in that analysis.

Human Subjects Review And Approval

All the procedures, data acquisition processes, access to data, and other research protocols, have been reviewed and approved by the Human Research Review Committee of DSHS.

Comparing Results Across Counties

It is not advisable make comparative judgments about the different drug court programs based on the relative magnitudes of their outcomes, for two reasons.

First, the counties do vary in results, but not in consistent directions across outcomes. One county will do better than the others on one outcome, and not as well on others.

Second, and more basic, the counties differ from each other extensively in multiple ways, many of which could effect outcomes. They vary on criteria for admission, types and backgrounds of offenders admitted, retention policies, types and amounts of treatment and other interventions offered, policies and practices in dealing with violations, graduation criteria, and county arrest and conviction rates, among many factors. Further, a single court can vary on the same factors across time. The effect of all the differences is to render any cross-county comparisons of sizes of results questionable at best. We do identify differences among counties, but this is solely for descriptive purposes, intended to define contexts, and has no implications for program merit.

We primarily compare the counties on *patterns* of outcomes, either relative sizes of outcomes across groups within counties, or patterns of changes across time for groups in each county. Given the many differences among the counties, we feel that when we find common patterns across counties, the likelihood of the pattern being a reliable result is increased.

Strengths And Weaknesses

Strengths. Relative to most other research on drug courts, this study has four major strengths:

First, it is a multi-site study. There are at least three counties with analyzable data (sometimes six counties), which allows comparisons of patterns of results across counties. If similar patterns of results occur across sites, it lends greater confidence to the results, and suggests it is reasonable to expect to see this result in additional drug courts. If results are not consistent, we can surmise that the finding is not stable across sites, and would not necessarily appear in other courts.

Second, using data from administrative data sets, we are able to examine a substantial number of outcome measures, many of them of central interest to drug court evaluation. These include several indices of criminal justice involvement, earned income, several measures of social services received, and several measures of health and/or medical treatment system involvement. This gives us a singularly rich and multifaceted view of drug court outcome. Administrative data sets have the further advantage of being relatively inexpensive sources of data.

Third, we have large samples, at least in the three older courts. Even after breaking subjects into outcome subgroups, we typically have hundreds in each group.

Finally, we have an unusually long baseline period for most subjects (that is, data for a long period of time prior to referral to the courts), and usually a substantial follow-up period after referral to the courts (three

years for many subjects in the older courts). Further, because the data are from archival sources, they are relatively “objective,” at least compared to the usual self-report data, and acquisition of data is not dependent on follow-up contacts.

Weaknesses. The study also has several weaknesses:

First, in common with the vast majority of other drug court evaluations, this study also has a major weakness in comparison to generally accepted research standards: we do not have an adequate control or comparison group. Without dwelling on complicated implementation details, ideally offenders would be randomly assigned to drug court or to a control group that would get standard court processing, and these two groups would be compared on their outcomes. This would allow confidence that the groups were initially comparable, that is, that they did not differ in factors like motivation, intelligence, work history or skills, social support, or any of a multitude of other factors that could influence their outcomes, and that any differences in outcomes were indeed attributable to the drug court program.

When, as is the case in our study and most other drug court studies of which we are aware, subjects are selected or self-selected into groups that are then compared, there is a *likelihood* that they will differ on some important characteristics such as those mentioned above. If drug court graduates are selected or self select because they have stronger motivation, do not re-offend during drug court, have better work skills or experience, are less compromised psychologically or medically, and if the graduates do better on outcome measures than those who fail to complete the program or are not allowed to enter it, is the superior outcome due to the drug court experience or to these pre-existing group differences?

Random assignment is the best way to control for such differences (again, glossing over implementation and many other elements required for high quality research). The complications involved in implementing a randomized study of drug courts are daunting. Of the studies on drug court outcomes, we are aware of only a handful using randomization, and these are usually focussed on smaller and/or more manageable questions than overall outcomes.

Second, while the use of archival, administrative data sets has major strengths and advantages (such as low cost, short acquisition time, and relatively complete coverage across subjects) it also has the weakness of being limited to the data available, both in terms of the types of information available, and its accuracy and completeness.

For example, because we are limited to the data elements in the archival sets, we do not expect to find data that would allow us to adequately model group selection, as described above. It also leaves us with no broad assessment of treatment need, no index of individual motivation or readiness to change, no measure of subsequent substance use, no sense of what it is about drug courts that participants might find especially useful or undesirable, or any other measure that might be obtained in a self-report context. These shortcomings limit the kinds of questions that can be examined with the data sets.

In addition, data sets may not be current with the time the analyses are being done. Some delays are built into the archival data systems acquisition process: archival data collection generally lags 3 to 9 months, and sometimes continues even years after the events occurred. The process of obtaining the subject identifiers and then the data leads to additional delays, especially when data route through third party sources, or when access to the sources are limited for administrative reasons (purge or archiving cycles in the data systems; upgrades in computers or data management systems, etc.).

Third, we have not controlled for “opportunity.” Persons spending time in jail or prison, or in any other institutional setting, have correspondingly less time on the street and fewer opportunities for committing crimes, being arrested, earning income, etc. In these analysis we have not controlled for exposure to the risk of arrest, the opportunity to earn money, etc., by subtracting out of the follow-up period the amount of time spent in prison (we did not have the data to do this at the time most of the analyses were run). The effect of controlling for opportunity time would be to *increase* the duration of follow-up data required (thus increasing subject loss to follow-up), and probably *increase* the values for the data elements examined (i.e., more arrests, more earned income).

Other Issues

Intent to Treat: From a research perspective it is virtually always best to analyze data with an “intent to treat” design, that is, the “treatment” or “experimental” group would include all persons who were expected to receive the intervention, whether or not they finished or even entered the intervention program. In our case the drug court group would become all persons who were offered entry to the drug court program: the Graduates plus the Did Not Finishers (DNFs) plus the Opt Outs. A less desirable version of this would be to combine the Graduates plus the DNFs

This strategy is probably always best in research, but if anything it is even more important when, as in our case, there are strong selection factors working. *We recommend that intent to treat approach be used as standard in future analyses.* In our case the analysis would take one of these forms:

1. Graduates plus DNFs plus Opt Outs vs. Ineligibles..
2. Graduates plus DNFs vs. Ineligibles.

Depending on the nature of the comparison group, either alternative might be defensible, but the former is likely to be the preferred method.

Effect Size and Statistical Significance; Finding a statistically significant difference between groups depends on several factors, including the size of the “true” differences between the groups, the variability in the data, the level of significance desired, and the sizes of the groups. Other things being equal, the larger the sample sizes, the smaller the difference that will be found to be significant. If groups become large, as is the case in King especially, but also in Pierce and Spokane, rather small differences between groups will be found to be statistically significant.

In an effort to create an index of the size of group differences that does not change as sample sizes increase, the concept of “effect size” was defined². Sample size has only an indirect and not very potent effect on estimating effect size. Effect size may be thought of as a rough index of practical significance or real world usefulness of a difference, and is much more useful for this purpose than statistical significance. Because of the relationship between sample size and the likelihood of statistical significance, it is entirely possible for an observed difference to be statistically significant but to have a very small effect size if the samples are large, or, conversely, to have a statistically non-significant result but a large effect size if the samples are small. Effect sizes should be routinely calculated in evaluation projects.

Definition Of Drug Court Outcome Groups

Subjects were grouped as follows:

- **Ineligibles** are persons who passed an initial legal screen and were referred to the court, but on closer examination were found to be ineligible on either legal or clinical grounds.
- **Opt Outs** are persons who met all criteria, and were offered entry to the court, but who personally declined to participate.
- **Did Not Finish (DNF)** are individuals who were admitted to a drug court program but either failed or dropped out.
- **Graduates** are individuals who graduated from a drug court.
- **Active** cases are those still involved with the drug court program. Active groups are used in some analyses, but not in others.

Outcome Vs. Process Variables

Some of the data sets that follow may be thought of as reflecting drug court *outcomes*, in particular, arrests, court filings, incarceration, earned income, and possibly mortality. Others give a view of the *process* involved in the court programs, these being the time in drug court, utilization of CD services, time to admission to service modalities, use of vocational rehabilitation services, and use of medical and mental health services. Vocational rehabilitation, Medicaid utilization, and possibly mental health could become outcomes if programs had goals or objectives concerning their use, but at this point seem to be mostly descriptive.

² In terms of a t-test, the effect size is the difference between the two group means divided by the standard deviation of the control group. Thus it is a measure of the number of standard deviations the means of the two groups are apart. The calculation varies for other statistical procedures, but the concept is consistent.

ARRESTS³

Issue

Reduced criminal justice involvement is generally one of the two major outcomes of interest for drug courts (the other being reduced substance use), and number and type of arrests is certainly one major index of criminal activity. Accordingly, the results below are among the most central indicators of drug court success.

Methods

Subjects and Data: Subject identifiers for this report were collected from King, Pierce and Spokane counties in the summer and fall of 1999, and from Thurston, Skagit and Kitsap counties in January and February, 2000. State Patrol data were obtained from Research and Data Analysis in DSHS in February, 2000. Data are for the period of January 1, 1993 through March, 1999. Subjects are included in as many of the follow-up periods as their data permit. Subjects are grouped by the rules described above in the section "Definition of Outcome Groups."

Removing the Incident Offense; Because we wanted to focus on that aspect of the criminal history that identified differences among subjects, we wanted to remove the incident arrest from these analyses. Our data set did not allow us to unambiguously link drug court referral to a particular arrest, so we approximated this step (based on some analyses of the data) by ignoring all arrests that occur in the six weeks prior to drug court, and shifting the pre drug court referral period 6 weeks earlier.

Analyses: For each county the analyses included (1) a graph of the mean number of arrests annually for each group of participants, (2) a graph of the percent of subjects with at least one arrest in each group, and (3) a table of the numbers of participants in each group at each time point (these numbers vary across time because of the differing referral dates and therefore different lengths of follow-up for study participants). We also performed statistical tests (analysis of variance) to see whether there were statistically significant differences among the groups in the post-referral period, controlling for the pre-court arrest history.

