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From Whether to How Drug Courts Work: Retrospective Evaluation of Drug Courts in Clark County (Las Vegas) and Multnomah County (Portland)

Phase II Report from the National Evaluation of Drug Courts (I)

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ACKNOWLEDGMENTS

The research we have undertaken involved data collection, observation, interview and continuing discussion with a variety of officials and key actors in two of the nation's first and longest operating drug courts. As we have tried to recreate the past and trace the evolutionary steps taken by the growing drug courts into the present, we have had to rely on the cooperation, assistance and patience of quite a number of very busy people.

Las Vegas (Clark County)

In Clark County, the Honorable Jack Lehman welcomed the research and extended the assistance of drug court and court administrative staff. Court Administrator Chuck Short and his staff, Rick Loop and Michael Ware, solved all our logistical problems, providing space, computers, data access, and valuable critical insight. We are grateful to Ken Hoesch, Information Technology System Technician, and Dale Huling, Information Technology Customer Support Specialist, for their help in dealing with computer data access. John Marr, of Choices Unlimited and Marcon Associates, has been our principal contact, source of insight and problem-solver in various phases of data collection. We cannot overstate the value of the assistance John and his staff have provided us in data collection, or of the critical substantive feedback John has provided on an ongoing basis. We appreciate the help that Kendis Stake, Drug Court Manager, has provided in helping with our preliminary efforts to examine the Family and Juvenile Drug Court applications in Las Vegas.

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Portland (Multnomah County)

Our work in Portland was encouraged and welcomed by the Honorable Harl Haas, the original and then returned Drug Court judge, the Honorable Michael Schrunk, Multnomah

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From Whether to How Drug Courts Work: Retrospective Evaluation of Drug Courts in Clark County (Las Vegas) and Multnomah County (Portland)

Phase II Report from the National Evaluation of Drug Courts (I)

I.   Introduction: The Scope of Phase II Research in Clark County, Nevada, and Multnomah County, Oregon

This report presents Phase II findings from the national evaluation of the Portland (Multnomah County) and Las Vegas (Clark County) drug courts funded by the National Institute of Justice. With drug courts established shortly after the nation's first was piloted in Miami in 1989, these court systems have operated two of the longest functioning and most highly recognized drug courts in the United States. The dual site research is presented as two case studies of important drug courts and as an opportunity to illustrate the value of applying a common framework for addressing critical evaluation questions. The research presented in this report is not intended as a comparative study, seeking to compare the Portland and Las Vegas drug courts on various outcomes, though it indeed focuses seriously on the production of outcomes. With upwards of 600 drug courts in existence, comparing outcomes of Court A with those of Court B makes little sense, regardless of their individual significance to the growth of the drug court movement. Instead, the purpose of the research is to ask common questions of two different drug courts in some depth and to test some of the assumptions of the drug court model using the framework of a drug court typology.[1] The scope of the retrospective evaluation conducted in the two pioneering drug court sites was extensive, and involved tracking the implementation and development of the Portland (1991-98) and Las Vegas (1992-98) drug courts from their inception through most of the 1990s.

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[1] For a discussion of the drug court typology organizing this research see the Phase I report (Goldkamp, White, & Robinson, 2000) and Goldkamp (2000).

Phase I findings were described in an earlier report (Goldkamp et al., 2000). That report traced the developmental histories of the two courts, described important milestones in their implementation, discussed their application of the drug court model, and examined one-year outcomes among successive cohorts of participants and comparison group defendants over time. The design of the two-court evaluation strategy, described in detail in the Phase I report, had several key features. First, the research made use of a drug court typology (Goldkamp, 1999b, 2000) as an analytic framework to organize questions and findings according to critical dimensions of the drug court model and to improve the external validity of findings. Second, the research considered the evolution of the innovations in each site from a longitudinal perspective, examining the changing context of the drug courts and factors influencing their effectiveness. The longitudinal approach, involving a retrospective evaluation of the courts from their origins, provided a more comprehensive view of the operation of the drug courts than possible using the more common evaluation design that focuses on the operation of courts during one period of time. Phase I findings emphasized the importance of external factors in influencing the input (orientations and enrollments of participants) and output (treatment results and rates of reoffending) of the two drug courts over time.[2]

Phase II Findings: The Content of This Report

In this report, we extend analysis of the impact of the Clark and Multnomah County Drug Courts beyond the Phase I research in several ways.

- Public Safety and Treatment Outcomes: First, we describe comparative justice and treatment outcomes for drug court participants for one, two, and three years (depending on the time periods sampled). In discussing the findings, we address methodological

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[2] See Goldkamp et al. (2001a), for an analysis of the impact of such factors as changing laws, prosecutorial policy, judicial assignment, etc.

questions relating to sample differences and a priori risk attributes that could influence the findings and their interpretation.

- <u>Drug Court Workload Analysis:</u> In considering "how" drug courts work, Phase II findings also examine the courtroom workload of the two drug courts, analyzing the content of the daily workload and its implications for understanding court impact.

- <u>Selected Aspects of Drug Court Operation:</u> The Phase II report then turns to examination of selected issues or functions critical to assumptions underlying the drug court model. In Portland, for example, we studied the role of the judge in some detail to determine whether a dedicated drug court judge, a non-judge, or many judges in rotation made any difference in results among participants. We also contrasted the impact and outcomes of the drug court with those of an alternative processing option designed by the District Attorney's Office to offer probation to drug defendants (who were also eligible for drug court) in exchange for an early plea and prompt disposition. In Las Vegas, we studied acupuncture as a treatment adjunct in an experiment comparing outcomes with relaxation therapy as part of the treatment regimen. In addition, we examined the use of treatment fees in the Clark County Drug Court because of the emphasis placed on the payment of some of the cost by participants.

- <u>The Geographic Implications of the Downtown Drug Court:</u> In our focus groups of drug court participants (Goldkamp, White, & Robinson, 2001b), it became clear to us that participants in the "downtown" drug courts did not represent a "random" selection of area residents, from a cross-section of all areas within the counties represented. Instead, they resided in a small number of principal neighborhoods that differed considerably in race/ethnicity and in the drug and crime problems they experienced. These geographic

implications of the "downtown" drug court led us to consider the drug court as not only a "court" but also a "community justice" innovation.

- "Spin-Off" Innovation in Las Vegas: In Las Vegas, Portland, and other jurisdictions, the drug court innovation led, directly or indirectly, to other related innovations. As examples of this, we examined the juvenile drug court in Las Vegas and the rural drug court in Laughlin, Nevada, that were direct derivations from the main Clark County Drug Court innovation. In Portland, community courts followed the development of the drug court in the late 1990s. (We do not describe their operation in this report.)

- Conclusion: Moving Beyond "Whether" Drug Courts Work to "How" They Work, When They Work: The Phase II report concludes by considering the implications of findings from Phase I and Phase II of the national drug court evaluations in Las Vegas and Portland for understanding not only whether and to what extent drug courts "work," but how they work, when they do work. A causal model of drug court impact is proposed and tested, which examines the relative influence of key drug court ingredients.

Part One
Productivity II: Participant Outcomes and Service Delivery

II. Assessing the Impact of the Drug Court Innovation in Two Jurisdictions: Do Drug Courts Work?

When, referring to the drug court innovation, public officials ask, "Does it work?,"[3] their question implies a comparison: "Compared to how the justice system was doing without a drug court, is the addition of a drug court an improvement?" Implicitly, the "does-it-work" question involves at least three basic considerations: 1) "it;" 2) "working;" and 3) a comparative analysis. The functional ingredients of the drug court model—the composite "it"—have been sketched out briefly in the earlier report and in other discussions (Goldkamp, 1994, 1995, 1999a, 1999b; Goldkamp et al., 2000; Hora, Schma, & Rosenthal, 1999; Longshore et al., 2001; National Association of Drug Court Professionals, 1997).

However, regarding the second consideration, there are at least two meanings of "working." The first and more common usage simply refers to producing a successful outcome on a certain criterion measure. It is no exaggeration to state that the "yardstick" most commonly employed by many public officials in assessing the potential utility of drug courts is crime reduction, with cost reduction a close second favorite. In short, officials want to know if drug courts reduce crime and save money doing so. Drug court advocates argue that a variety of other outcome measures, such as substance abuse reduction, improved life functioning, and improved skills and health are also essential measures of drug court impact.

The second meaning of "working" has to do with how a drug court operates to produce its effect. It is in this area, that the current research hopes to move evaluation of drug courts in an important new direction. We have adopted the position that this question—"how" the drug court works when it does—is of critical importance to the evaluation of drug courts, as it goes to the core elements of the drug court model that has become so popular. In the conclusion to this

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[3] See, for example, the two reviews published by the General Accounting Office (1995; 1997).

report, therefore, we consider a "causal model" of drug court impact that looks inside the "black box" of drug court treatment and tests assumptions underlying drug courts by applying the causal analysis to the drug courts in Las Vegas and Portland.

Impact as a Comparison

The measurement of the relative impact of drug courts, nevertheless, requires a comparative framework—the third component implicit in the question "Does it work?" In fact, the question is not just "Do drug courts work?," but rather "Do drug courts work better than . . . not having drug courts?" On whichever success criterion one chooses to emphasize (e.g., crime, drug use, or dollars), the drug court must be compared to a non-drug court condition to permit inferences about relative impact. Drug court participants should show better results than some appropriate comparison group not undergoing the drug court treatment process.

The interface between the need for reasonably rigorous methodological designs and the intuitive views of practitioners on research design produce lively discussions of how to frame appropriate comparisons and how to form suitable comparison groups to gauge drug court impact "in the real world." Two of the most common debates between evaluators and practitioners, for example, involve discussions of the feasibility of experimental designs and of the appropriateness of comparing reoffending rates of graduates and non-graduates.

The appeal of problems associated with this last type of comparison—between graduates and non-graduates—is illustrated by findings from the retrospective evaluation of the Multnomah and Clark County Drug Courts in Figures 1 and 2, comparing the one, two, and three-year[4] rearrest rates for graduates and non-graduates (for the entire study periods and on a

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[4] Persons entering drug court in each location were tracked for one, two and, in some cases, three years from the date of drug-court orientation. Note the follow-up period portrayed here does not begin with termination from drug court, but rather from point of entry. As misleading as these current figures are, follow-up from termination (which

year-by-year basis). The findings appear to show a dramatic and consistent drug court crime reduction effect, with drug court graduates generally showing substantially lower rearrest rates over the follow-up periods from entry than non-graduates. As popular as these kinds of analyses may be among advocates seeking to declare the efficacy of drug courts, they are biased in the direction of showing positive results and, as such, are highly misleading. Basically, the much-heralded findings show that the successes succeed and the failures fail—but cannot answer the question of whether the drug court had anything to do with the outcomes.

Figure 1 Multnomah County (Portland): (Any) Rearrests of Drug Court Graduates vs. Non-Graduates over One, Two, and Three Years

Legend:
☐ Three Years (wt. n = 1,309/1,831)
☐ Two Years (wt. n = 1,522/2,543)
■ One Year (wt. n = 89/5,101)
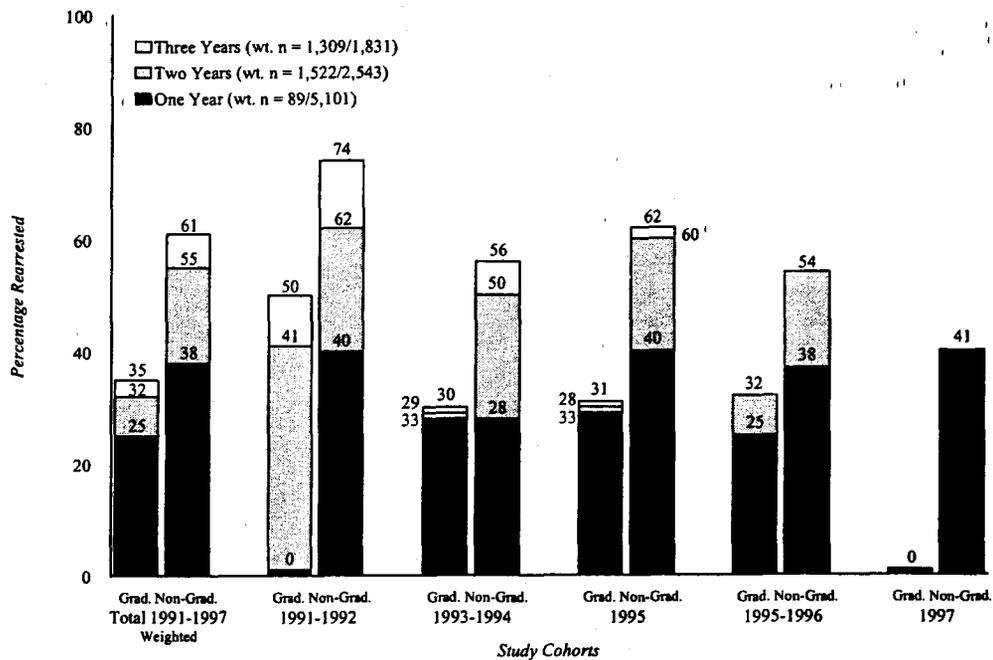
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for non-graduates is when they are expelled from the program for failure and for graduates is after their successful graduation) would provide even more favorable but biased findings of drug court effectiveness.

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Figure 2 Clark County (Las Vegas): (Any) Rearrests of Drug Court Graduates vs. Non-Graduates over One, Two, and Three Years

Legend:
- ☐ Three Years (wt. n = 2,927/1,501)
- ▨ Two Years (wt. n = 1,029/2,024)
- ■ One Year (wt. n = 74/2,955)

Y-axis: Percentage Rearrested (0 to 100)

X-axis (Study Cohorts):
- Grad. Non-Grad. Total 1993-1997 Weighted
- Grad. Non-Grad. 1993 [1-3 yrs.]
- Grad. Non-Grad. 1994 [1-3 yrs.]
- Grad. Non-Grad. 1995 [1-3 yrs.]
- Grad. Non-Grad. 1996 [1-3 yrs.]
- Grad. Non-Grad. 1997 [1-2 yrs.]
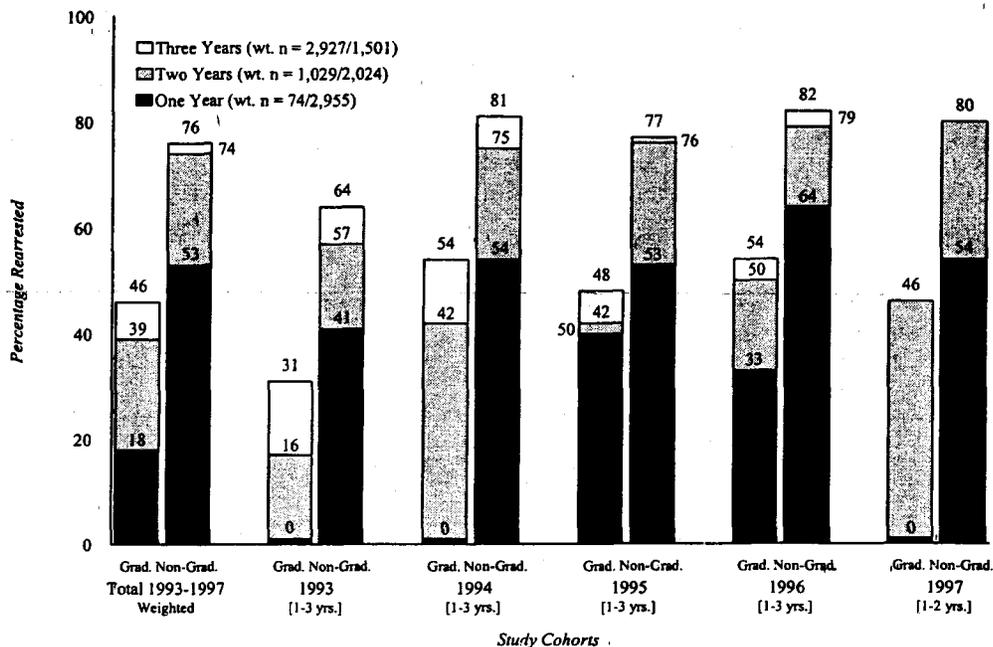
*Significant at p = ≤0.05

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Study Design

A more appropriate analysis would compare, within a given time frame, the outcomes of complete cohorts of drug-involved offenders that enter the treatment process with those of similar cohorts of defendants who do not enter drug court but whose cases instead are processed in the normal fashion. Some participants may have problems that are easier to deal with and are likely to do quite well. Some may have extremely serious problems with histories of doing poorly at almost everything and are likely to have a much more difficult time succeeding. A fair evaluation of drug court impact, however, must consider the relative progress achieved by the entire cohort or "class" of drug court enrollees compared to a representative group of their non-drug court counterparts, rather than rely selectively on the predictably great results of the most able few.

How the comparison of drug court versus non-drug court performance is framed is critical to the interpretation of results and their validity. Often, evaluations have little choice but to employ non-experimental or quasi-experimental designs to frame the comparisons. The social science literature is replete with discussions of the methodological issues associated with the various types of designs, experimental as well as pre-, non-, and quasi-experimental. Retrospective evaluation poses its own problems in constructing an appropriate comparative framework, involving, as it does, a reconstruction of the past. Because experimental designs with random assignment are quite obviously impossible in retrospective evaluation, other next-best comparative approaches must be employed.

The evaluation design, described in detail in the first report of this research (Goldkamp et al., 2000), was constructed to capture the effects of important changes in both drug courts over time (including changes in targeted and enrolled populations) by studying cohorts of defendants and stratifying on the basis of time periods. To ensure that the sampling design was representative of each time period, approximately equal numbers of cases were randomly drawn in each designated time period for the samples of drug court participants as well as samples of comparison groups.

The Multnomah County Drug Court Design: The sampling strategy employed for the evaluation of the Multnomah County Drug Court (STOP program) stratified according to two-year time periods from 1991 to 1997. We randomly sampled 150 drug court participants from each stratum represented by the following periods: 1991-92,[5] 1993-94, 1995-96, and 1997 alone. This resulted in about 75 cases from each individual year, with the exception of 1997, from which we sampled 143 defendants (total n=692).

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[5] The 1991-92 sample was supplemented with an additional random sample of 96 cases upon discovering that treatment records for the earliest participants were lost when the program changed treatment providers after 11 months of operation.

A special feature of the Multnomah County Drug Court study design was to employ two comparison groups of drug defendants for each time period selected at the point of entry into the judicial process shortly after arrest. The two comparison group strategy subdivided non-drug court participants into a) those who did not attend the Defender orientation and who did not attend the petition hearing to enter drug court (total n=401); and b) those who attended the Defender orientation prior to first appearance in drug court as well as the drug court petition hearing (first drug court appearance), but did not enter the drug court process (total n=401). The design employed two comparison groups for greater specificity based on the rationale that the two non-drug court groups were quite different, consisting of those not choosing or not entering court (though attending all required appearances) and those skipping all initial procedures at the outset and also not entering drug court (by design or default).

Though less than ideal, this retrospective sampling strategy (adjusted by the use of post hoc controls in comparative analyses of outcomes) was the only reasonable option available for designating comparison groups in Multnomah County, where all eligible defendants were referred to defender orientation prior to any further criminal processing. For drug court participants and comparison group defendants entering the court process from 1991 through 1994, the criminal justice outcomes follow-up covered one-, two- and three-year periods. For the 1995-96 cases, one- and two-year follow-up periods were employed. For those entering the processing in 1997, the follow-up period was one year.

The Clark County Drug Court Design: Our sampling approach in Clark County, designed to represent cases from 1993 through 1997,[6] was stratified by one-year periods. For each of the years 1993, 1994, 1995, 1996, and 1997, we randomly sampled about 100 drug court participants (total n=499) and 100 comparison group defendants entering the judicial process at

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[6] In the second phase of the research, we sampled from 1998 as well.

the District Court arraignment stage (total n=510). The comparison group defendants were identified from overall entering felony drug cases and included mainly defendants who were not made aware of the drug court option and whose cases were processed in the normal manner. Thus, they were similar to drug court participants who entered the process and who did pursue the drug court path. (In Las Vegas, the courts did not employ a central screening process that would have allowed us to distinguish among types of non-enrollees as we did in Portland.) The Las Vegas design incorporated one-, two-, and three-year follow-up periods marked from the point of entry in the judicial process (not from date of termination from the program) for 1993, 1994, 1995, and 1996 defendants, and one- and two-year follow-up periods for 1997 defendants.

III.   Recidivism among Drug Court Participants One, Two, and Three Years after Entry

A basic assumption of the drug court model is that, compared with essentially similar drug offenders, drug court participants should reoffend less often and take longer to reoffend when they do from the time of entry into the program through subsequent follow-up periods.

Measuring Reoffending as Rearrest

For the purposes of this study, reoffending among drug defendants was measured by rearrest for any new offense (excluding bench warrants) during the applicable one-, two-, or three-year follow-up period.   Although rearrest is the best available practical measure for assessing the impact of the drug court on reoffending, its limitations should be kept in mind. Rearrest is in some respects an undercount: it only measures instances in which crime has been observed by or reported to the police, resulting in an arrest, and does not take into account other crimes committed by study participants that may not have come to the attention of police. In addition, all persons arrested have not necessarily committed crimes or, at least, the crimes for which they have been arrested. Arrests are also influenced by patterns of police deployment; all areas where potential offenders reside may not be equally patrolled and, thus, may have different probabilities of producing arrests. These limitations aside, rearrest is a reasonable, practical, and available measure of reinvolvement in the criminal justice system and of public safety.

Rearrest among Multnomah County Drug Court and Non-Drug Court Defendants over One, Two and Three Years

Figure 3 compares rearrest percentages of drug court and comparison group defendants in Portland over one, two, and three years. The figure suggests that overall (left-most columns in Figure 3), drug court participants were rearrested (for any offense at all) notably less often than their non-drug court counterparts. The largest difference is found one year from drug court entry (37 percent of drug court participants compared to 53 and 50 percent of the two non-drug court

comparison groups).[7] Although the differences were smaller, proportionately fewer drug court participants were rearrested over two and three years as well when all years are considered together (1991-97).

Figure 3 Multnomah County (Portland): (Any) Rearrests of Drug Court Participants and Comparison Group Defendants over One, Two, and Three Years

□ Three Years (n = 3,140/796/457)
□ Two Years (n = 4,065/605/561)
■ One Year (n = 5,100/796/680)

Percentage Rearrested

Study Cohorts
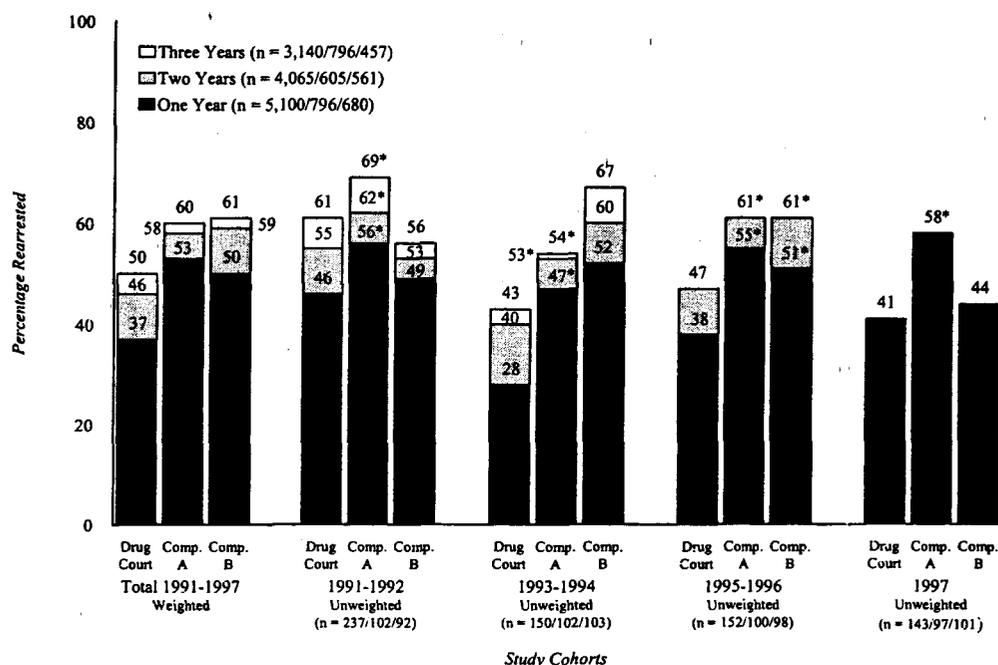
*Significant at p = ≤0.05

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When the defendant cohorts are examined separately, the differences between drug court and comparison group rearrest rates varied by time period. Using the one-year observation period as a measure, drug court participants were rearrested less frequently than Comparison Group A drug defendants (those failing to attend first drug court appearance) in each time period studied (1991-92, 1993-94, 1995-96 and 1997).[8] The rate of rearrest during the first year among drug court participants was significantly lower than the rate among Comparison Group B defendants (those who attended a first drug court session but did not enter treatment) only in the

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[7] Cohorts from all time periods were measured over one year, cohorts entering the system from 1991 through 1996 were followed for two years, and cohorts from 1991 through 1994 were measured for a three-year follow-up.
[8] In each case the chi square statistics were significant at .05 or less.