Results: The following discussion focuses on King, Pierce and Spokane counties. The follow-up periods for Thurston, Skagit and Kitsap counties were too short and the number of subjects too small for their results to be very reliable, although we will comment on them briefly below.

1. Overall, mean arrests are higher for all groups in King County than in either Pierce or Spokane counties.
2. In all three counties the Graduate group had the lowest mean number of arrests in both the pre- and the post-court periods. The Graduate means were lower in the first post year than in the first pre year in all three counties, and lower overall in the post referral period than pre referral.
3. In King County the means for the Graduate group continue to decline from the first year post through the third year post. For this same time period, Graduate means remained about the same in Pierce and Spokane, although in Pierce the Graduate mean increased slightly in post year three.
4. In Spokane County, all groups except Graduates had *higher* mean numbers of arrests in the first year post than in the first year pre. Similarly, in King County all groups (except Graduates) had *higher or equivalent* means in the first year post than in the first year pre. In contrast, in Pierce County, *all* groups had *lower* means in the first year post, compared to the first year pre.
5. In King County, all groups show a substantial decline in mean arrests over the period from the first year post through the third year post. The non-Graduate groups in Spokane County also show a decline, although not so pronounced. In Pierce, the Opt Outs, DNFs and Ineligibles show somewhat smaller reductions, and the Actives show an increase.

Thurston, Skagit and Kitsap Counties: Interpretation of the results from these counties is severely limited by the short follow-ups and small sample sizes. However, the pre-court referrals group sizes from

³This section is based on the report "Analysis of Washington State Patrol Arrest Data," dated August 11, 2000. Copies of this report can be obtained from the Division of Alcohol and Substance Abuse, DSHS.

Thurston County are respectable, and they show a pattern of mean number of arrests across the groups that is different from the three older courts, namely very little difference among groups, a decline in mean arrests for some groups from pre year two to pre year one, and the Graduate group not being noticeably lower than the other groups. Also in Thurston, in the first year post there do not appear to be differences among groups, and the Graduate group does not have the lowest mean (although n's are very small). In Skagit County the patterns in the pre-court years are similar to the older courts, but the one year post data (small n's!) show slightly larger declines for the Did Not Finish group than for the Graduate group. Kitsap County has so little data that no comments are possible.

To summarize, in all three larger counties the Graduate group has a more favorable pattern of arrests (including fewer arrests) post drug court referral than pre, and a more favorable pattern than any of the other comparison groups. However, because they also have lower rates of arrests *before* drug court than the other groups, the question of whether the low arrest rate after is explained by the low rate before, rather than by the effect of drug court participation, must be addressed.

Statistical tests for group differences, controlling for pre-court differences: To assess whether low pre-court arrest rates account for low post court rates in the Graduate group, we performed an analysis of variance that allowed us to determine whether the groups were statistically different from each other when only the *changes* in scores from pre- to post-court were considered.

In the first of these analyses, all the groups are compared directly with all the other groups, separately for each county. The results of these analyses were:

- The Graduate group had the most favorable change score in King and Spokane counties. This means that in King and Spokane counties, the Graduates showed a larger decline in mean number of arrests than any other group, even though they had the lowest arrest rate to begin with. Graduates had the second best change score in Pierce County (the Actives were better).
- The Graduates were statistically significantly better than the Opt-Outs in all three counties.
- The Graduates were significantly better than the Did Not Finish group in King and Spokane counties, but not in Pierce.
- The Graduates were significantly better than the Ineligibles in Pierce, but not in King or Spokane.
- The Graduates were significantly better than the Actives in King, but not in Pierce or Spokane.

In the second set of statistical analyses we performed planned tests comparing the Graduate group with the Did Not Finish, Opt Out and Ineligible groups individually, and with them combined. Each county was analyzed separately.

On these tests, in all three counties the Graduates were highly significantly different from the combined group of Opt Outs, Did Not Finish and Ineligible, and in all three counties the Graduates were significantly different from the Opt Outs. In two counties (King and Spokane) the Graduates were different from the Did Not Finish, and in two counties (Pierce and Spokane) the Graduates were different from the Ineligibles. This pattern is very similar to that reported just above: The Graduates are most different from the Opt Outs, and less consistently from the Did Not Finish and Ineligible groups.

Conclusions

In our data the Graduate groups have larger reductions in arrests than any of the other groups. However, only the Opt-Outs have statistically significantly worse outcomes than the Graduates across all three counties, with a mixed pattern for the Did Not Finish group, and an even less clear result for the Ineligibles. Based on these results the conclusion is that the Opt-Out groups are at increased risk for re-arrest relative to the Graduates. The Did Not Finish group may be at similar risk. There is also evidence for Ineligibles having a statistically significantly poorer outcome than Graduates, but the case is less clear.

COURT FILINGS⁴

Issue

Court filings are significant points in the justice system process, indicating that a Prosecutor feels that sufficient evidence of a crime exists to justify prosecution. As such, a filing is a step more serious than an

⁴This section is based on the report "Analysis of Court Filings for Drug Court for Subgroups," dated December 29, 2000. Copies of this report can be obtained from the Division of Alcohol and Substance Abuse, DSHS.

arrest, and is another indicator of involvement with criminal justice. Filings therefore are a type of event that should be reduced by a successful drug court intervention, and are another indicator of the effectiveness of the court.

Methods

Subjects and Data: Subjects for these analyses are those identified by the courts in the summer of 2000. Data for these analyses come originally from the Office of the Administrator for the Courts (OAC), by way of the Washington State Institute for Public Policy (WSIPP). Data are the records of all filings for felonies and misdemeanors in Superior Courts statewide between January 1, 1992 and December 31, 1999.

Analyses: The analysis consisted of (1) graphs showing the mean number of filings per offender in each outcome group for each of two years prior to referral to drug court and three years after referral to drug court, and (2) statistical analyses of the differences in mean numbers of arrests for the outcome groups. For most Graduates the first year and some part of the second year post referral is spent in the drug court program.

Results:

- The Graduate groups have low pre-referral filing rates, sometimes the lowest among the groups (e.g., in King and Pierce), and low or the lowest (King, Pierce and Spokane) rates after referral. The post-referral rates are lower than the pre-referral rates.
- Except in Spokane, nearly all groups in all counties show a decline in filings in the first year post-referral relative to the first year pre-referral. In Spokane all groups show an increase in the first year post. This is probably because in Spokane the filings that led to the drug court referral routinely appear to be dated after the referral, so they appear to occur in the first year post referral rather than the first year pre.
- The Active group tends to follow the Graduate curve, except with a little higher rate of filing in the post-referral period. There is variation across counties in this.
- The Ineligible, Opt Out and DNF groups are not uniformly highest in the pre-referral period, but generally have the highest filing rate in the post-referral period. Which of these group has the highest filing rate varies across counties.
- Only Pierce County shows an overall statistically significant difference among mean number of filings for the drug court outcome groups. In none of the other counties do the groups show statistically significant differences.
- In Pierce County, the outcome groups cluster into two sets. The Graduate, Active and DNF groups are not significantly different from each other, are significantly different from the Opt Out and Ineligible groups (which in turn are not different from each other), and show more decline in filings (more improvement) than the Opt Out/Ineligible set.

CONVICTIONS⁵

Issue

Convictions are another component of involvement with the criminal justice system. Jointly with arrests and filings they give a detailed picture of the patterns and seriousness of offenses for the various drug court participant outcome groups.

Methods

Data for these analyses were obtained from the Office of the Administrator for the Courts, by way of the Washington State Institute for Public Policy, for the period of January 1992 through September 1999.

These data were analyzed to determine the per cent of each subgroup committing crimes for which they were convicted within the following 12-month period, in each month in the three years prior to and three years following the offenders' referrals to the drug courts. This technique conforms to the definition of recidivism used by the Washington State Institute for Public Policy.

These results are primarily for King, Pierce and Spokane counties. Thurston, Skagit and Kitsap

⁵ This section is based on the report "Convictions for Drug Court Participants," dated February 20, 2001. Copies of this report can be obtained from the Division of Alcohol and Substance Abuse, DSHS.

counties do not have enough subjects with a year or more of post drug court referral data to make their results reliable. Analyses consisted of graphical representation of the data and statistical analyses of the numbers of convictions before and after referral to drug court.

Results

- Generally, but with some exceptions, the per-month rates of offenses leading to convictions are in the range of about 3% to 10%.
- The Graduates have the lowest rates of convictions across the 6-year period, and lower in the post than in the pre period.
- All other groups except Graduates had higher rates of convictions post referral than pre, with the lone exception of the Ineligibles in Pierce.

Cumulative conviction graphs:

- In all cases the curve for the Graduate group is lowest (indicating the lowest rate of recidivism).
- By the end of the three-year follow-up period, Graduate group cumulative conviction rates are around 20% (highest in King, lowest in Spokane), DNF and Ineligible rates around 60%, and Opt Out rates around 45%.

The statistical analysis looked at the amount of *change* in conviction rate between the pre- and post-referral periods:

- When the Graduates are compared with the other groups one at a time on the amount of change in conviction rates, the Graduates show a statistically significantly better change score than each of the other groups in all three counties. The Graduates also do better than the other groups when data are merged across the three counties.

Conclusions

Offenders who graduate from drug court are less likely than offenders in any other group to be re-convicted in the three years following referral to drug court.

PRISON INCARCERATION TIME⁶

Issue

Time spent in Washington State Prisons by subgroups of drug court offenders is another indicator of criminal justice system involvement, and an important component of cost offset analyses. Thus prison time served can be seen as a useful indicator of drug court effectiveness.

Method

Subjects and Data: Subjects for these analyses were those identified by the courts as of the summer of 2000. Data were obtained from the Department of Corrections, and consisted of admission and discharge dates for prison incarcerations for the period January 1, 1993, to July 31, 2000.