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1993-94 and 1995-96 cohorts. They were not significantly better than Comparison Group B defendants during the 1991-92 and 1997 cohorts.

These variations maintain for the two-year follow-up period (through 1996 cohorts only) and the three-year follow-up period (through 1994 cohorts only). Table 1 shows one-, two- and three-year comparisons in more detail, describing rearrests for any offense, drug offenses, and non-drug offenses. The comparatively lower rates of rearrest among drug court participants are maintained and increased when only rearrests for drug offenses are considered and are somewhat more mixed when only non-drug offenses are considered. Overall, however, these findings suggest a positive impact of the Multnomah County Drug Court on rates of reoffending among participants when compared to non-drug court counterparts.

Table 1 Any, Drug, and Non-Drug Rearrests among Drug Court Participants and Comparison Group Defendants in Multnomah County, Oregon, during One-, Two-, and Three-Year Follow-up Periods

Drug Court: Any Rearrest

	1 Year	2 Year	3 Year
1991-1997	37.4	(9.0)-46.4	(3.5)-49.9
1991-1992	46.0	(8.9)-54.9	(5.9)-60.8
1993-1994	28.0	(12.0)-40.0	(3.3)-43.3
1995-1996	38.2	(8.8)-47.0	-
1997	40.6	-	-

Comparison A: Any Rearrest

	1 Year	2 Year	3 Year
1991-1997	53.3	(4.5)-57.8	(2.3)-60.1
1991-1992	55.9	(5.9)-61.8	(6.8)-68.6
1993-1994	47.1	(5.8)-52.9	(1.0)-53.9
1995-1996	55.0	(6.0)-61.0	-
1997	57.7	-	-

Comparison B: Any Rearrest

	1 Year	2 Year	3 Year
1991-1997	50.7	(9.2)-59.0	(1.3)-60.3
1991-1992	48.9	(4.4)-53.3	(3.2)-56.5
1993-1994	52.4	(7.8)-60.2	(6.8)-67.0
1995-1996	51.0	(10.2)-61.2	-
1997	43.6	-	-

Drug Court: Drug Rearrest

	1 Year	2 Year	3 Year
1991-1997	22.3	(5.7)-28.0	(2.3)-30.3
1991-1992	30.4	(5.5)-35.9	(3.3)-39.2
1993-1994	15.3	(6.0)-21.3	(4.7)-26.0
1995-1996	23.0	(6.1)-29.1	-
1997	23.1	-	-

Comparison A: Drug Rearrest

	1 Year	2 Year	3 Year
1991-1997	37.2	(5.8)-43.0	(4.3)-47.3
1991-1992	47.1	(4.9)-52.0	(5.8)-57.8
1993-1994	33.3	(5.9)-39.2	(1.0)-40.2
1995-1996	36.0	(7.0)-43.0	-
1997	38.1	-	-

Comparison B: Drug Rearrest

	1 Year	2 Year	3 Year
1991-1997	32.5	(6.8)-39.7	(0.7)-40.4
1991-1992	41.3	(1.1)-42.4	(1.1)-43.5
1993-1994	33.0	(2.9)-35.9	(4.9)-40.8
1995-1996	29.6	(13.3)-42.9	-
1997	29.7	-	-

Drug Court: Non-Drug Rearrest

	1 Year	2 Year	3 Year
1991-1997	26.8	(6.9)-33.6	(4.3)-37.9
1991-1992	32.5	(5.5)-38.0	(5.9)-43.9
1993-1994	20.0	(9.3)-29.3	(2.7)-32.0
1995-1996	27.6	(6.8)-34.4	-
1997	28.7	-	-

Comparison A: Non-Drug Rearrest

	1 Year	2 Year	3 Year
1991-1997	36.7	(0.0)-36.1	(1.5)-37.6
1991-1992	28.4	(6.9)-35.3	(7.8)-43.1
1993-1994	32.4	(0.9)-33.3	(2.0)-35.3
1995-1996	34.0	(5.0)-39.0	-
1997	50.5	-	-

Comparison B: Non-Drug Rearrest

	1 Year	2 Year	3 Year
1991-1997	34.5	(7.4)-42.3	(2.9)-45.2
1991-1992	28.3	(7.6)-35.9	(3.2)-39.1
1993-1994	36.9	(5.8)-42.7	(9.7)-52.4
1995-1996	36.7	(9.2)-45.9	-
1997	34.7	-	-

Rearrest among Clark County Drug Court Participants and Non-Drug Court Defendants over One, Two, and Three Years

Figure 4 summarizes the same findings from the study of the Clark County Drug Court. Again, positive impact (reduced reoffending) is found in the study overall, but with notable variations from year to year. When all years are considered together (1993 through 1997), drug court participants recorded lower rates of rearrest for any offense at one, two, and three years from the point of entry into the drug court, compared to a similar, contemporaneous comparison group of drug defendants who did not enter drug court. At one year, 52 percent of drug court participants compared to 65 percent of comparison group defendants were rearrested; at two years, 62 percent of drug court participants versus 74 percent of comparison group defendants were rearrested; at three years, 65 percent of drug court participants versus 79 percent of comparison group defendants were rearrested.[9]

Figure 4 Clark County (Las Vegas): (Any) Rearrest of Drug Court Participants and Comparison Group over One, Two, and Three Years

*Significant at p = ≤0.05
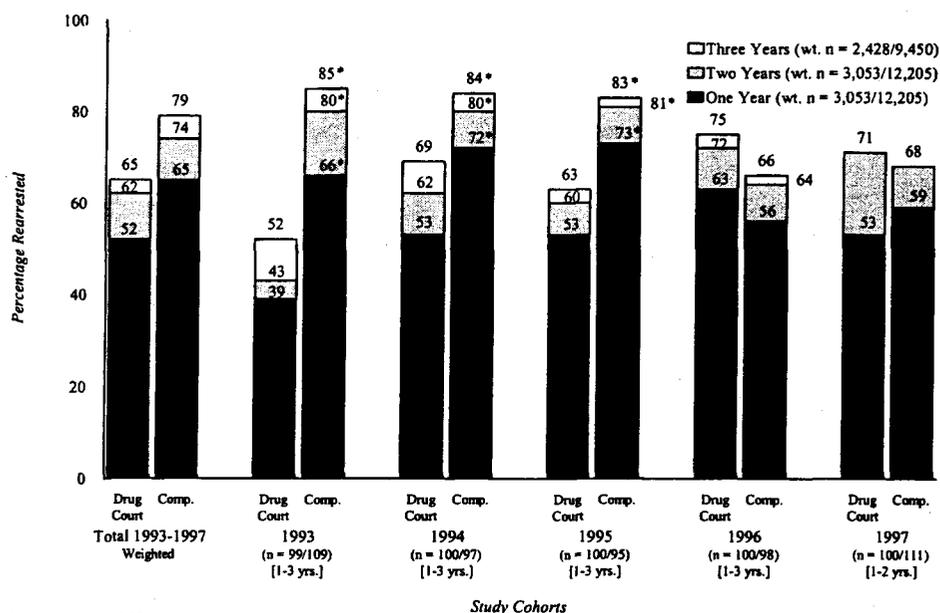
Study Cohorts

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[9] Note that in the Las Vegas study, one and two-year follow-ups were conducted for all cohorts (1993-97), and three-year follow-ups were conducted for cohorts from 1993 through 1996.

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When the yearly cohort-specific findings are considered, the variation by year reveals the same pattern noted in the Phase I report which dealt only with one-year findings. Differences in rearrest between drug court participants and comparison group defendants were large through 1995, measured at one-, two- and three-year observation periods. However, beginning in the 1996 cohort, drug court participants were rearrested more often than their comparison group counterparts (at each follow-up interval). For example, 75 percent of drug court participants entering in 1996 compared to 66 percent of comparison group defendants were rearrested within three years, measured from the date of entry into the drug court. In 1997, the one- and two-year rearrest rates started shifting back in the favorable direction. At one year, drug court participants (53 percent) were rearrested slightly less frequently than non-drug court comparison defendants (59 percent). At the two-year observation mark, a slightly greater proportion of the 1997 drug court participants (71 percent) than non-drug court defendants (68 percent) were rearrested. (Both differences were not statistically significant, however.) Among 1998 drug defendants (not shown), the difference in rearrest rates between drug court participants and non-participants was not significant.

These findings are presented in more detail in Table 2. That table shows a consistent and pronounced difference favoring drug court participants when only drug rearrests are considered during all years and for all follow-up periods. Results for rearrests involving non-drug offenses are much more mixed when drug court and comparison group cohorts are contrasted in Las Vegas, however. For non-drug offenses, drug court participants produce clearly lower rearrest rates only in the first study year cohort (consisting of defendants entering the court system in 1993).

Table 2 Any, Drug, and Non-Drug Rearrest among Drug Court Participants and Comparison Group Defendants in Clark County, Nevada, during One-, Two-, and Three-Year Follow-up Periods

Drug Court: Any Rearrest

	1 Year	2 Year	3 Year
1993-97	52.5	(10.4)-62.9	(2.2)-65.1
1993	39.4	(6.1)-45.5	(6.0)-51.5
1994	53.0	(9.0)-64.0	(6.0)-70.0
1995	53.0	(8.0)-61.0	(2.0)-63.0
1996	63.0	(9.0)-72.0	(3.0)-75.0
1997	53.0	(18.0)-71.0	-
1996	53.0	-	-

Comparison Group: Any Rearrest

	1 Year	2 Year	3 Year
1993-97	64.9	(9.6)-74.5	(4.9)-79.4
1993	66.1	(13.7)-79.8	(5.5)-85.3
1994	72.2	(8.2)-80.4	(3.1)-83.5
1995	72.6	(8.5)-81.1	(2.1)-83.2
1996	56.1	(8.2)-64.3	(2.0)-66.3
1997	58.6	(9.9)-68.5	-
1996	51.0	-	-

Drug Court: Drug Rearrest

	1 Year	2 Year	3 Year
1993-97	26.0	(6.1)-32.1	(5.6)-37.7
1993	22.2	(2.0)-24.2	(4.1)-28.3
1994	23.0	(5.0)-28.0	(11.0)-39.0
1995	26.0	(3.0)-29.0	(8.0)-37.0
1996	34.0	(8.0)-42.0	(4.0)-46.0
1997	24.0	(12.0)-36.0	-
1996	24.2	-	-

Comparison Group: Drug Rearrest

	1 Year	2 Year	3 Year
1993-97	51.6	(8.4)-60.0	(5.5)-65.5
1993	51.4	(12.8)-64.2	(3.7)-67.9
1994	64.9	(5.2)-70.1	(2.1)-72.2
1995	56.8	(6.4)-63.2	(6.3)-69.5
1996	44.9	(7.1)-52.0	(1.1)-53.1
1997	41.4	(10.9)-52.3	-
1996	31.0	-	-

Drug Court: Non-Drug Rearrest

	1 Year	2 Year	3 Year
1993-97	41.0	(12.1)-53.1	(4.9)-48.0
1993	29.3	(9.1)-38.4	(9.1)-47.5
1994	41.0	(11.0)-52.0	(11.0)-63.0
1995	43.0	(11.0)-54.0	(1.0)-55.0
1996	46.0	(13.0)-59.0	(7.0)-66.0
1997	45.0	(16.0)-61.0	-
1996	43.4	-	-

Comparison Group: Non-Drug Rearrest

	1 Year	2 Year	3 Year
1993-97	44.3	(9.9)-54.2	(7.1)-61.3
1993	48.6	(9.2)-57.8	(9.2)-67.0
1994	44.3	(8.3)-52.6	(9.3)-61.9
1995	48.4	(11.6)-60.0	(4.2)-64.2
1996	41.8	(8.2)-50.0	(3.1)-53.1
1997	39.6	(11.8)-51.4	-
1996	41.0	-	-

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Implications of Comparative Public Safety Outcomes

On a general level, the findings from both of the drug court jurisdictions studied are supportive of the view that drug courts fulfill their promise as a crime control tool. However, as we found in preliminary analyses of the data from the two sites in the Phase I report, the impact of the drug courts, at least as measured through rearrests of its participants, varies over time (by program year), type of rearrest offense, and length of follow-up period.

The fact that the two drug courts showed variations in their impact from year to year—an important finding only possible through use of a longitudinal study design—raises questions about factors that may account for the fluctuations in effectiveness we have noted. We have conceived of several possible explanations for these varying outcomes. They could be accounted for by: a) changes in the contexts or environments within which the drug courts operate; b) changes in the relative impact of particular operational elements of the drug courts; or c) aspects of the research design or analytic method.

This research has considered each of these possibilities. In the first report, we examined the impact of a variety of outside or contextual factors on the operation of the courts (input and output measures) over time (Goldkamp et al., 2000; Goldkamp, White et al., 2001a). We found, for example, that in Las Vegas the shift in prosecutorial philosophy from diversion to conviction-based entry into the drug court may have explained the differences noted beginning in 1996. In Portland, we found that the shift away from assignment of a single drug court judge to rotation of many judges and to non-judges may have had an impact on outcomes. Internal factors as well as external factors may have accounted for some of the outcomes we noted. For example, internally, the drug courts functioned differently over time or were addressing different target populations. Later in this report (Section XII), we consider aspects of drug court operation that

may have changed over time as explanations for the variation in drug court outcomes. In this section, we consider the possibility that the findings of notable differences in rearrest between drug court participants and comparison group defendants could be viewed as artifacts of design or of other methodological considerations.

Controlling for Sample Differences

One of the major challenges in carrying out a retrospective evaluation of the two drug courts over time is the development of an appropriate comparative framework. In a prospective or ongoing evaluation, an experimental design is preferred because it produces the "best" (most similar) comparisons groups and addresses most questions of internal validity. However, because a "retrospective experiment" is logically impossible (an experiment is by definition a prospective rather than retrospective exercise), comparison groups that are suitable must be identified, but they are likely to offer less than "identical" comparisons against which the progress of the drug court groups can be gauged. We considered matching samples of non-drug court defendants to drug court participants in each site for each of the successive study periods. However, we were limited in the type of information available that would be useful or appropriate for matching.

Ordinarily, we would assume that by randomly sampling both participants and non-participants during each time period, we would be capturing changes in the drug defendant population that would be equally reflected in each group of defendants. In fact, when Multnomah County Drug Court participants are contrasted with (undifferentiated) comparison group defendants (combining those who failed to attend the initial drug court process and those who did but did not enroll), the rearrest rates appear generally lower among drug court participants overall and during most of the time periods studied (for any type of rearrest and for

drug rearrest, at least). (See Figure 5.) Note, however, that the evaluation design employed for the Portland study intentionally opted to distinguish the two subgroups of non-participants (non-attendees and non-enrollees) based on a belief that the two subgroups were different in character and that "lumping" them together as "non-participants" would produce aggregate results that would mask the underlying group differences.[10] In other words, it would produce a single comparison group representing a mix of "apples and oranges" (a fruit salad) to contrast with drug court participants (oranges?).

Figure 5 Two-Year Criminal Justice Outcomes for Drug Court Participants and Combined Comparison Groups, Multnomah County, 1991 - 1996
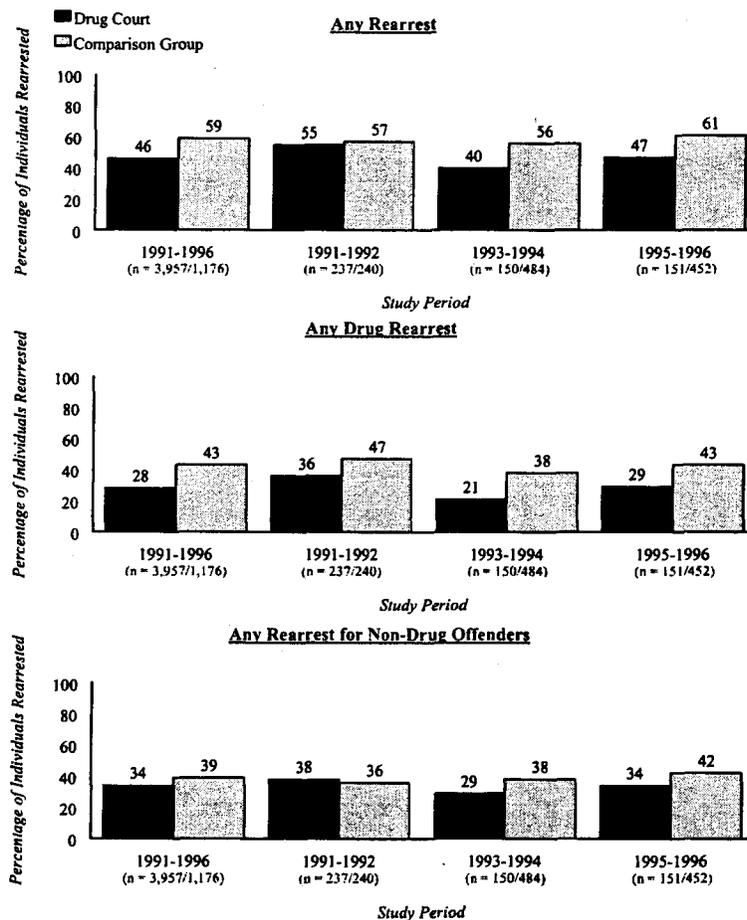
[Note: Overall totals reflect weighted data.]

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[10] See earlier discussion of sampling design and rationale for having two comparison groups in Portland.

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To examine the possibility that the findings could be explained by differences or changes in the comparison samples over time, rather than the impact of the drug courts, the analysis contrasted the successive paired samples (comparison and drug court) over time on basic descriptive attributes. Tables 3 and 4 show the results of such an analysis for the two jurisdictions.

A number of key differences were identified when drug court and non-drug court samples were contrasted in Las Vegas. Depending on the year, Las Vegas samples differed on one or more of the following attributes: defendant gender, presence of an alias, having a telephone, current charges (drug or theft), whether defendants pled guilty, prior drug arrests, prior convictions of various types and prior failures-to-appear in court. The Portland samples differed on one or more of the following attributes: age, race (white/non-white), having a phone, pending arrest charge, prior arrests of various types, prior convictions of various types, and prior failures to appear in court. In short, the drug court and comparison samples did differ in each location. The attributes on which they differed varied by site and year.

Given possible differences in the samples that could explain the differences in rearrests reported above, the question for analysis of rearrest outcomes became the following: Were the differences in rearrest rates favoring the drug court because of a "drug court effect," or were they an artifact of sample differences? To address this question, we carried out a multivariate analysis (logistic regression) to determine whether the sample indicator (drug court versus non-drug court) was a significant predictor of rearrest, once identified sample differences were taken into account (controlled). If the analyses show that, having controlled for these sample differences, drug court versus comparison group status still makes a significant contribution to the modeling of rearrest, we would conclude that a "real" drug court difference was found. If the controls

render drug court status non-significant, we would not be able to claim a significant drug court effect.

Table 3 Selected Bivariate Differences among Clark County Drug Court Participants and Comparison Group Defendants, 1993-1997

Selected Attributes	Drug Court Total		Comparison Total	
	(n)	Percent	(n)	Percent
Demographics				
Alias				
Total	3,053	100.0	12,205	100.0
Yes	1,608	52.7	7,135	58.5
No	1,445	47.3	5,070	41.5
Gender				
Total	3,053	100.0	12,205	100.0
Male	2,053	67.2	9,590	78.6
Female	1,000	32.8	2,615	21.4
Current Case				
Drug Charges				
Total	2,872	100.0	12,205	100.0
Yes	2,365	82.3	12,055	98.8
No	507	17.7	150	1.2
Felony Theft/RSP Charges				
Total	2,871	100.0	12,205	100.0
Yes	335	11.7	370	3.0
No	2,536	88.3	11,835	97.0
Did Defendant Plead Guilty?				
Total	3,053	100.0	12,205	100.0
No	2,092	68.5	7,390	60.5
Yes	961	31.5	4,815	39.5
Prior Criminal History				
Number of Prior Drug Arrests				
Total	3,053	100.0	12,205	100.0
None	1,760	57.6	6,465	53.0
One	430	14.1	1,700	13.9
Two or more	863	28.3	4,040	33.1
Prior Felony Arrests				
Total	3,053	100.0	12,205	100.0
None	1,393	45.6	6,015	49.3
One	438	14.3	1,685	13.8
Two or more	1,222	40.1	4,505	36.9
Number of Prior Serious Person Convictions				
Total	3,053	100.0	12,205	100.0
None	2,733	89.5	10,740	88.0
One	172	5.6	590	4.8
Two or more	148	4.9	875	7.2
Number of Prior FTAs				
Total	3,053	100.0	12,205	100.0
None	1,845	60.4	8,295	68.0
One	496	16.3	1,445	11.8
Two or more	712	23.3	2,465	20.2

Table 4 Selected Bivariate Differences among Multnomah County Drug Court Participants and Comparison Group Defendants, 1991-1997

Selected Attributes	Drug Court Total* (n)	Drug Court Total* Percent	Comparison A Total* (n)	Comparison A Total* Percent	Comparison B Total* (n)	Comparison B Total* Percent
Demographics						
Race						
Total	5,145	100.0	796	100.0	689	100.0
African-American	1,307	25.4	145	18.2	156	22.6
White	3,286	63.9	339	42.6	411	59.7
Hispanic	388	7.5	284	35.7	94	13.6
Other	164	3.2	27	3.5	28	4.2
Age						
Total	5,145	100.0	796	100.0	689	100.0
<18	3	0.1	2	0.3	0	0.0
18-25	1,180	22.9	278	35.0	165	23.9
26-30	1,009	19.6	165	20.7	134	19.4
31-40	2,000	38.9	295	37.1	263	38.2
>40	952	18.5	55	6.9	127	18.5
Median Age	33.0		29.0		32.0	
Current Case						
Gain Pretrial Release?						
Total	4,977	100.0	796	100.0	689	100.0
No	0	0.0	0	0.0	4	0.6
Yes, at bail hearing	3,457	69.5	276	34.6	316	45.8
Yes, from pretrial detention	1,519	30.5	520	65.4	369	53.6
Prior Criminal History						
Number of Prior Arrests						
Total	5,131	100.0	796	100.0	689	100.0
None	2,319	45.2	355	44.6	253	36.7
One	869	16.9	120	15.1	111	16.0
Two or more	1,942	37.8	321	40.2	326	47.3
Number of Pending Arrests						
Total	5,131	100.0	796	100.0	689	100.0
None	4,701	91.6	642	80.8	548	79.5
One	284	5.5	116	14.5	107	15.6
Two or more	146	2.9	38	4.7	34	4.9
Number of Prior Drug Arrests						
Total	5,131	100.0	796	100.0	689	100.0
None	3,873	75.5	513	64.5	427	62.0
One	643	12.5	146	18.4	115	16.6
Two or more	615	12.0	137	17.1	147	21.4
Number of Prior FTAs						
Total	4,956	100.0	796	100.0	689	100.0
None	4,038	81.5	587	73.8	519	75.3
One	379	7.6	84	10.6	67	9.7
Two or more	539	10.9	125	15.6	103	15.0

Controlling for Sample Differences in the Clark County Analysis

Tables A1 and A2 summarize the results of logit analysis for the unweighted[11] combined data for the Clark County Drug Court for all years and for each year separately.

Rearrest (Any Offense):

- When these controls for sample differences are exercised, the one-year rearrest rates (for any type of offense) for drug court participants were found to be significantly lower than the comparison group drug defendants overall (1993-97) and for the separate 1994 and 1995 cohort comparisons.

- Drug court participants did not show significantly lower one-year rearrest rates in 1993, 1996, and 1997.[12]

- When the rates of rearrest during the two-year observation period were examined, drug court participants showed significantly lower rates overall (1993-97) and in the 1993 and 1994 cohorts, but not during subsequent cohorts (1995, 1996, 1997).