Analyses: The analysis consisted of graphical plots of the percent of each outcome group that had any days of prison incarceration in each month for three years pre and three years post date of contact with the county's drug court. Note that for Graduates the first year (or longer) post referral is spent in the drug court program, and that many DNFs also spend substantial portions of this first year post in drug court. The percentages are based on the number of offenders who have data for each month, so the sample sizes vary per group and month. Tables of these numbers were also attached.

In addition, for each offender, the total number of days of prison incarceration in the two years before the drug court referral and the two years after, were determined. Only subjects with a full two years pre and post were included. The change in total number of days incarcerated was calculated by subtracting the total number of incarcerated days pre from the total number post. Statistical analyses were performed on this change score.

⁶ This section is based on the report "Update: Prison Time Served by Drug Court Participants," dated February 20, 2001. Copies of this report can be obtained from the Division of Alcohol and Substance Abuse, DSHS.

Results:

- The Graduate groups have very favorable outcomes. They have low incarceration rates pre drug court, but even lower rates, in most cases zero, post drug court entry.
- The Ineligible groups did not fare well in the larger counties. They had the highest rate of incarceration both pre and post drug court in King and Spokane counties, with the post rate considerably higher than the pre rate. In Pierce County, this group had the second highest post drug court rate.
- The Did Not Finish also did poorly. They had the highest post drug court incarceration rate in Pierce, and second highest in King and Spokane. Their rates are higher in the post period than in the pre.
- The Opt Out groups generally have a low or the lowest incarceration rate before drug court, and maintain a low rate after, but in all cases (except Skagit and Kitsap) the after rates are higher than the before rates, so across several counties the groups are showing a pattern of worsening performance.
- The statistical analysis showed that in King and Pierce counties, controlling for pre drug court levels, the Graduate groups on average showed a significantly larger reduction in days incarcerated than any of the comparison groups (Ineligibles, Opt Outs and DNFs), and also a significantly larger reduction when compared to all the other groups combined. In Spokane County, the Graduates had a statistically significantly larger reduction than the other groups combined, and significantly larger than the Ineligible group, but not significantly larger than the Opt Outs or DNFs.
- In King and Pierce Counties, the overall statistical test showed an effect size in the medium range, in Spokane the effect size was in the small range. "Effect size" is an index of the magnitude of the effectiveness of treatment independent of sample size. Medium effect sizes are generally about the best to be found in most social service programs.

Selection in drug courts and evaluation responses: The low Graduate incarceration rates in conjunction with the rising rates for the Did Not Finish groups emphasizes the role of selection in the court programs. That is, drug court participants who subsequently spend time in prison may become program failures in part or even solely because of their re-incarceration. Those who graduate become by definition those who are not re-incarcerated.

EARNED INCOME⁷

Issue

Earned income can be regarded as one index of the degree to which an offender has been reintegrated into a productive, mainstream lifestyle. Without some form of steady legitimate income, it seems reasonable to expect that the likelihood of re-offense would be increased. In addition, earned income is an important (and favorable) component in an analysis of cost effectiveness or cost offset. Other legitimate sources of income would include entitlement or disability income, but these do not imply the return to productivity that earned income does, and they represent costs to society rather than returns.

Caveat: Because economic conditions vary across counties, and across time within a single county, it is not valid to compare the different counties on the magnitudes their earned income results (the amount of earned income). We are making pre and post drug court referral comparisons of income *within* counties, even though economic conditions vary over time, on the grounds that pre and post drug court quarters vary for different subjects depending on when they entered the court, and that therefore within county variations in economic conditions will average out. We are also comparing *patterns* of income across counties, but we could not make comparisons of *amounts of income* across counties without adjusting for factors that create county variations in economic conditions.

Methods

Subjects and Data: Data for this analysis are reports of *quarterly* income from Employment Security Department records for all drug court participants for whom we had Social Security Numbers (SSNs) as of about January 2000. Data are for the period from the second quarter of 1993 through the second quarter of 1999. SSNs were obtained from TARGET and from local court data sets. Somewhat over 70% of all subjects had SSNs for this analysis.

Analyses: For each subject, quarterly income is analyzed for two years prior to their referral to drug court, and for three years after this referral, if data are available. Note that this is years post *referral*, not post

⁷ This section is based on the report "Earned Income Analysis: Combined Second Report," dated December 11, 2000. Copies of this report can be obtained from the Division of Alcohol and Substance Abuse, DSHS.

drug court. For program graduates and for some long term participants who for some reason do not finish, the first 12 to 18 months post referral are spent in the drug court. Subjects were divided into the outcome groups defined earlier.

In the full report, two graphs of income and one table of group sizes were presented for each county, one graph for median incomes (the middle value for the set of incomes) for each quarter, the other for arithmetic means of quarterly income for all subjects in the relevant group;. Means give the better sense of total group income, whereas medians better represent "typical" individual income, and have the advantage that they are not effected by infrequent large values. Sample sizes vary across time because subjects contacted the courts at different times, and so had different durations of pre and post income. Sample sizes for each court and each time period were given in a table for each county.

Although we received SSNs for participants from all six courts, Thurston, Skagit and Kitsap counties tend toward small sample sizes and/or short follow-up periods. Small samples lead to unreliable results since anomalies in incomes are not evened out. Short follow-ups hinder interpretation because in a short time frame it cannot be determined whether a change in level represents part of a real trend over time, or is a minor variation contrary to the longer term trend. For this reason, results for these three counties are viewed as preliminary and interpretations should be guarded.

Results

Focusing attention on the three counties with older programs (King, Pierce, and Spokane counties), the major finding is that while graduated participants tend to have somewhat higher earned income than other groups before referral to drug court (except in Spokane), their income increases, becoming substantially higher than the other groups, in the post-referral time period.

Considering first the medians, which again are generally regarded as the more appropriate index of typical individual income, in the pre-drug court period for *King* and *Pierce* counties all the groups have medians of zero for each quarter (except for a few values for the graduated groups and in *Pierce* a single quarter for the drop-outs). This means that at least half of the subjects in each group have incomes of zero in the majority of the quarters. For these same counties, in the post referral period, all the groups continue with medians of zero *except* the graduated group (and in *Pierce*, a single quarter for the drop-outs), whose medians climb well above zero. Graduates in both counties show declines in medians in the third year following drug court entry, suggesting that "typical" incomes are declining.

The pattern of medians in *Spokane* is similar in the post-referral period, but different prior to court referral. In the pre-court period median incomes for the graduates are above zero, with the drop-out group also above zero about half the time, and the failed group slightly above zero for 3 quarters. After court entry the medians for the graduated group increase for about a two-year period, and then return, with large fluctuations, to the pre court levels. No other group has any post-entry medians above zero, except for the opt-outs for one quarter. By this measure, both the drop-out and failed groups lost income after drug court referral, graduates gained, and the others remained the same.

In the graphs for means (which, again, give some indication of total group income, but can be unduly influenced by isolated high incomes), for *King* and *Pierce* counties the graduate groups do have the highest incomes in the pre-intervention period. In both counties the graduates are the only groups to show substantial, systematic increases in income for the two years after court entry (followed in both cases by slight declines in the third year). In *King* County, all the other groups maintain a constant, and lower, level of income across the entire pre- and post-referral time period reported. In *Pierce* County the other groups are steady or show slight declines across the time period, except for the active group which shows modest but erratic improvement.

Spokane County again shows a different pattern overall. The graduate group means are still higher than the other groups during the post referral period, but in the period before drug court the active group has a mean income roughly equivalent to the graduate group. The graduate, active, and drop-out groups all increase immediately after drug court entry, but the subsequent patterns are different. The graduate group increases over a two and a half year period, then declines precipitously the final two quarters to the level of the other groups. The active group peaks the first quarter after entry, and declines for three more quarters to pre-

court levels, then the group becomes too small to follow. The drop-out group increases in the 3 quarters following drug court contact, but then declines to pre-court levels, and becomes too small to continue to follow.

Among the newer, smaller drug courts, Thurston County has the largest number of participants and a respectable five quarters of follow-up income data, although small N's are a problem. Given these constraints, the results are generally similar to those just discussed for Spokane County: Pre drug court the graduate and active groups have roughly similar incomes. Post drug court referral, mean incomes increase for graduates, but remain the same or decline for the other groups. The median values show a great deal of post-entry variability, which could be partly due to small N's.

Skagit County has small N's through three or four quarters post court referral, and a smattering of subjects through seven quarters. Keeping in mind the small N's (very small by the sixth quarter), the pattern of results is very much like King, Pierce and Spokane: for both medians and means, the graduate group and only the graduate group shows a consistent pattern of increases in income.

Kitsap County simply had not had enough time to accumulate participants and follow-up for the analysis to be useful.

Conclusions

- There is a tendency for the graduate group participants to have higher incomes prior to drug court than those in the other groups.
- In the three larger counties (King, Pierce and Spokane) and in the two newer counties that have data (Thurston and Skagit), the graduate group shows an increase in income beginning with entry into drug court.
- In the three larger counties where there is sufficient data, the increase continues or holds for two years following entry, with either a slight or major decline in the third year (depending on the county and whether one looks at means or medians).
- No other group in the three larger counties shows a pattern of increased income following contact with the drug court except for slight, inconsistent or short-lived changes in the active cases in Pierce and Spokane and the drop-outs in Spokane.

TIME SPENT IN DRUG COURT⁸

Issue

This analysis looks at the amount of time offenders in different subgroups spend in the drug court program, where time in program is defined as the lapsed time between referral to and discharge from the program. Some differences between subgroups should be as expected: Graduates longest, Ineligibles and Opt-Outs shortest. Differences among courts could reflect different policies or practices.

Method

Subjects and Data: The subject group was that identified by the courts in the summer of 2000. Data on referral and exit dates were supplied by the courts. Subjects were sorted into the standard groups (excluding Actives).

Analyses: For each drug court episode (i.e., referral to drug court and related action), the length of time between referral/entry and exit was calculated, and the lengths of episodes in weeks tallied and presented in a graph that showed the cumulative percent of each group that remained in the program for each number or weeks or less.

Results: A graph was provided for each county, but the group sizes are so small in Thurston, Skagit and Kitsap counties, that their results are not discussed.

- In general the distributions of lengths of time between referral and closure are similar across counties, but King County shows two major differences in comparison with Pierce and Spokane counties.

⁸ This section is based on the report "Time Spent in Drug Court for Subgroups," dated January 17, 2001. Copies of this report can be obtained from the Division of Alcohol and Substance Abuse, DSHS.

- King County begins graduating participants after as little as six months of participation. By one year of drug court, King has graduated over 20% of their graduates. Pierce and Spokane, by contrast, graduate very few participants prior to 12 months, and then only shortly before. Subsequent portions of the curves are similar, i.e., all three counties graduate 80% of their cases by 18 months, and 95% to 96% by two years.
- King County curves show that Opt Out and Ineligible offenders remain in drug court for longer times than the other counties. Possible reasons for this include a longer retention in the program for those on bench warrants, or a different set of practices for dating program entries and exits.

CHEMICAL DEPENDENCY TREATMENT SERVICES UTILIZATION⁹

Issue

The analysis reported here addresses the question of the extent to which treatment modalities are used differently by the courts, in terms of the proportion of participants in the different outcome groups who receive each service, and/or in the mean amount of service these participants receive. Among other factors, differences among courts could be due to differences in policies, services available in the communities, or funding for the court.

Methods

Subjects and Data: Subjects were those identified by the courts in July and August, 2000. Chemical dependency treatment data were acquired from TARGET, DASA's statewide chemical dependency treatment data system, for the period of January 1, 1992, to September 30, 1999. Participants in King, Pierce and Spokane drug courts were divided into the outcome sub-groups for these analyses.

Analyses: Data were examined to determine (1) the percent of participants in each sub-group who received each type of treatment, and (2), for those receiving each type of service, the mean number of units of service (contacts for OP, days for residential) received.

These analyses are performed for two periods of time, first for the time between entry (or referral) to the court and exit from the court (the "During" analyses), and second for the 12-month period after the date of last contact with the court (the "After" analyses). Cases without a full 12 months follow-up are not included. The "During" period could be quite brief for most of offenders in the Ineligible and Opt Out groups.

Results

The tables in the report include a great deal of information but few striking results. Two items do stand out:

- Not all offenders who graduate have any record in TARGET of having received any outpatient services during drug court. In the three counties with larger groups, the percentages of offenders who show a record of any OutPatient (OP) services during drug court range from 79% to 86%. This is anomalous because OP treatment is a condition of drug court participation, but services could occur but not appear in TARGET if they were received from non-state funded sources or if not all services were being reported.
- The counties vary in the mean number of OP contacts provided to graduates during drug court, ranging from 67 to 114 in the bigger counties, and 51 and 100 in the two smaller counties with graduates.

In addition, several differences can be seen in the tables, which, while not statistically significant, may be of some interest.

- In King County, the DNF groups enter OP at about the same rate of do the Graduates. This is not true for either Pierce or Spokane counties.
- In Pierce County, the Opt Out group has the same OP use rate as the DNF, much higher than either King or Spokane. The OP use rate for this group remains relatively high in the After period.
- During drug court, King County makes more use of Detoxification and Extended Care than do Pierce or Spokane counties.

⁹ This section is based on the report "Analysis of TARGET Chemical Dependency Treatment Service Data," dated December 22, 2000. Copies of this report can be obtained from the Division of Alcohol and Substance Abuse, DSHS.

- During drug court, Pierce County makes more use of Intensive Inpatient and Recovery House than do King or Spokane counties.
- After drug court, the Did Not Finish group makes more use of services, especially Outpatient, than does the Graduate group.
- After drug court, use rates for several modalities for the Ineligible group are higher than during (although, again, "During" for them is probably a short period of time).

TIME TO ADMISSION TO TREATMENT MODALITIES¹⁰

Issue

This analysis allows a comparison within and between courts of the time lag that occurs between referral to drug court and beginning of treatment, for several different modalities of treatment. These findings indicate something about the sequence of service modalities, and differences in how the courts configure and utilize services for their participants.

Method

Subjects and Data: Subjects for these analyses were all persons reported to us by the drug courts as having been referred to the courts as of the summer of 2000. Data were derived from TARGET, and cover January 1, 1992, to September 30, 1999. Services provided under other payment systems besides those covered in TARGET are not included.

Analyses: Drug courts vary in the treatment modalities they use. For this analysis we compared Outpatient, Detoxification, Methadone Maintenance, and Residential modalities (where Residential is the sum of Intensive Inpatient, Extended Care, Long Term Care and Recovery House services), looking at the time between entry into drug court and entry into each service modality. There were two graphs for each county (except one for Kitsap because of insufficient data). For each county there was one graph for offenders who entered drug court but did not complete, and one for Graduates. Each graph plotted each modality used in that county. Each graph plotted the cumulative percent of participants referred to the treatment modality who had entered the modality by each time point. In addition to the graphs, there was a table derived from the graphs, showing the number of weeks required for certain percentages of the offenders receiving that treatment to be entered. The percentages selected are 25%, 50%, 75%, and 95%. This table made it easier to compare the counties. Percentages based on groups smaller than about 20 are not likely to be stable. Sample sizes for all groups were included in the graphs and tables.

These analyses compliment those in the Service Utilization report. That report shows the percent of *all members* of each outcome group that received each treatment modality. The results in this report are for *participants who received* each modality, and, for these participants who did receive each modality, how long it took for them to enter treatment.

Results

Because the graphs for Thurston, Skagit and Kitsap counties are based on such small samples, we will not discuss their results, except to note that in Thurston, where the samples sizes for Out Patient (OP) are better, entry into OP is accomplished more quickly than in the other counties. Looking at results for King, Pierce and Spokane counties:

- None of the results show striking differences among the counties or offender groups.
- For Outpatient services, all three counties are prompt at getting the first 75% of cases into treatment. The next 20% takes considerably longer, and roughly the same amount of time in each county. This is true for both the Did Not Finish and Graduate groups.
- For Detox services, only King has enough cases for the results to be stable. For all three counties the data indicate that the Detox admissions occurred earlier than the residential admissions. Spokane is quicker at getting Graduates into Detox (although the number of cases involved is very small), the other curves are fairly comparable.
- For Residential services, King appears to be a little faster getting the first 25% of Graduates admitted, and possibly the first 50%. Other than that the times are similar.

¹⁰ This section is based on the report "Weeks to Admissions to Treatment Modalities," dated December 22, 2000. Copies of this report can be obtained from the Division of Alcohol and Substance Abuse, DSHS.

CHEMICAL DEPENDENCY TREATMENT AND OUTCOMES¹¹

Issue

The nature of the relationship between treatment and outcome is of major interest in any intervention program. Drug courts are unusual in terms of the duration of the program, the intensity of the intervention, and the leverage on the participants to encourage their prolonged involvement. An important evaluation question is whether these relatively large amounts of treatment are associated with improved outcomes.

Methods

Subjects: Subjects are offenders referred to the drug courts in King, Pierce, Spokane, and Skagit counties, who had data as described below. (No subjects from Thurston or Kitsap counties had sufficient data to be included.)

Data: Three types of data are involved: *Outcomes* are the first *re-arrest* and first *re-conviction* (if any occurred) in the post drug court referral period, based on as many months as the individual subject had data (convictions are counted only for offenses that occurred after referral to the court), and *income*, the mean quarterly income for the 13th through 24th months post court referral.

Predictors are the number of units (sessions for outpatient, days for residential) of chemical dependency treatment per month in each of the first 12 months following referral in each of the following categories: individual, group, methadone maintenance (only in King County), and residential (combining intensive inpatient, long term care, extended care and recovery house).

Two *control* variables are the *annualized number of arrests* (excluding the arrest that led to the drug court referral) pre drug court referral, beginning with January, 1993 (the total number of arrests in the pre referral period – less the incident arrest - divided by the number of years the data covered), and the *pre referral annual income* for the 12 months prior to referral.

Analyses: The “risks” of re-arrest and re-conviction are based on a survival analysis of the length of time to first arrest or conviction (if one occurred) or the end of data, and the analysis is performed using a special type of regression which allows the use of time varying predictors, such as amount of treatment per month, as well as more typical predictors, such as number of arrests or the amount of income previous to referral. This analysis examines the risk of (for example) re-arrest across the time being studied, and the extent to which the predictors increase or decrease the risk of the event occurring. There is no simple statement about how much risk there is (because risk is treated as a curve or graph across time), rather the focus is on how much change there is in risk due to the predictor variables.

Standard regression techniques are used for the analyses of the income data.

Analyses were run both with and without the pre-referral covariates (arrests and income before referral), but the results *with* the covariates are preferred and are reported here.

Subjects were grouped three different ways for the analyses: (1) all subjects combined across all counties (one analysis with all subjects), (2) subjects combined within counties (three analyses, one each for King, Pierce and Spokane counties), and (3) subjects combined within outcome subgroups across counties (four analyses, for Graduates, DNFs, Opt Outs, and Ineligibles). The last analysis, by outcomes subgroups, is preferred, and is emphasized here.

For each group and grouping, we will analyze individual, group, and residential treatment separately. Detox is too rare to be used. We have also run analyses with group and individual treatment added together. In no case did we find that the sum produced a significant effect when the two components did not. Generally results from the sum were roughly the average of the two individual results.

Opiate substitution treatment was used in King County. We performed separate analyses on methadone maintenance in King, and within the Graduate and DNF groups in King, and we performed analyses

¹¹ This section is based on the report “Relationships Between Types and Amounts of Chemical Dependency Treatment and Drug Court Outcomes,” dated June 22, 2001. Copies of this report can be obtained from the Division of Alcohol and Substance Abuse, DSHS.

using the sum of individual+group+methadone. Neither methadone nor the sum were predictors of outcomes.