Rearrest (Drug Offense):

- When only rearrests for drug offenses during the first year were considered with control for sample differences, Clark County Drug Court participants showed significantly lower rearrest rates overall (1993-97) and during 1994 only.

- When the analysis is extended to encompass the two-year observation period, drug court participants showed significantly lower rearrest rates for drug offenses overall and in the 1993, 1994, and 1995 cohorts, but not during the 1996 and 1997 study

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[11] This analysis employs unweighted data to consider differences between drug court and non-drug court participants because the aim is not to produce overall estimates of rearrests from sample groups.

[12] It is more likely that rearrest differences will be found significant in the overall (all-year combined unweighted) comparisons than in the year to year comparisons because of sample size.

groups. Thus, in this instance, drug court participants fared better during a longer follow-up period.

Rearrest (Non-Drug):

- When non-drug rearrests during year one were considered, drug court participants showed significantly lower rates in the overall unweighted combined total (1993-97), but in no single year's cohort comparison. When the non-drug rearrest analysis is extended to two years, the overall difference in rearrest between drug court participants and comparison group defendants after controls was not significant. The difference in rate of rearrest for non-drug offenses during the two-year period was only significant in the 1993 cohorts.

The Implications of Sample Difference Findings in the Clark County Drug Court Study

These findings suggest that the lower rearrest rates in the first years of the Clark County Drug Court appeared to be a product of the drug court's impact on defendant performance during one and two-year follow-up periods, and were not explained by sample differences. Did the Clark County Drug Court become less effective beginning in 1996? In Phase I and in the bivariate figures presented above (see Figure 4 and Table 2), the findings suggested a change in the impact of the Clark County Drug Court beginning at around that time. In analysis of contextual factors in our Phase I report (and in Goldkamp, White et al., 2001a), we concluded that the shift in prosecutorial policy governing admission to the drug court at that time (shifting from a diversion to a required conviction approach) coincided with the changes in the nature of the enrollees, the timing of the intervention of the drug court, and the nature of the incentives associated with successful participation in drug court (e.g., convictions on reduced charges versus dismissed charges and no conviction record). In short, some significant changes were

affecting the operation of the drug court beginning around 1996 and these may account for the findings of a drop in effectiveness beginning in 1996.

In discussions of the findings in the site, Las Vegas officials questioned whether the increased drug court rearrest rates relative to comparison groups beginning in 1996 was the result of changes in drug court effectiveness (leading to poorer participant performance) or might instead be explained by differences in the composition of the sample groups being compared. They asked whether the worsening drug court rearrest rates could be explained by the fact that the samples of drug court participants, which consisted increasingly of convicted drug offenders beginning in 1996, were "less similar" in the later years to comparison group defendants than in the earlier years. During the earlier years, drug court participants were more often unconvicted defendants who were seeking diversion. Because the researchers could not have known of the nature of this shift in the make-up of the drug court participants until conducting the study (which revealed the shift), it was not possible to adjust the sampling design in advance, for example, to create matched comparison groups that would mirror the changing composition of the drug court enrollees.

The problem raised by the court officials was that, if the samples of drug court participants increasingly included greater proportions of convicted persons than previously, while comparison group samples continued to include a mix of arrestees (some of whom would be found guilty and some of whom would have their charges dismissed), the higher rearrest rates in 1996 and 1997 could be explained by an increased probability of reoffending associated with these drug court samples.

The comparative analysis of rearrests (drug court participants vs. non-participants) described above suggests that the apparent differences (favorable and unfavorable) in those later

years were indeed explained by differences in the make-up of the samples rather than changes in drug court impact per se. When controlling for sample differences, then, this analysis supports the interpretation that the shift to "worse" outcomes may be explained by the changes in the *a priori* attributes of drug court participants over time, relative to those of comparison group defendants (whose attributes did not change). The poorer rates did not appear to be explained by a change in the effectiveness of drug court operation. (We will examine the question of the *a priori* risk attributes of participants further below under, "The Role of Risk in Explaining Comparative Outcomes.") At the same time, the findings also suggest that, even after taking sample differences into account, the record of rearrests associated with drug court participants did not differ from that of comparison group defendants beginning in 1996: drug court participant performance was not worse, but it was also not better than the non-drug court comparison group defendants. This no-difference finding for these years does appear to represent a diminution of the drug court effect on participant performance.

Controlling for Sample Differences in the Portland Analyses

Tables A3 and A4 summarize the results of the comparative rearrest analysis in the study of the Multnomah County Drug Court, controlling for sample differences, type of rearrest offense, and length of follow-up period. (Recall that the research employed a two comparison-group design, contrasting drug court participants with a) persons who neither attended the first drug court appearance nor entered drug court, and b) those who attended the first drug court appearance and did not enroll.)

Rearrest (Any Offense):

- When analysis of rearrest rates for any type of offense during the first year controlled for sample differences, drug court participants did not show a lower rearrest rate

overall (1991-97); they showed significantly lower rates only in 1993-94 sample cohorts. (This was only when contrasting the rearrests of drug court participants with rearrests for Comparison Group B, defendants who attended the first drug court session but did not enroll.)

- In all other years, the analyses controlling for sample differences did not result in significantly different one-year rearrest rates between drug court and comparison group defendants (for either comparison group).

- The analysis of comparative rearrest rates between drug court participants and comparison group defendants over a two-year period with controls for sample differences revealed no year in which the differences were significant.'

Rearrests (Drug Offenses):

- When rearrests for drug offenses were considered with controls, drug court participants showed significantly lower rates only in the 1993-94 period for one year and in 1995-96 for two years, both when contrasted with Comparison Group B defendants.

Rearrests (Non-Drug Offenses):

- During a one-year follow-up, the results were the same when rearrest for non-drug offenses were examined (1993-94, for Comparison B only). There were no significant differences for non-drug offenses during a two-year follow-up.

The Implications of Sample Difference Findings in the Multnomah County Drug Court Study

When the Multnomah County rearrest analyses exercised controls for sample differences, the rearrest rates for any offense for drug court participants were significantly lower in the 1993-94 cohort only (when contrasted with Comparison Group B defendants). Rates were significantly lower for drug rearrests (when drug court participants were compared with Comparison Group B defendants) in the 1993-94 (one-year) and 1995-96 (two-year) cohorts. Drug court participants recorded significantly lower rates of non-drug arrests in 1993-94 only (one-year, with Comparison B).

These results suggest two important implications. First, even with controls for sample differences, a favorable drug court effect was found in both jurisdictions. Second, in neither jurisdiction was the effect consistent across study cohorts; rather, the effect appeared to vary by year. This analysis specifically addressed the issue raised by the Las Vegas officials, when they questioned whether the diminution (lack) of a drug court effect beginning in 1996 could be explained by sample composition disparities. When all such differences were controlled (including whether or not the defendant pled guilty), the general finding of a reduced effect was not changed. (In the 1996 and 1997 cohorts, drug court participants did not show a significantly lower rate of rearrest when compared to comparison group defendants.)

Controlling for Risk and Sample Differences

The principal aim in taking into account sample differences is not just to "equalize" treatment and comparison groups so that they are similar, but more importantly, to control for sample differences (or independent variables) related to the outcomes of interest—e.g., reoffending. (In effect, if samples differed on attributes that had no empirical relation to reoffending, they would not pose issues for interpretation of differences in the rates of rearrest

between drug court participants and comparison groups.) Tables A5 through A8 summarize analyses (similar to those described above relating to sample differences) to control more specifically for risk attributes (sample differences on attributes related to risk of reoffending). These analyses ask whether after not only taking into consideration sample differences but also risk attributes, differences between drug court participants and their comparison group counterparts are significant.

The analyses first modeled rearrest among defendant groups using any or all appropriate predictors at the bivariate level. All defendant attributes (demographic, case, prior history, other) exhibiting bivariate relations with significant chi-square statistics at .05 or less were considered candidates for predictor variables in multivariate (logit) analysis. The analysis was carried out for each year separately and for the combined (unweighted) all-year data in each site. Comparison group and drug court defendants were combined in a predictive analysis that sought to identify a small number of predictive attributes that, when taken together, offer a reasonable prediction of (model well) rearrest within the first year and by the end of the second year. Again, rearrest (any type), rearrest for drug, and rearrest for non-drug offenses were employed as the criterion or outcome being predicted. Although the predictors of rearrest varied slightly depending on the analysis (i.e., by year, overall), the following were entered as risk-related control variables:

- Portland: Age (25 or over), ethnicity (non-Hispanic, Hispanic), race (non-white, white), having an alias (no, yes), having a phone (no, yes), detained after first appearance in sample case (no, yes), prior arrests within three years (no, yes), pending charge (no, yes), prior drug arrest (no, yes), prior drug sales arrest (no, yes), prior conviction for serious person crime (no, yes), prior drug possession conviction (no, yes), prior drug sales

conviction (no, yes), prior failures to appear in court (no, yes), and prior failures to appear in last three years (no/yes).

- Las Vegas: Race (non-white, white), gender (female, male), having an alias (no, yes), having a phone (no, yes), most serious current charge,[13] current theft charge (no, yes), current drug charge (no, yes), pled guilty (no, yes), prior arrests within three years (no, yes), prior drug arrests (no, yes), prior conviction for serious person crime (no, yes), prior drug conviction (no, yes), prior drug sales conviction (no, yes), prior felony convictions (no, yes), prior failures to appear in court (no, yes).

Figures 6 and 7 illustrate the differences in risk attributes between drug court and comparison group defendants over time using a risk classification derived from modeling rearrest for all defendants in each location and applying the classification to each group in each year. Figure 6 shows that the risk classification of drug court versus non-drug court defendants in Clark County overall (combined 1993-97) was quite similar. For example, 44 percent of the drug court sample defendants were "highest risk" (in the group with the greatest probability of rearrest in one year) compared to 48 percent of the comparison group defendants. Slightly over 30 percent of each group was "lowest risk."

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[13] Most serious current charge includes: possession of controlled substance, under the influence of controlled substance, possession with intent to sell, trafficking/sale of controlled substance, burglary, robbery, larceny/theft, and other.

Figure 6 Risk Level of Drug Court Participants and Comparison Group Defendants in Clark County, Nevada, 1993 - 1998, by Year
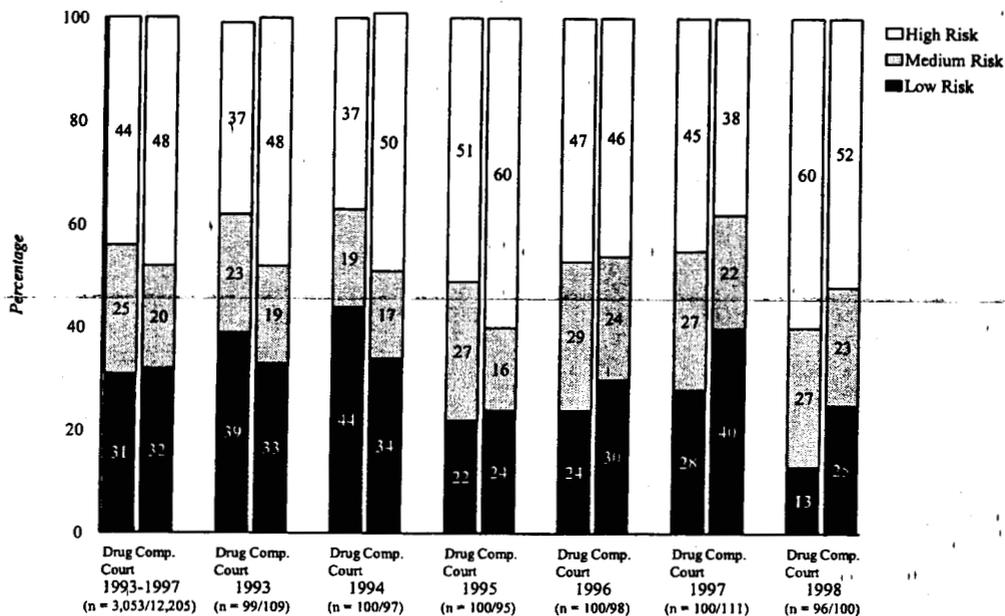
Study Cohorts

[Note: Risk level is calculated for any rearrest within one year observation period. Base rate for Drug Court participants is 53 percent; 65 percent for Comparison Group. Risk attributes are race (non-white, +), having an alias (+), having recent prior arrests (+), and having prior FTAs (+).]