Results

Amount of Treatment Received:

- Graduate groups in the counties should have full participation in group therapy, and very high participation in individual therapy. Observed percentages for Graduates range between 77% and 82% for individual, and 76% and 84% for group. *The lack of 100% participation in group or individual therapy for Graduates suggests that the TARGET data base does not contain a complete record of treatment events, which might compromise the following analyses.*

As expected, Graduates have the highest percentages receiving service and the highest means, with did-not-finish (DNF) subjects second, but generally substantially lower, except in Skagit County, where the two groups are comparable. For *Graduates*, the percent receiving **individual** therapy range between 77% and 82% (Table 2a), between 76% and 84% for **group** (Table 2b), and between 7% and 21% for **residential** (Table 2c). For *DNFs*, the same figures are 46% - 63% for **individual** (81% in Skagit), 50% - 71% for **group** (88% in Skagit), and 14% - 25% for **residential**.

- For members of the subgroups who have actually received some service in the category being considered, for *Graduates* in King, Pierce and Spokane counties, the mean number of **individual** treatment sessions ranges between 9 to 14 (Skagit with 22), of **group** sessions between 46 and 88, and **residential** treatment between 26 and 78. For *DNFs*, the figures for **individual** are 6 - 9 (16 in Skagit), 22 - 50 for **group**, and 40 - 49 for **residential**.

Summary: In a sense, these tables look at the “adequacy” of the amounts of treatment offered, where a judgment of adequacy is primarily based on the percent of persons in a group who receive a type of treatment, and of those who receive treatment, the number of units of service they receive.

It seems almost certain that service data are underreported for the Graduates, and presumably proportionately for the DNFs and possibly the other groups as well, so the percentages receiving service for both groups are likely too low. Further, for subjects for whom data are reported, at least some Graduates have fewer sessions than seems possible, e.g., at least one Graduate with services has only one unit of group therapy. Even given this problem with the data, *the mean numbers of services delivered for group and individual therapy seem adequate to expect a therapeutic effect, but this is true for the DNF subjects as well as the Graduates.*

Statistical Results

Arrests

Controlling for the annualized number of arrests before drug court referral:

- In all analyses, arrests before drug court is a very strong predictor of increased risk for re-arrest. The remaining analyses here control for this effect.
- For all subjects combined, only group treatment shows a significant relationship with reduced risk of re-arrest.
- By counties, in King no treatment type shows a significant relationship between amount of therapy and re-arrest. Both Pierce and Spokane show a borderline significant relationship between amount of group treatment and reduced risk of rearrest, and Spokane shows a borderline effect for individual treatment as well.
- By outcome groups (in our judgement the most appropriate analyses), Graduates show a significant relationship between amount of group treatment and reduced risk of re-arrest. DNFs show a significant relationship between amount of both individual and group treatment and *increased* risk of re-arrest. Neither Opt Outs nor Ineligibles show any relationships between treatment and re-arrest.

Summary: There is not a strong relationship between amount of treatment and reduced risk of rearrest. Among Graduates, there is support for an association between larger amounts of group treatment received and reduced risk, but the relationship is generally either not present in other groups or is of only

borderline significance. Only in Spokane County are larger amounts of treatment associated with reduced risk, and then only when pre court arrest levels are not controlled. Residential treatment is consistently not related to rearrest. In King County, methadone maintenance is not related to rearrest. In the DNFs, higher levels of both individual and group treatment are associated with *increased* risk of re-arrest. There are no relationships among opt-outs or ineligible.

Convictions

Controlling for the annualized number of arrests before drug court referral:

- In every analysis, number of arrests before referral to drug court is very strongly linked to increased risks of re-conviction. The remaining analyses here control for this effect.
- For all subjects combined, individual, group and residential therapies all show significant reductions in the risk of re-conviction.
- By counties, both individual and group treatment produce significant reductions in risk of conviction in all three counties. In Pierce County, residential treatment is also significantly associated with reduced risk.
- By outcome subgroups (in our judgement the most important analyses), for Graduates both individual and group therapy are associated with reduced risk of new convictions, but residential is not. No therapy is significant for any of the other groups.

Summary: Both group and individual therapy show significant and substantial patterns of reduced risk of new convictions following referral to drug court. This pattern is present for all subjects combined, for each county, and for the Graduate participants, but not for the DNFs (who also had substantial amounts of treatment) or other outcome groups. Residential treatment is associated with reduced risk only for all subjects combined and in Pierce County.

Earned Income

Looking at the same analyses, with amount of income in the year before drug court referral as a covariate:

- Income in the year before drug court referral is an extremely strong predictor of income in the year post referral, in all analyses. The remaining analyses here control for this effect.
- For all subjects combined, both group and individual treatment are strongly related to increased income post referral. Residential treatment is not related to income.
- In all three counties, group therapy is related to increased income. In King and Pierce counties, individual therapy is also significantly related to income, but this relationship is only borderline significant in Spokane.
- Among outcome subgroups (in our judgement the most important analyses), the only significant relationship is between residential treatment days and an increased level of income for Ineligible offenders.

Summary: Whether or not the analyses control for pre-referral income, *when outcome subgroups are combined*, either across or within counties, increased group therapy is associated with increased income. Generally increased individual therapy is also associated with increased income. This finding is mitigated by the fact that *no real relationships are found between treatment and income among the outcome subgroups*, which implies that for Graduates and DNFs the amount of treatment received is not a major factor in determining post referral income. It may also suggest that factors related to income before drug court referral figure in selection into drug court.

Conclusions

- The service data included in TARGET appear to be incomplete
- Overall, based on the available data, the amount of group and individual treatment being received by drug court participants appears to be adequate.
- There is only very weak evidence for a relationship between higher amounts of group and individual treatment being related to lower risk of re-arrest. This finding does apply to Graduates, but for DNFs

the effect is reversed: more therapy is associated with *higher* risk for re-arrest.

- Support for a relationship between higher amounts of group and individual therapy being related to lower risk of re-conviction is stronger. This pattern is found in Graduate but not DNF groups.
- When outcome subgroups are combined, there is a relationship between higher amounts of both group and individual treatment and higher post-referral income. This is not true within subgroups of Graduates or DNFs.
- Residential treatment has no systematic relationships with these outcome variables.

These results suggest a complex relationship between treatment and outcomes. There is some relationship between treatment and re-arrests for Graduates (although it is significant and reversed for DNFs). For re-convictions only Graduates show effects, and for income neither Graduates nor DNFs show significance. Generally when all subjects are combined, there are significant relationships between group and (less strongly) individual treatment and outcomes, but when outcome subgroups are combined within counties, the results are less robust. Usually the effect sizes are modest.

It is easy to find an explanation for the negative direction of results for the DNFs on arrests: troubled participants are given more attention. It is also easy to see that the findings of relationships between treatment and outcomes that occur when the outcome groups are combined are due to the fact that Graduates and DNFs receive more treatment, and they also have better outcomes. It may be that the general lack of clear and strong relationships between amount of treatment and outcomes within the Graduate subgroup is because, in general, they are all getting “enough” treatment, so the outcomes result from the effects of other factors. From a programmatic viewpoint, however, these results suggest that current average levels of treatment are adequate for most participants, and that in general more treatment would not improve outcomes, and less might very well be equally adequate. Higher levels may be indicated for some participants, but this will not assure successful retention or outcomes. Amount of treatment is not a major determinant of outcomes for this data set.

LENGTH OF STAY AND OUTCOMES¹²

Issue

In King County over 22% of successful drug court cases graduate in 50 weeks or less, compared to essentially no such cases in other courts. This raises the question of whether it is appropriate to graduate participants so early. This set of analyses was performed to determine how these early releases compared with other Graduates on the three major outcomes we have used: rearrest, reconviction (for a crime committed after entry into drug court) and earned income.

A secondary question was whether outcomes for the Did Not Finish subgroup varied depending on how long they remained in the drug court program.

Methods

Subjects: Subjects are all Graduates and DNFs from the King County drug court.

Data: Three outcomes are examined: rearrest following entry into drug court, conviction for an offense that occurred after entry into drug court, and earned income in the second and third years (separately) following entry into drug court.

Based on length of stay (LOS), Graduates were divided into 10 groups, each containing approximately 10% of the cases. DNFs were then categorized using the same LOS cutoff points. The Table below shows the LOS cutoff points, and the numbers and percentages of Graduates and DNFs in each category.

¹² This section is based on the report “Relationships Between Length of Stay and Outcomes in the King County Drug Court,” dated June 27, 2001. Copies of this report can be obtained from the Division of Alcohol and Substance Abuse, DSHS.

**Numbers and Percents of Participants in Each Length of Stay Category
For Graduate and Did Not Finish Subgroups**

Length of Stay Category, in Months	Graduated		Did Not Finish	
	Number	Percent	Number	Percent
< 9.5	30	10	344	44
9.5-11	26	9	58	7
11-12	30	10	28	4
12-13	39	13	27	3
13-14	29	10	35	4
14-15	19	6	21	3
15-17	36	12	45	6
17-20	30	10	54	7
20-26	29	10	59	8
26+	29	10	117	15
TOTAL	297		788	

Analyses: Analyses consisted of breaking the members of each of these two outcome groups into the categories defined, and comparing the rates of rearrest and conviction, and the amounts of income in the second and third years post drug court referral, across the categories. Analyses of variance were also performed on the data.

Note that the issue of selection that we have had in most analyses persists in this case, but that it is not problematic here. In the present case the question is whether there are *some* drug court participants who can be graduated early without there being an adverse impact on outcomes. We would not expect to show that *all* participants could be released early, so some selection process would be necessary to select early graduates. We are evaluating outcomes for one such (undefined) set of selection criteria.