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Figure 7 Risk Level (for Rearrest within One Year) of Drug Court Participants and Comparison Group Defendants in Multnomah County, Oregon, 1991 - 1997, by Year
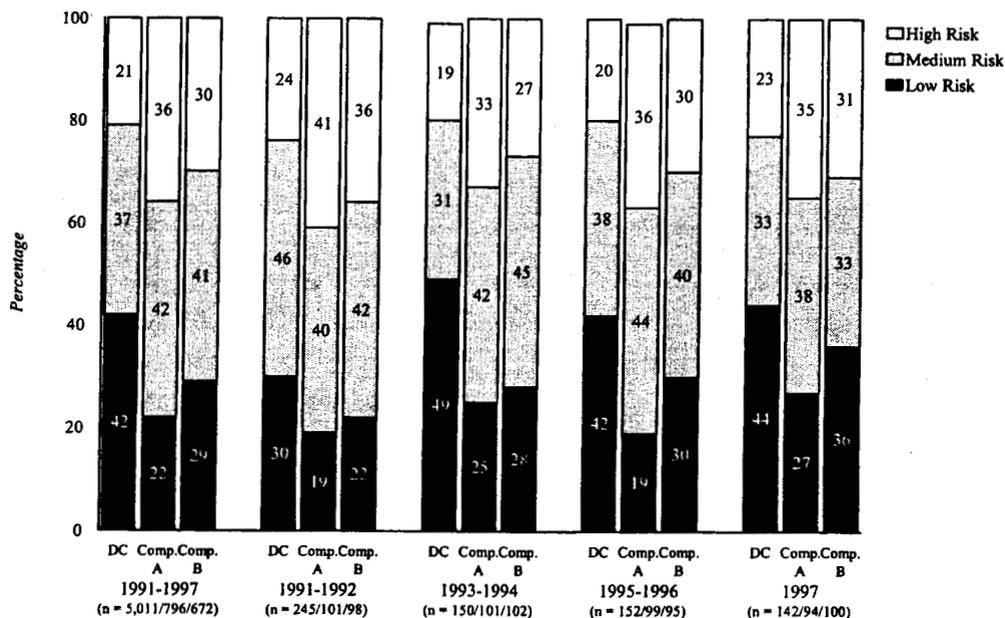
Study Cohorts

[Note: Risk level is calculated for any rearrest within one year observation period. Base rate for Low Risk is 18 percent, 43 percent for Medium Risk, and 72 percent for High Risk. Risk attributes are race (non-white, +), being detained pretrial (+), having an alias (+), having recent prior arrests (+), and having recent prior FTAs (+).]

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Notice, however, that the differences in risk classification between the two study groups varied by study period. In the 1993 drug court sample, 37 percent were highest risk, compared to 48 percent of comparison group defendants. The difference was similar (37 versus 50 percent) in the 1994 sample. In 1995, both groups had a larger proportion of highest risk defendants (51 versus 60 percent), again with the comparison group having a greater proportion of highest risk defendants. In 1996, the risk profile of the two groups of defendants is quite similar. The profile shifts, however, beginning in 1997 (with 45 percent of drug court participants highest risk versus 38 percent of comparison defendants) and then more markedly in 1998 (when 60 percent of drug court participants are highest risk compared to 52 percent of comparison group defendants). In 1998, only 13 percent of drug court participants were classified as lowest risk, compared to 25 percent of the comparison group counterparts. Moreover, the risk attributes of each group varied from year to year.

Using this defendant risk profile or classification, we can give a partial answer to the questions of the Clark County officials who suspected that the poorer rates of rearrest shown by drug court participants in 1996 and 1997 might be accounted for by a "risk gap" between the two study groups caused by the plea requirement for entry into the drug court—with the result that drug court participants were *a priori* more likely to be rearrested than their counterparts. In fact, there were some differences. The question is, do these differences explain the results obtained?

In Multnomah County, a similar analysis was carried out to develop a simple three-part risk classification of drug court participants and the two comparison groups of defendants. Using the Portland classification, defendants classified as highest risk would be expected to be rearrested within one year about 72 percent of the time, compared to about 43 percent of medium risk and 18 percent of lowest risk defendants. Figure 7 shows that a smaller proportion of drug

court participants were classified as highest risk than comparison group defendants overall (21 percent versus 36 percent of Comparison Group A and 30 percent of Comparison B defendants). Or, more drug court participants (42 percent) were characterized as lowest risk (compared to 22 percent and 29 percent of the A and B comparison groups). It would follow from this classification, showing that drug court participants were lower risk, that we would expect *a priori* higher rearrest rates among comparison group defendants. The biggest "risk gaps" between the *three* study groups appear to be in the 1991-92 defendant cohorts (with 24 percent of drug court participants versus 41 percent of Group A defendants and 36 percent of Group B defendants highest risk) and 1993-94 defendants (with 19 percent versus 33 and 27 percent classified as highest risk, respectively.) In fact, Figure 7 suggests that Multnomah County drug court participants were ranked as lower risk using this classification in each of the periods studied. This finding of differences between groups from year to year strongly suggests the need for evaluating rearrest rates after taking risk attributes into account.

Rearrest among Drug Court and Comparison Group Defendants in Clark County Controlling for Risk

Tables A5 and A6 display the multivariate analyses of rearrest rates during the first and second years, controlling for risk attributes. In Clark County, drug court participants recorded significantly lower one-year rearrest rates (any type) in the combined analysis (1993-97) and the individual years 1993, 1994, and 1995. When the analysis for rearrest (any type) is extended to two years, drug court participants recorded lower rates overall (1993-97) and in the 1993 and 1994 cohort comparisons. When the criterion is rearrest for drug offenses, drug court participants showed significantly lower rates overall (1993-97), and in the 1994 and 1997 cohorts. When extended to two years, they showed significantly lower rates overall and for each year except 1996. When non-drug rearrests were examined, drug court participants recorded

significantly lower rates than their counterparts overall (1993-97) and in the 1993 cohort only. When the two-year follow-up was employed, only the 1993 analysis found a significantly lower non-drug rearrest rate for drug court participants.

Rearrest among Drug Court and Comparison Group Defendants in Multnomah County Controlling for Risk

Tables A7 and A8 display the multivariate analyses of rearrest rates during the first and second years, controlling for risk attributes. In Multnomah County, drug court participants recorded significantly lower one-year and lower two-year <u>rearrest rates (any type)</u> only during the 1993-94 study period and only when drug court participants are compared to defendants who appeared but did not enter drug court (Comparison Group B). When the criterion is <u>rearrest for drug offenses</u> during both one and two-year follow-up periods, drug court participants showed significantly lower rates overall (1991-97, 1991-96) and in the 1993-94 cohort, again only when compared to Comparison Group B defendants. When <u>non-drug rearrests</u> during the one- and two-year follow-up periods were examined, drug court participants recorded significantly lower rates than their counterparts in the 1993-94 cohort only, once again only when compared to Comparison Group B.

The analyses of data from both sites sought to determine whether, after taking into account differences in sample composition between drug court participants and comparison group defendants generally—and risk attribute differences specifically—a "drug court effect" (lower rearrest rates) survived. Both analyses show that sample differences were important, but that differences in rearrest rates among drug court participants and their comparison counterparts did survive, at least in specific ways. In Clark County, the overall effect was mainly composed of significant differences between drug court participants and comparison group defendants during the 1993, 1994, and 1995 study periods—with the 1996 and 1997 cohorts failing to

produce a significant difference. In Portland, the main significant difference detected was during the 1993-94 study period, but only when drug court participants were compared with one of the comparison groups (B). In other words, the drug court effects produced in Portland and Las Vegas varied over time—in very specific ways, with apparently a narrowly focused effect in Portland (during 1993-94) and a more extended effect in Las Vegas (during 1993-95).

Controlling for "Time at Risk"

Another way that the methodology employed in the study of the two drug courts could affect the rearrest outcomes reported above involves the concept of "time at risk." Simply stated, the chances that the drug defendants studied could be rearrested during a one-, two-, or three-year follow-up are partly shaped by the extent to which they were "free" or "at risk" and thus susceptible to rearrest. It is known from the research presented in the Phase I report, for example, that the majority of drug court participants spend most of their time in the program on release in the community. Some spend short periods of time in jail as part of a drug court sanction. If drug court participants spent less time in jail—and therefore more time at risk in the community—than their comparison group counterparts, one might expect a higher rate of rearrest among drug court participants merely because the comparison defendants were much less often at risk. The methodological question, then, is to consider whether there are significant differences in the rearrest rates of the two groups once time at risk is taken into account. This concern addresses the possibility that the probability of being rearrested increases as a function of the length of time at risk, other factors being equal.

To account for the possible effect of "time at risk," we counted the days each study defendant was free or in jail or prison during the follow-up periods. The analyses presented in Tables A9 through A12 then added time at risk as a control variable. Once again, the

multivariate analysis sought to determine whether after controlling for sample differences (including risk) and time at risk (defined as number of days not incarcerated), differences in rates of rearrest between drug court and comparison group defendants were significant.

Clark County

The time at risk variable is entered as a significant predictor of rearrest in virtually every analysis summarized in Tables A9 and A10.

- Any rearrest (1 year, 2 years): Drug court participants still showed significantly lower rates of rearrest overall (1993-97 combined), and among the 1993, 1994, and 1995 cohorts. When the follow-up period was for two years, drug court participants showed significantly lower rates of rearrest overall (1993-97) and in the 1993 and 1994 cohorts only. These results do not change the findings reported above that controlled for risk.

- Drug rearrest (1 year, 2 years): When time at risk is controlled in the analysis of rearrest rates for drug offenses during the first year, drug court participants show significantly lower rates overall (1993-97), in 1994, and in 1997. When the follow-up period is extended to two years from entry, drug court participants show significantly lower rates overall (1993-97) and in the 1993, 1994, 1995, and 1997 cohorts.

- Non-Drug rearrest (1 year, 2 years): No significant drug court effect is found in the one-year follow-up when rearrest for non-drug offenses is examined. When the two-year follow-up is employed, there was a significant drug court effect in the 1993 cohort comparison only.

Multnomah County

Time at risk was often but not consistently significant in the Multnomah County analyses of rearrest as shown in Tables A11 and A12.

- Any rearrest (1 year, 2 years): When time at risk and risk attributes were entered as controls, the results reported above for Portland did not change. Significantly lower drug court rearrest rates for any type of offense were found only in the 1993-94 cohort comparison (contrasting drug court participants with Comparison Group B)—during the first and second year follow-up periods.

- Drug rearrest (1 year, 2 years): The same finding applied to rearrest for drug offenses, both during the one and two-year follow-up periods.

- Non-Drug rearrest (1 year, 2 years): In the analysis of rearrest for non-drug offenses during the first year, drug court participants showed significantly lower rearrest rates overall (1991-97) and in the 1993-94 comparison (Comparison Group B). During the two-year follow-up, only the 1993-94 comparison is significant (Comparison Group B).

The result of controlling for time at risk in each of the study sites was twofold: a) time at risk was found to be significantly related to rearrest in many of the analyses; b) time at risk did not meaningfully change the findings relating to a significant drug court effect in each site. In Clark County, the findings of an overall effect and an effect in the earlier years were consistent with earlier findings that did not consider time at risk. In Multnomah County, the findings also remained basically unchanged: the drug court effect seemed to be tied to the 1993-94 study period during which drug court participants performed better than Comparison Group B defendants (any rearrest), and also to a general effect (1991-97) when non-drug rearrest is the focus.

Controlling for Time Free

The analysis of rearrest controlling for time at risk appears appropriate (because of its evident and substantial relationship with rearrest). Although the approach just taken seems to

offer a reasonable method for taking into account the possible effects of time at-risk in the rearrest analyses, it remains problematic in an important respect. One could argue that time at-risk is really hopelessly intertangled with the dependent variable, rearrest, because once a defendant is rearrested and jailed, time at risk is determined. Stated another way, this perspective would suggest that time at-risk is really another version of the outcome measure. It would therefore be predictable that a) it would correlate highly with (predict) the outcome measure (rearrest), and b) it would be related to other predictor variables (risk, etc.) in a collinear way. One would expect similar findings to what were in fact produced.