Results

- When the percentages of participants *rearrested* in each of the categories are graphed, the results are quite striking. There is almost a straight line increase in percent arrested across the LOS categories for Graduates, beginning with about 13% rearrested in the group with the shortest stays, and increasing to about 90% (the only Graduate category to have a worse outcome than a DNF subgroup) for those with the longest LOSs. There is a sharp increase in the arrest rate for the 15-17 month LOS group, and again for the 26+ month group. Clearly in King County, the longer Graduates take to complete drug court, the more likely they are to be rearrested.
- Interestingly, although the arrest rate is much higher for DNFs, there is some of the same pattern of increasing rates of rearrest the longer the offender is in court.
- Results for *convictions* for offenses that occur after admission to drug court are similar to those for arrests. There are differences among subjects in the categories, and for Graduates there is a strong linear effect, with the rate of conviction rising as the LOS becomes longer. The statistical results are similar also, but not as strong. DNFs also show a pattern like that for arrests.
- Similarly, mean quarterly income for each LOS category, for the period from the 13th month through the 24th month post drug court entry, shows a statistically significant association between drug court LOS and income, with an almost linear relationship between longer LOS and *lower* income. DNFs have much lower incomes than Graduates, and show no relationship between income and LOS. There is no overlap between Graduate and DNF curves: All Graduate categories do better than any DNF category.
- Income for the third year post-referral, months 25 through 36, are similar. Those who graduate in less than a year show no drop-off in income, at a time that they are a year and more removed from the program. There may be some decline in income for those who graduated with LOSs between 12 and 17 months but there is an increase in income for those with the longer LOSs, up to about the level of the 12-17 month group. DNFs remain at about the same level of income as the second year post referral, and there are no apparent patterns across categories or between years.

Conclusions: There is a very clear-cut answer to the question that led to this analysis: at least in King County, there are drug court participants who can be graduated with less than a year in the court program with every reason to anticipate that their long-term outcomes will be among the best expected from the program.

This does not mean that all cases should be graduated in 12 months or less. It does mean that, at least in King County, there are cases that can be graduated in periods shorter than a year, and that for these cases there is no drop-off in the outcomes we are observing. It also seems to mean that the King County Drug Court is doing a good job of identifying such cases.

The importance of this finding is that it leads to a more cost effective drug court program. These short stay participants are being retained only so long as there appears to be a need. By graduating them earlier than is typical, the court opens up program slots for additional participants, and the court makes better use of scarce resources.

VOCATIONAL REHABILITATION¹³

Issue

If employment is a valued outcome for drug courts, and given that the offender groups entering drug courts do not have strong work histories or much evidence of work skills, then it would seem natural that any resource that might increase the likelihood of steady employment would be a desirable adjunct to treatment. One such resource would be the rehabilitation services offered by the Division of Vocational Rehabilitation. This analysis examined the courts' utilization of DVR services.

Method

Subjects and Data: All persons with a record of referral to drug courts as of the summer of 2000 were included in these analyses. Using information supplied by our study, DVR staff identified drug court participants who had applied for DVR service since January 1, 1993 through September 30, 2000. They then provided a record of each application and the history of the program based on that application. Because the start date for this data set is later than for some other sources, some of the early court referrals do not have a full two years of pre drug court data. Subjects were divided into the standard outcome groups for these analyses

Analyses: The DVR event history records were analyzed for each individual. Tables were constructed for the unduplicated numbers of individuals who applied to DVR, who were found eligible, who had agreed to a rehabilitation plan, and who had been rehabilitated, in each time period. The two time periods are the two years before referral to drug court and the two years after referral. Only the three older drug courts (King, Pierce, and Spokane Counties) have subjects with enough data for this analysis.

Results: Looking at the three older drug courts combined, there are no significant group differences in rates of application before referral to the drug court, with around two to two and a half percent applying. After referral to Drug Court, there are significant differences among the groups: the Graduates and DNFs both apply for DVR services at a higher rate, around four to six percent, than those who did not enroll in drug court (the Ineligible and the Opt Outs), who continue to apply at around two to two and half percent. The difference in rate between the Graduates and the DNFs verges on statistical significance.

Separating the counties, results for King County show the same overall pattern. Again, there are no statistically significant pre-referral group differences, but there are significant group differences after referral. The two groups that enrolled in the drug court program, the DNFs and the Graduates, show substantially higher application rates than do the Ineligibles and the Opt Outs. The application rate for the Graduates is also significantly higher than that of the DNFs.

Spokane County presents a slightly different pattern. First, the application rate is higher than for King or Pierce Counties. Again, there are no significant differences between groups before referral, and there are significant differences after referral. In Spokane, however, there is no significant post referral difference between the Graduates and the DNFs, both of whom apply for DVR service at about a ten percent rate, substantially higher than in King.

In Pierce County, drug court makes no difference in the rate at which participants apply for DVR

¹³ This section is based on the report "Analysis of Division of Vocational Rehabilitation Data," dated December 11, 2000. Copies of this report can be obtained from the Division of Alcohol and Substance Abuse, DSHS.

services. There are no significant differences before drug court, nor are there any after referral to drug court, nor is there an increase in the rate from pre to post referral.

Intent to Treat Analysis: An “intent to treat” analysis compares all those who entered drug court, and were therefore supposed to receive the full intervention (in this case the combined Graduates and DNFs), with those who did not enter (the combination of Ineligibles and Opt Outs). Across all three counties we find that in the two years before referral to drug court there is no difference in the rate at which individuals from these two groups apply for DVR services. On the other hand, in the two years after referral to drug court, the rate of DVR applications essentially doubles, from about 2.5% to about 5.0%, for those who enroll in a Drug Court program. This difference is statistically very significant.

Rehabilitation: Looking at rehabilitation, among those who apply to DVR there are no group differences in the rate at which applicants are ultimately rehabilitated, either before or after drug court referral. Among those who enrolled in a Drug Court program, 16% of those *applying* for DVR services are rehabilitated. For those not enrolled in drug court, the rate is 15%. So for those who apply to DVR, the *rate* of successful rehabilitation is the same for drug court enrollees as it is for those referred to drug court but who do not enter. However, because the rate of those who apply to DVR is higher for drug court entrants (in two counties, at least), the total *number* of persons being rehabilitated is higher for drug court enrollees.

MENTAL HEALTH SERVICES¹⁴

Issue

In seriously dysfunctional groups there can be relatively high rates of co-occurrence of substance abuse and mental illness. When it occurs, this combination is likely to represent special treatment problems. The drug courts attempt to screen out offenders with mental illness severe enough that it would interfere with chemical dependency treatment. Analysis of Mental Health treatment data will give an estimate of the minimum level of relatively serious mental illness in the drug court subgroups, and some indication of the degree to which mental illness may be complicating drug court treatment programs. This is not an evaluation of the *need* for mental health services, but rather of the observed *use* of services.

Methods

Subjects and Data: Subjects were all persons referred to the courts by the summer of 2000. Subjects were divided into the standard outcome groups for the analyses. Data were provided by the Division of Mental Health, DSHS. Data covered the period from January 1, 1993 through December 31, 1999, and were in the form of total days of Inpatient (IP) services provided per quarter in each of state institutions, community hospitals, and Evaluation and Treatment programs (ET), and total hours of services provided in Outpatient (OP) community programs per quarter. Institutional and Community Hospital IP days were summed for each quarter, to obtain three types of MH service data: IP days per quarter, ET days per quarter (only offenders in King County were reported to have such services), and OP hours per quarter.

Analyses: In the report, results were presented in (a) three graphs per county, one for each of the modalities (IP, ET, and OP), giving the percent of each outcome group receiving that modality in each quarter for three years pre- and three years post-referral, and (b) a table giving the group sizes at each time period.

Results:

Inpatient (IP) utilization:

- Inpatient utilization rates are very low across all counties, generally between 0 and .5%.
- There is little change over time in IP rates, and no clear patterns of differences among drug court outcome groups, except that in two counties (King and Pierce) the Ineligible offenders are on the upper edge of the set of rates.

Outpatient (OP) Utilization:

- OP use rates are higher than IP, ranging between 0 and about 12%, but with most values in the large counties falling in the 2 to 5% range. These are not high rates, but they are high enough to indicate

¹⁴ This section is based on the report “Analysis of Mental Health Services Data,” dated December 22, 2000. Copies of this report can be obtained from the Division of Alcohol and Substance Abuse, DSHS.

that mental illness could be a factor in treatment even in the drug court population.

- Rates vary across counties.
- There are no pronounced patterns across time except in King County, where there is a trend toward higher rates for all groups over time.
- There are no clear patterns for higher or lower rates among the different drug court offender groups. This in itself is interesting, since it suggests (a) that the selection process is not removing all persons with mental illness, and (b) that mental illness is not a major factor in determining successful completion, i.e., that persons with serious mental illness can successfully complete drug court programs.

MEDICAID¹⁵

Issue

Medicaid claim data provide a wealth of information about health care utilization patterns and the use of public resources to pay health care costs. Many social programs share an implicit, if not explicit, goal of helping individuals they serve manage their health care to achieve appropriate and cost effective use of public resources. Changes in patterns of Medicaid use have become a common variable in studies of a broad range of intervention programs. While changes in health care utilization are not a stated goal of drug court programs, the examination of utilization patterns is another way to examine the potential broad impacts of participation in DC programs.

Claim data may be considered as process variables that help describe programs, or as outcome variables if changes in utilization patterns are considered program goals. The choice between process or outcome use of the data is somewhat arbitrary. In this drug court evaluation we might assume that increasing claims for chemical dependency treatment services is a desirable outcome indicating that more people are seeking appropriate treatment, and that Medicaid claims are being used to supplement and therefore extend state and local funding for treatment. Likewise, we might assume that a reduction in claims for emergency room and medical in-patient services is desirable since they are expensive and, in many cases, avoidable, and that there should be a concomitant increase in the regular use of less expensive medical out-patient services. Thus, decreases in ER and Inpatient services and increases in Outpatient services might be seen as desirable outcomes of DC programs.

Methods

Data: Data were provided by the State Medical Aid Administration (MAA), for the period of January, 1993 to November, 2000. We provided MAA with subject names, dates of birth and social security numbers, and the matches were made by MAA. If no match was identified, we assumed this meant that person had not made Medicaid claims, and those subjects were assigned zeros as data for the duration of their time in the study. Thus all subjects were included for the full time they were in the study.

The reimbursement requests were broken into categories of service, plus total reimbursement (the sum of all eight categories). The service categories are:

- Chemical Dependency
- Emergency/Crisis
- Medical In Patient
- Medical Out Patient
- Detoxification
- Mental Health
- Nursing home/Congregate care
- Psychiatric In Patient

For each category and for the total, we derived two scores, one a yes/no for whether a subject made claims in each quarter in which they were in the study, the other a dollar amount of reimbursements made in each quarter. Graphs were developed showing the percent of each group that received that category of reimbursement in each quarter, and the mean amount of reimbursement per group member (all group members included) for each category for each quarter. The percentage of subjects in each group that made at least one claim in *any* of the quarters during the pre-referral period and during the post-referral period were

¹⁵ This section is based on the report "This section is based on the report titled "Report on Medicaid Data Analyses," dated April 25, 2001. Copies of this report can be obtained from the Division of Alcohol and Substance Abuse, DSHS.

also reported.

For the statistical analyses the value used for each subject was the proportion of quarters in which a claim was made (the number of quarters in which a claim was made divided by the number of quarters for which the subject had data) calculated separately for the pre and post-referral periods. Similarly, for each person the mean reimbursement per quarter was determined separately for pre and post-referral periods.

The last four Medicaid categories had claims so infrequently that their analyses were not performed. The three most recent programs, Thurston, Skagit and Kitsap counties, all had relatively small sample sizes, low Medicaid usage percentages, and/or such short post-referral follow-up periods that their data are not analyzable statistically. Data from these counties are included in those analyses that combine all subjects across the six counties.

Results

Descriptive Results

- Chemical Dependency Services. The quarterly percents of offenders receiving Medicaid reimbursement for CD services is generally between 0% - 4% before drug court referral. Post-referral percentages for Graduates and DNFs rise in King to 3% -6%, \pm 4% in Pierce (only Graduates increase), and 6% - 10% in Spokane. Pierce and Spokane percentages drop after several quarters to previous levels.
- Mean quarterly reimbursements for CD service pre-referral are between \$0 - \$18. Post-referral the means for Graduates and DNFs (Graduates only in Pierce) increase substantially in King (up to \$15 - \$30) and Spokane (\$30 - \$90) counties, and somewhat less in Pierce (\$10-25). In Pierce and Spokane these amounts decline over time more than in King.
- Emergency/Crisis Services. Initial quarterly utilization percentages for Emergency services are similar for groups and counties, mostly 0% - 4% (4% -8% for DNFs in King), with few major changes pre to post.
- Quarterly mean costs for Emergency services are highly erratic, ranging between \$0 - \$100 (highest in King, lower and similar in Pierce and Spokane) with occasional higher spikes, and not much difference pre vs. post-referral.
- Medical In Patient Services. Quarterly use percentages for Medical IP are low pre and post: 0% - 3% in King and 0% - 2% in Pierce and Spokane. These costs are also erratic, mostly ranging between \$0 and \$100, and similar pre and post-referral and across counties, although somewhat lower in Pierce.
- Medical Out Patient Services. These have the highest utilization percentages of the Medicaid categories. Quarterly percentages across counties are largely in the 10% to 19% range pre court referral. Post quarterly referral percentages for Graduates and DNFs (Graduates only in Pierce) increase in all three counties, rising to the 15% to 26% range. In Pierce County these percentages taper off over time.
- Costs for medical OP are also the highest of any category, ranging between about \$40 to \$100 per person per quarter pre-referral. Post-referral there is a tendency for quarterly means for one or more groups per county to increase. In King, Graduates, DNFs and Opt Outs all increase into the \$80 - \$120 range; in Pierce Graduates increase to \$100 - \$160, and in Spokane Graduates, DNFs and Opt Outs are increase to approximately \$75 to \$175.

Summary

- In the two areas of greatest use of Medicaid services, CD and Medical OP services, the Graduates tend to be the highest utilizers, with the DNF group generally second.
- DNFs are the highest utilizers of Emergency and Medical IP services.
- In the post period, the utilization percentages for Medical OP are considerably higher than for CD services, suggesting that there is a potential additional resource for supporting drug court CD treatment for a sizable group, up to as many as 20%, of court participants.

Statistical Results: In these analyses all eight categories of Medicaid reimbursement and the totals were analyzed separately for each of the six counties and for all subjects combined. For the reasons outlined above, only results for King, Pierce and Spokane counties and all subjects combined (from all six counties),

and for four categories of Medicaid and total Medicaid, are discussed. For each category of Medicaid, we analyzed two scores for each person for the pre-referral and post-referral periods, first, the percent of quarters in which the person received Medicaid benefits, and second, the mean amount of reimbursements made.

Note that these analyses were performed on *change scores*, that is, the amount of increase or decrease between pre and post-referral.

- Overall, there are statistically significant differences among the four outcome sub-groups on outcomes.
- The groups are clearly different on changes in CD and Medical OP services. Not surprisingly, total expenditures are also significant in two counties and also overall. There are few significant results for Emergency and Medical IP treatment.
- Percentages are more likely to show group differences than are amounts of reimbursement.
- There are three patterns of significant differences among groups.
- First, Graduates show significantly larger increases in percent reimbursed for CD services in King, Pierce and Spokane counties and for all subjects combined. In Spokane County DNFs also show more increase than the other groups for both the percentage with reimbursements and the mean reimbursement. When all subjects are combined, the Graduates also have a larger increase than the other groups on mean reimbursement.
- Second, in Emergency services the only significant difference among groups is that there is a greater increase in the percent of DNFs receiving reimbursement when all subjects are combined. Similarly in Spokane for Medical IP, the DNFs have significantly higher increase in the percentage receiving reimbursement than the Graduates. While not expected, these findings are consistent with the idea that DNFs experience some difficulties possibly related to their leaving the drug court programs.
- Third, for Medical OP services, the Graduates have a pattern of larger increases in percentages and/or amounts of reimbursement than some of the other groups. In King County and for all subjects combined, the increase in percentage is significantly larger than for any other group, and in Spokane it is higher than the Opt Out group. The increase in mean amount of reimbursement is higher for Graduates than for DNFs and Opt Outs in Pierce County and higher than Opt Outs and Ineligibles for all subjects combined.
- The findings by counties for total Medicaid reimbursement parallel those above: In percentages with reimbursement, but not in amounts, the Graduates increase more than the other groups in King County and for all subjects combined. In both these cases the DNFs also have significantly larger increases than the Ineligibles. In Spokane County the Graduates are significantly higher than the Opt Outs.

Overall, in the two areas of greatest use of Medicaid services, the Graduates tend to be the highest utilizers, with the DNFs generally second.

Conclusions

- The two categories of Medicaid claims that show the highest levels of use are Chemical Dependency Outpatient and general Medical Outpatient treatment.
- Percentages with claims and reimbursement amounts are highest for Medical OP services. *Percentages* are next highest for CD services, but mean *amounts* of reimbursement are second highest for Emergency services.
- Use percentages for Medical OP are substantially higher than for CD, suggesting an underused source of drug court treatment dollars.
- Pre-referral to drug court the quarterly percentages of utilization of Medicaid reimbursements tend to be between 0% and 2% for most categories. Use rates for CD and Emergency services are generally higher, up to 4%, and rates for Medical OP higher yet, ranging between about 10% and 19%.
- Post drug court referral quarterly percentages show little change from pre rates, except Graduates and DNFs show increased percentages of CD service reimbursements (3% - 6% in King and Pierce, and 6% - 10% in Spokane) and Medical OP reimbursement percentages (between 15% and 26%).
- Mean quarterly reimbursements vary widely across counties and especially across Medicaid categories.
- Pre-referral CD reimbursements range between \$0 to \$20, post-referral \$15 - \$30 in King and Pierce, and \$30 - \$90 in Spokane.
- Reimbursement for Emergency and Medical IP services are highly variable in all three counties, tending to range between \$0 and \$100, with some higher values, in all three counties, pre and post-

referral.

- Medical OP pre-referral reimbursement group means are largely between \$40 and \$100, while post-referral levels are between \$50 - \$150.
- Graduates generally show the largest increases in CD and Medical OP utilization. DNFs tend to be highest post-referral on Emergency and Medical IP.
- With reference to the speculations in the Issues section about the desirable pattern of changes in Medicaid reimbursements, we do see increases in CD OP and Medical OP, but not reductions in Emergency/Crisis or Medical IP.

MORTALITY¹⁶

Issue

In some prior studies we have found elevated mortality rates for persons receiving chemical dependency treatment, particularly in cases where histories of use were long and levels of use high. Since mortality data can reveal important information about the general health status of groups of clients, we wished to examine death rates in these drug court populations.

Methods

Subjects and Data: Subjects were persons identified as court referrals as of November, 2000, for King, Pierce and Spokane counties. Offenders were categorized by year of referral or entry into each of these three courts, and the data collected by matching against the mortality data collected annually by the Department of Health. We used the data set released in the fall of 1999, which includes relatively complete data through 1998. Sample sizes were not large enough to analyze the outcome subgroups separately.

Results: Results are reported as the number of deaths per 1000 persons per year. Because the numbers of deaths are low, and the sample sizes small (for this type of analysis), the yearly rates fluctuate. Mortality rates for these drug court participants are below those for the general population (which are roughly in range of 8.9 to 9.1), but the drug court participants are younger than the general population (which should mean a lower mortality rate), and we did not adjust for age. Overall the death rates are comparable for King and Pierce counties, and possibly lower for Spokane. King and Spokane counties show much lower numbers of deaths in 1998 than for the other years, and we might guess that their data for that year are incomplete (which might partially explain Spokane's lower rate).