Yet the issue—controlling for possible different degrees of exposure to risk of rearrest experienced by the drug court and comparison groups—still seems logically compelling. The problem posed, then, is how to control for the time a defendant is exposed to the risk of rearrest without confounding the control (time at-risk) with the dependent variable (rearrest). To address this problem, we employed an alternative approach that manipulated the follow-up periods (not the at-risk variable) so that all defendants have the same periods at risk. In other words, we asked the question, how would rearrest rates compare (drug court versus comparison group) when each defendant was followed through the same number of days free in the community. We employed 545 days free (roughly 18 months) as the common yardstick in each site in place of 365 or 730 calendar days from the beginning of the criminal process. Tables A13 and A14 summarize the analysis when the outcome measure was rearrest for any offense.

Clark County

When the 545 days free follow-up was employed with controls for sample differences (including risk attributes), the same pattern of findings as in the previous analyses emerge. A

significant drug court effect (lower rearrest rate) is detected overall (when the 1993-97 samples are combined) and in the 1993, 1994, and 1995 cohorts—but not in 1996 or 1997.

Multnomah County

When this analysis was carried out for the Portland data using cohorts through 1996 (we did not have the 545 days free data for the 1997 cohort), a significant drug court effect was found in the combined overall analysis (1991-96) and in the 1993-94 study cohort, when the analysis involved Comparison Group B only.

Implications of the Rearrest Findings: Variation over Time and Arrest Type

The comparative analyses of drug court participants and comparison group defendants in Clark County and Multnomah County controlled for sample differences, risk attributes, time at-risk, and time free in the community. Together the findings were remarkably consistent (see Table 5). In Clark County, the drug court produced significantly lower rearrest rates when all data (1993-97) are considered together and when the specific study years of 1993, 1994, and 1995 are examined separately. The significant effect extends to 1997 when rearrest for drug offenses is considered. When non-drug offense rearrests are the focus, only in 1993 and over two years is a drug court effect found. In Multnomah County, there appears to be an overall effect (1991-96) in the time free analysis and a specific cohort effect linked to 1993-94 drug court participants in all analyses.[14] We conclude that the findings identified in the analysis of drug court reoffending are not explained by the sample design or analytic methods employed and, therefore, appear to represent real differences between drug court and comparison groups.

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[14] We considered whether combining Comparison Groups A and B into an undifferentiated comparison group in Portland would have produced different results. In fact, looking at a two-year follow-up period, the only drug court effect found was overall (1991-96) for drug offense rearrests and this was not found when specific cohorts were examined.

Table 5 Summary of Multivariate Analyses Modeling "Drug Court Effect" on Rearrest among Drug Court Participants and Comparison Group Defendants in Clark County and Multnomah County

[Note: ✓ indicates a significant effect at p. p=.05 or lower.]

	Bivariate	Sample Differences	Risk	Time at Risk	Time Free
Clark County					
Rearrest: 1 Year					
Overall	✓	✓	✓	✓	✓
1993	✓		✓	✓	✓
1994	✓	✓	✓	✓	✓
1995	✓	✓	✓	✓	✓
1996					
1997					
Drug Rearrest: 1 Year					
Overall	✓	✓	✓	✓	-
1993	✓				-
1994	✓	✓	✓	✓	-
1995	✓				-
1996					-
1997	✓		✓	✓	-
Non-Drug Rearrest: 1 Year					
Overall		✓	✓		-
1993	✓		✓		-
1994					-
1995					-
1996					-
1997					-
Rearrest: 2 Year					
Overall		✓	✓	✓	-
1993	✓	✓	✓	✓	..
1994	✓	✓	✓	✓	-
1995	✓				-
1996	✓				-
1997					-
Drug Rearrest: 2 Year					
Overall	✓	✓	✓	✓	-
1993	✓	✓	✓	✓	-
1994	✓	✓	✓	✓	-
1995	✓	✓	✓	✓	-
1996					-
1997	✓		✓	✓	-
Non-Drug Rearrest: 2 Year					
Overall					-
1993	✓	✓	✓	✓	-
1994					-
1995					-
1996					-
1997					-

Table 5 Summary of Multivariate Analyses Modeling "Drug Court Effect" on Rearrest among Drug Court Participants and Comparison Group Defendants in Clark County and Multnomah County (Cont.)

	Bivariate	Sample Differences	Risk	Time at Risk	Time Free
Multnomah County					
Rearrest: 1 Year					
Overall	✓(Comp. A, B)				✓(Comp. B)
1991-1992					
1993-1994	✓(Comp. A, B)	✓(Comp. B)	✓(Comp. B)	✓(Comp. B)	✓(Comp. B)
1995-1996	✓(Comp. A, B)				
1997	✓(Comp. A)				-
Drug Rearrest: 1 Year					
Overall	✓(Comp. A, B)		✓(Comp. B)		-
1991-1992	✓(Comp. A, B)				-
1993-1994	✓(Comp. A, B)	✓(Comp. B)	✓(Comp. B)	✓(Comp. B)	-
1995-1996	✓(Comp. A)				-
1997	✓(Comp. A)				-
Non-Drug Rearrest: 1 Year					
Overall	✓(Comp. A, B)			✓(Comp. B)	-
1991-1992					-
1993-1994	✓(Comp. A, B)	✓(Comp. B)	✓(Comp. B)	✓(Comp. B)	-
1995-1996					-
1997	✓(Comp. A)				-
Rearrest: 2 Year					
Overall	✓(Comp. A, B)				-
1991-1992					-
1993-1994	✓(Comp. A, B)		✓(Comp. B)	✓(Comp. B)	-
1995-1996	✓(Comp. A, B)				-
1997	-				-
Drug Rearrest: 2 Year					
Overall	✓(Comp. A, B)		✓(Comp. B)		-
1991-1992	✓(Comp. A)				-
1993-1994	✓(Comp. A, B)		✓(Comp. B)	✓(Comp. B)	-
1995-1996	✓(Comp. A, B)	✓(Comp. B)			-
1997	-				-
Non-Drug Rearrest: 2 Year					
Overall	✓(Comp. B)				-
1991-1992					-
1993-1994	✓(Comp. B)		✓(Comp. B)	✓(Comp. B)	-
1995-1996					-
1997	-				-

IV.   Treatment Performance by Participants Two Years after Entering Drug Court

Introduction

One of the obvious aims of the drug court model is to promote more effective substance abuse treatment of drug offenders based on a claimed synergism between hands-on judicial supervision and carefully adapted treatment services.   In large part, the drug court treatment process was conceived to reduce criminal behavior by reduction and elimination of substance abuse among its participants.   In the previous sections, the analysis examined the extent to which such a crime reduction effect was detected in the two drug court sites.   In this section, we measure the delivery and impact of drug court treatment designed to reduce substance abuse and, as a result, to produce the desired drug court effect.

Increasing Participation in Substance Abuse Treatment among Offenders

A first important assumption of the drug court treatment model is that, by its existence, the drug court enrolls offenders in treatment services substantially more than would otherwise have been the case without drug court (or, than would be the case among similar offenders who do not have access to drug court).   As a result, the logic of the drug court model implies that, because of the assumed crime reduction effect of substance abuse treatment, defendants exposed to treatment through drug court should perform better (commit less crime) than similar defendants who are not.   In other words, regardless of the ultimate success of the treatment process, there is a threshold assumption that the drug court is successful in placing offenders in treatment who would otherwise rarely voluntarily, or through "normal" criminal justice channels, enter substance abuse treatment.

Ideally, we would want to test this threshold drug court assumption by interviewing or otherwise tracking non-drug court offenders in a comparison group to learn whether they

enrolled in treatment on their own—absent the coercion or persuasion of the drug court—at a level similar to those who chose drug court (i.e., all entered treatment by definition). Unfortunately, within the resources available for the research, such an approach was not feasible. In Multnomah County, however, we were able to examine the level of enrollment in treatment among non-drug court comparison group defendants by consulting State health data. The Client Process Monitoring System (CPMS) data records all episodes of treatment for all individuals supported through public funds in the State of Oregon during the years of the study. To determine the extent to which comparison group defendants may also have entered treatment (using public funds) on their own and not through the drug court, we searched the State Health records to find evidence of publicly paid episodes of treatment.

Figure 8 shows that, as a result of trying to match comparison group defendants to State treatment records, a small proportion (five percent of Comparison A and 12 percent of Comparison B) overall, did enter treatment—with proportions varying by cohort. Nevertheless, this figure suggests that, compared with the 100 percent exposure to treatment achieved by those enrolled into drug court, only a relatively small number of drug offenders would find their way into needed treatment. In short, these data support the threshold assumption that drug courts (at least as illustrated by the case of the Multnomah County Drug Court) do indeed dramatically increase the placement of drug-involved felony offenders in treatment.

Figure 8 Exposure to Substance Abuse Treatment among Multnomah County Drug Court Participants and Comparison Group Defendants, 1991 - 1997*

Study Period
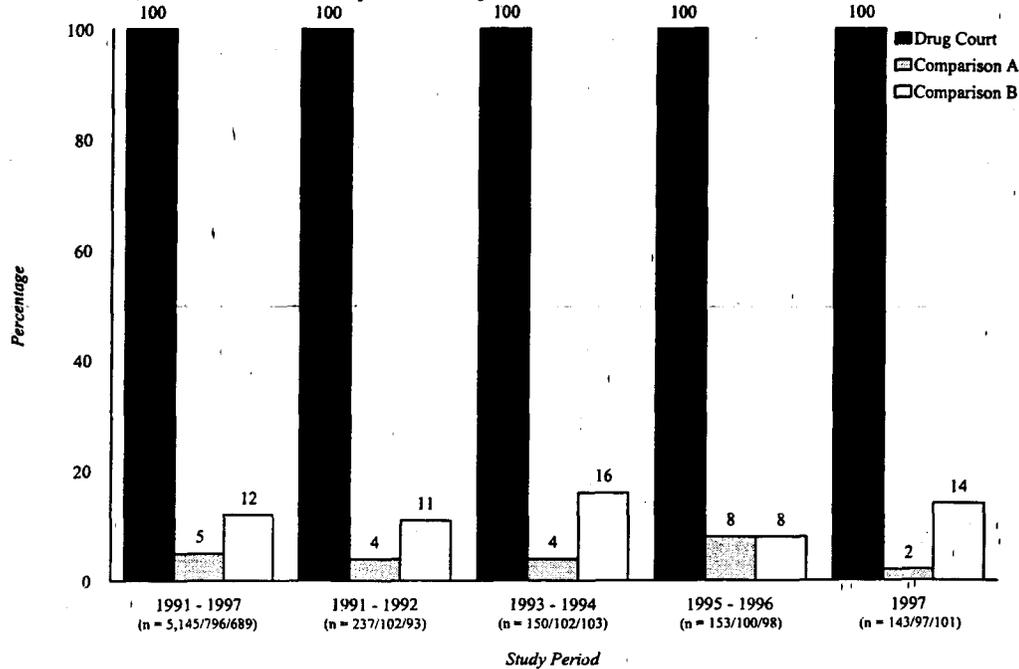
*[Note: By definition, all drug court participants were exposed to treatment. The Client Process Monitoring System (CPMS), a state health database, was used to document treatment exposure among comparison group defendants through records of publicly funded treatment episodes.]

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Phase I Findings Highlighted: Participation in Treatment

In the Phase I report, we described a number of treatment-related outcomes measured one year after participants entered drug court. Examples of these measures included treatment status (favorable or unfavorable) of participants in drug court at one year, time spent in treatment in the first year, time spent in Phase I of treatment by participants, "early" (unfavorable) terminations, average time to termination, and actual versus expected number of treatment appointments attended. Figures 9 and 10 highlight some of these findings from Phase I (as brief background for the Phase II analyses presented next).