The conclusion from these analyses is that the counties do not differ greatly in death rates, either from each other or from the general population.

SUMMARY OF FINDINGS

OUTCOME VARIABLES:

Arrests

- Graduates have fewer re-arrests than any of the other outcome groups (significantly fewer than the Opt Outs).
- The Opt Out group is most at risk for re-arrest, with some evidence that the Did Not Finish and Ineligible groups are also higher.

Court Filings

- Only Pierce shows any statistically significant differences among outcome groups: there Graduates, Actives and Did Not Finishes are similar, and different from Opt Outs and Ineligibles.
- Across counties the Graduates have the lowest post court filing rate. However, all groups show declines in filings following court contact (except Spokane, due to dating practices).
- Ineligibles, Opt Outs, and Did Not Finish have the highest post referral filing rates.

Convictions

- Offenders who graduate from drug court are less likely than offenders in any other group to be re-

¹⁶ This section is based on the report "Mortality Analyses," dated March 8, 2000. Copies of this report can be obtained from the Division of Alcohol and Substance Abuse, DSHS.

convicted in the three years following referral to drug court.

- The Graduates have the lowest rates of convictions across the 6 year period, and lower in the post than in the pre period.
- When the Graduates are compared with the other groups one at a time on the amount of *change* in conviction rates, the Graduates show a statistically significantly better score than each of the other groups in all three counties. The Graduates also do better than the other groups when data are merged across the three counties.

Prison Time

- Graduates have zero rates of imprisonment in the post drug court referral period in all counties except King. The post drug court referral imprisonment rates for Graduates in King and Pierce counties are significantly lower than the Ineligible, Opt Out and Did Not Finish group rates.
- This suggests that prison incarceration post drug court is grounds for dismissal from the programs in all counties except King.
- Ineligibles and Did Not Finishes have the worst rates of re-imprisonment post drug court referral
- Opt Outs have a higher rate of imprisonment post drug court than pre

Earned Income

- Graduate groups show systematic and substantial increases in incomes, with some tail-off in the third year.
- Graduates are the only groups to show this improvement.
- Even for persons with income, the amounts are generally not large.

Mortality

- There are no differences in mortality rates between counties or compared to general population.

PROCESS VARIABLES:

Time Spent in Drug Courts

- In general the counties have similar lengths of stay for the groups.
- King County differs in two ways:
- King begins graduating participants in as little as 6 months, and graduates over 20% by one year. Other courts begin graduating at one year.
- King shows Opt Out and Ineligible offenders having longer episode lengths than the other counties. This may be an artifact of King's tolerance for bench warrant status.

Chemical Dependency Treatment Service Utilization

- Not all Graduates have a record in TARGET of OP treatment.
- Counties vary in mean levels of OP treatment offered to Graduates during drug court: means range from 67 to 114.
- Counties vary in the use of services for outcome groups both during and after drug court.

Time to Admission to Treatment Modalities

- There are few differences of note across counties in the time it takes to get participants into residential treatment programs.

Chemical Dependency Treatment and Outcomes

- The service data included in TARGET appear to be incomplete
- Overall, based on the available data, the amount of group and individual treatment being received by drug court participants appears to be adequate.
- There is mixed evidence for a relationship between higher amounts of group and individual treatment being related to lower risk of re-arrest. This relationship is true for Graduates, but for DNFs the effect is reversed: more therapy is associated with higher risk for re-arrest. There is no relationship for Opt Outs or Ineligibles.
- For Graduates but not for DNFs, there is support for a relationship between higher amounts of group and individual therapy being related to lower risk of re-conviction.
- For Graduates and DNFs there is no relationship between higher amounts of treatment and increased

income. When outcome subgroups are combined, there is a relationship between higher amounts of both group and individual treatment and higher post-referral income.

- Neither residential nor opiate replacement treatment has any systematic relationship with these outcome variables.
- The implications for policy/practice are (1) that treatment levels are adequate, and may be more than necessary for some participants, and (2) other factors are at least as important as amount of treatment in influencing outcomes.

Drug Court Length of Stay and Outcomes (King County)

- The very clear result from this analysis is that there are drug court participants who can be graduated with less than a year in the court program with every reason to anticipate that their long-term outcomes will be among the best expected from the program. Whatever criteria King County is using to identify such participants seem to be effective.
- This finding can lead to a more cost effective drug court program by retaining participants only so long as there appears to be a need. By graduating them earlier than is typical, the court opens up program slots for additional participants, and the court makes better use of scarce resources.

Vocational Rehabilitation

- Overall rates for applications for the use of DVR services are very low, about 2% in King and Pierce counties, and 4% in Spokane County, and are similar for all groups pre court referral.
- Application rates for Graduates in King, and Graduates and Did Not Finishes in Spokane, roughly double, into the 8% to 11% range (toward the high values in Spokane).
- The rate of rehabilitation, i.e., successful completion of a program for those who enter, is about 16% for all groups both before and after drug court referral.

Mental Health

- Use rates for IP are generally very low, one half percent or less.
- No major differences in IP use across three counties or between outcome groups.
- OP use generally between 2% and 5%, occasionally 8% to 12%. Little change between pre and post court referral (except in King, where there is a general upward trend).
- OP use varies across counties, but not much within counties across outcome groups.

Conclude:

- MH use rates may be high enough to impact drug court treatment programs.
- Not all offenders with MH problems are being screened out.
- The MH problems left in the drug court participants are not a major factor in determining outcomes.

Medicaid

- In the two areas of greatest use of Medicaid services, CD and Medical OP services, the Graduates tend to be the highest level of use, with the DNF group generally second.
- DNFs are the highest utilizers of Emergency and Medical IP services.
- In the post period, the utilization percentages for Medical OP are considerably higher than for CD services, suggesting that there is a potential additional resource for supporting drug court CD treatment for a sizable group, up to as many as 20%, of court participants.
- Percentages with claims and reimbursement amounts are highest for Medical OP services. *Percentages* are next highest for CD services, but mean *amounts* of reimbursement are second highest for Emergency services.
- Pre-referral to drug court the quarterly percentages of utilization of Medicaid reimbursements tend to be between 0% and 2% for most categories. Use rates for CD and Emergency services are generally higher, up to 4%, and rates for Medical OP higher yet, ranging between about 10% and 19%.
- Post drug court referral quarterly percentages show little change from pre rates, except Graduates and DNFs show increased percentages of CD service reimbursements (3% - 6% in King and Pierce, and 6% - 10% in Spokane) and Medical OP reimbursement percentages (between 15% and 26%).
- Mean quarterly reimbursements vary widely across counties and especially across Medicaid categories.
- Pre-referral CD reimbursements range between \$0 to \$20, post-referral \$15 - \$30 in King and Pierce, and \$30 - \$90 in Spokane.

- Reimbursement for Emergency and Medical IP services are highly variable in all three counties, tending to range between \$0 and \$100, with some higher values, in all three counties, pre and post-referral.
- Medical OP pre-referral reimbursement group means are largely between \$40 and \$100, while post-referral levels are between \$50 - \$150.
- The increases in CD OP and Medical OP can be viewed as positive outcomes, but the equally desirable reductions in Emergency/Crisis and Medical IP were not observed.

CONCLUSIONS AND RECOMMENDATIONS

- The overall pattern of results across all four outcome variables (arrests, court filings, incarceration time, and earned income, excluding mortality) and for the three drug courts with sufficient follow-up for interpretation (King, Pierce and Spokane courts) is that participants who graduate have better outcomes than those in any other group.
- In general, the gains made by the Graduates after referral to drug court were retained over a three year post-referral period, although on some measures there were weakening patterns in the third year post-referral.
- Among the other groups (DNF, Opt Out, and Ineligible) there were no consistent orderings on relative outcomes. There is some tendency for the DNFs to show the worst results, but this is not reliable across counties or outcome variables.
- Where statistical analyses were performed, statistically significant differences were not always found. When they were, Graduates were rarely different from all other groups. Where differences were significant and effect sizes were calculated, these were generally small.
- The patterns of results vary in several ways across the counties. No single court shows overall superiority.
- Although Graduates as a group have significantly superior outcomes compared to the other outcome groups, membership in the graduated group is the result of a process that will produce a subgroup of participants with better outcomes. It is not clear that the drug courts are themselves producing these improved outcomes. As a partial control for this uncertainty, we recommend an “intent to treat” approach to future drug court evaluations.
- Medicaid is underutilized as a source of funding for CD treatment in the drug courts.
- Appropriately chosen participants can be graduated substantially earlier than one year with no reduction in favorable outcomes. Outcomes for participants who stay longer than about 15 months, and especially longer than 26 months, become increasingly less favorable, hinting that there may be a length of stay beyond which increments of improvement are minimal.
- Drug court participants appear to be receiving, on average, as much treatment as is useful. There does not appear to be a strong relationship between amount of treatment received and outcomes. It is clear that other factors are as important for outcomes as amount of treatment, and in this context it is likely that there is a level beyond which more treatment does not improve results. That level may be lower than mean levels being provided now (although there may be other reasons for continuing treatment).
- We were not able to examine the relationships among violations, sanctions, and outcomes. The general thinking is that quick and standardized response to violations is the most effective policy. Courts varied in practices on this matter. In those courts lacking it, a more standardized approach might be considered. A study of this issue would be desirable, but would hinge on the availability of data.
- Non-CD services that might be desirable for drug court participants, e.g., mental health counseling and vocational training, are not frequently used. A more aggressive approach to providing these ancillary services might improve retention and graduation rates, and subsequent outcomes. We did not have time to examine for relationships between these kinds of services and outcomes, but this would be a desirable analysis. We also did not have access to evaluations of needs for services for court entrants, but an assessment of the scope of these evaluations and a comparison of these judgements with services received and outcomes would be useful.

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