Figure 9 Treatment Outcomes among Multnomah County Drug Court Participants, 1991 - 1997

Favorable Status
Percentage of Participants
(n = 5,034)

Time in Treatment
Median Days
(n = 4,471)

Time in Phase I
Median Days
(n = 4,702)

Terminations
Percentage of Participants
(n = 5,034)

Days to Termination
Median Days
(n = 5,034)

Expected vs. Actual
Treatment Appointments
Median Number of Appointments
(unweighted n = 589)

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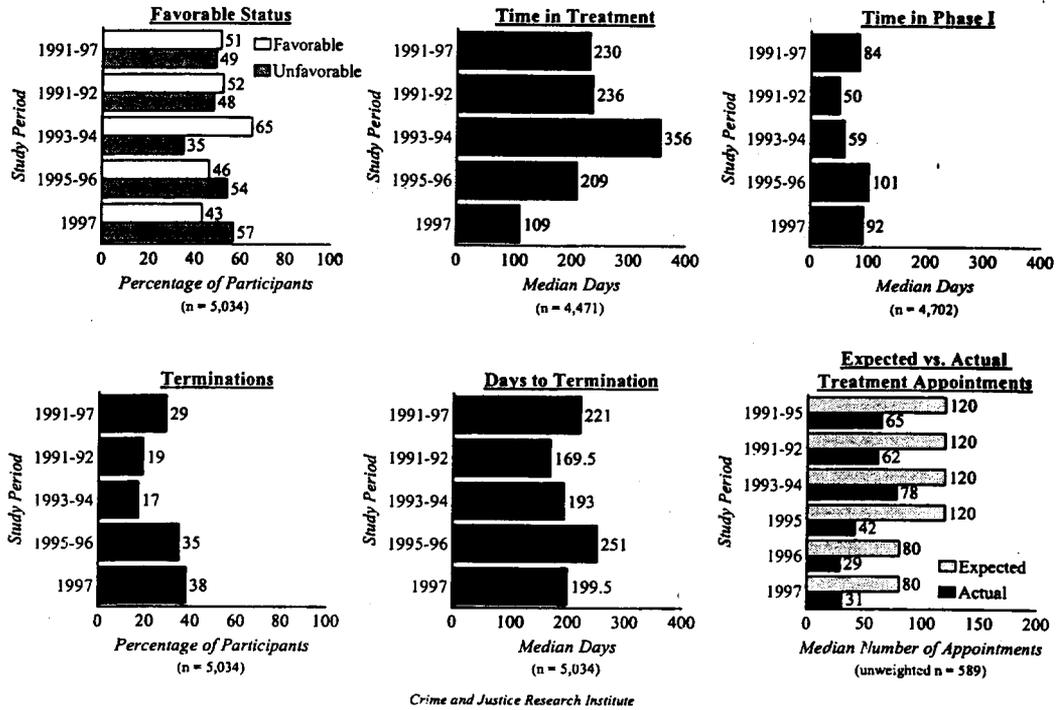
Figure 10 Treatment Outcomes among Clark County Drug Court Participants, 1993 - 1997

Favorable Status
Percentage of Participants
(n = 3,053)

Time in Treatment
Median Days
(n = 2,700)

Time in Phase I
Median Days
(n = 2,977)

Terminations
Percentage of Participants
(n = 3,029)

Days to Termination
Median Days
(n = 3,053)

Expected vs. Actual
Treatment Appointments
Median Number of Appointments
(n = 3,023)

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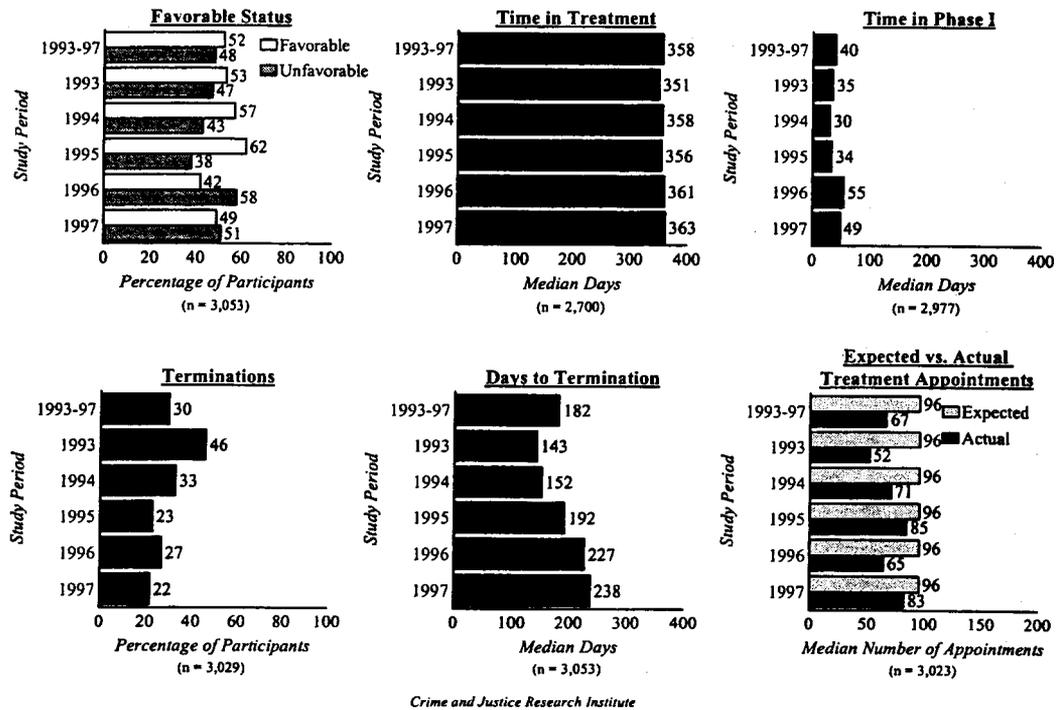
Actual versus Expected Attendance in Treatment: One way to measure delivery of treatment (and attendance at treatment) among drug court participants is to compare the actual number of days participants attended treatment with the expected number of days that treatment would be provided.[15] The expected number of treatment appointments was derived from adding the requirements for attendance during each of the phases and represents the number that all participants should attend if they stayed in the drug court for 12 months.

- In Multnomah County, drug court participants would be expected to attend treatment about 120 times during a relatively trouble-free 12-month period. Under the four-phase treatment regimen, Multnomah County participants actually attended treatment a median of 65 times during the first 12 months of Drug Court, or about 54 percent of the expected level (with a high of 78 actual days or 65 percent of the expected appointments attended among 1993-94 participants and a low of 42 days or 35 percent of expected in 1995). Under the revised three-phase approach (1996-97), the actual days attended dropped to a median of 30, or less than 40 percent of the expected level.

- Based on the attendance requirements in Clark County, drug court participants would be expected to attend treatment about 96 times during the first 12 months. In fact, during the full study period, participants attended a median of 67 appointments, or about 70 percent of the expected level with little variation. The average number of actual appointments attended (of the 96 expected per year) peaked at 85 in 1995, then dropped to 65 in 1996 and jumped back up to 83 days and 85 days among 1997 and 1998 participants, reaching a high of about 89 percent in 1998 (1998 not shown here).

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[15] The actual attendance in treatment includes attendance by all drug court participants starting the process. Thus, the percentages include all entering participants and are measures for the overall group. One would expect that some participants would attend the full number of appointments required while others would drop out of treatment relatively early in the process, recording few attended treatment appointments.

Attendance in Court: One of the basic assumptions of the drug court model is that progress in treatment is greatly enhanced by the central, in-person, supervisory role of the drug court judge.

- From 1991 through 1997, Multnomah County Drug Court participants averaged 14 in-court appearances during the first year (including successful participants who attended regularly all year and unsuccessful participants who made few appearances). The average number of appearances per participant varied somewhat by study period.

- In Clark County, drug court participants averaged 15 court appearances during their first 12 months, with only minor year-to-year variation.

Length of Time in Treatment: The treatment literature argues reasonably that retention in treatment is an important factor in successful treatment outcome. In both of these drug courts, an important goal was to provide treatment over at least a 12-month period (before graduation would be possible). Time in treatment is both a product of the drug court process and an outcome: it is something the court seeks to provide (treatment delivered) and it is a function of participant performance.

- Measuring time in treatment from the date of the first treatment appointment to the last date seen in treatment, Multnomah County Drug Court participants averaged (a median of) 230 days active in treatment during the overall study period from 1991 through 1997, notably less than the 365-day ideal implicit in a 12-month program. This outcome varied by year, with a median of 356 days for 1993-94 participants during their first 12 months in Drug Court, but then dropping to 209 days in 1995-96 and to 109 days among 1997 participants.

- Clark County Drug Court participants recorded a median of 358 days in active treatment status overall, with only minor variation by year.

Completion of Treatment Phases: A more practical measure of treatment progress is to examine the most advanced phase in treatment achieved by participants by the end of 12 months in the drug court.

- From 1991-95, a very small proportion of participants (seven percent) in the Multnomah County Drug Court had completed Phase III and were nearly ready to graduate at year's end; 48 percent of participants failed to complete even Phase I successfully by 12 months. In 1996-97 (when the program was based on a three-phase treatment approach), larger percentages of participants entered the last treatment phase, 11 percent in 1996 and 18 percent in 1997.

- In Clark County, 19 percent had completed Phase III of treatment, while 25 percent had not completed Phase I in the first 12 months of the program; these percentages varied notably by cohort year.

Graduation from the Drug Court: Because both drug courts studied required 12 months as a minimum period of treatment through required phases before graduation, one would expect few participants to complete drug court successfully and to reach graduation within the one-year observation period employed in the Phase I analysis.

- In fact, about five percent of Multnomah County Drug Court participants and two percent of Clark County Drug Court participants graduated within 12 months of beginning the program.

Participant Status at the End of the Year: Given that program completion (graduation) by one year is a poor measure of participant performance in the drug courts, the Phase I analysis

examined their status (favorable or unfavorable) at the end of one year. "Favorable" status included persons who had graduated and persons who were still active in treatment (in good standing). "Unfavorable" status included persons who had been terminated by the court, persons who were still active but were in jail due to noncompliance or a new arrest, and persons who were fugitives.

- In Multnomah County during the period 1991-97, 51 percent of participants were in a favorable treatment status and 49 percent were in an unfavorable status. The proportion of each study cohort in a favorable drug court status at the end of 12 months declined over time, however, from 65 percent of the 1993-94 participants to 43 percent of the 1997 participants.

- Approximately 52 percent of Clark County participants from 1993-97 were in a favorable treatment status at the end of the first year. The proportion in a favorable status increased from 53 percent in 1993 to 62 percent in 1995, but then dropped to 42 percent and 49 percent in 1996 and 1997, respectively.

Unfavorable Terminations in the First 12 Months: Although few participants could succeed (graduate) from the drug courts in 12 months—by the nature of the court's minimum requirements—a fair number of participants could "fail" by that time.

- Approximately 29 percent of Multnomah County Drug Court participants entering from 1991 through 1997 were terminated from the program within 12 months. That overall termination rate masks a clear trend in the Multnomah County Drug Court of steadily increasing one-year rates of termination over time, ranging from a low of 17 percent of

1993-94 participants to 35 percent of 1995-96 participants and 38 percent of 1997 participants.[16]

- Thirty percent of Clark County Drug Court participants entering the program between 1993 and 1997 were terminated in their first year. This overall termination rate masks a clear trend, however. The Clark County Drug Court began with a relatively high one-year termination rate (46 percent of 1993 participants) but moved to lower one-year termination rates over time (27 percent in 1996, 22 percent in 1997).[17]

The Phase I analyses examined treatment outcomes as measured at the end of one year from participants' entry into drug court treatment. These early measures of treatment outcomes were extended in the Phase II research to two and, in some instances, three years after enrollment (or until involvement with the drug court appeared completed).

Clark County: Treatment Outcomes Two Years from Entry into Drug Court

Progress through Treatment during the Two-Year Observation Period

One way to assess the relative progress through the drug court process is to chart the stage of treatment reached by participants by the end of the observation period. Figure 11 shows that graduation in the Clark County Drug Court was a selective process; roughly one-third of participants entering the Clark County Drug Court from 1993 to 1997 completed all four treatment phases and graduated sometime within 24 months of entry. The overall rate again masks quite a bit of change in the graduation rates associated with the yearly cohorts. The

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[16] Note that the rate of termination was artificially low during the 1991-92 start-up period because, due to the disruption caused by the loss of the drug court's initial treatment provider, many participants were given the benefit of the doubt when their 12 months was reached. The additional months delay required to work out new arrangements for treatment by the drug court meant that a large proportion of the 1991-92 cohort were close to the end of the 12 month minimum by the time treatment resumed. Out of fairness, some proportion of participants was allowed to graduate, even though they may have had treatment suspended for a period of some months.

[17] This lower termination rate may derive partly from the fact that a much larger proportion of participants were convicted offenders sentenced to drug court as a condition of probation or suspended sentence to confinement and that termination from drug court would be tantamount to revocation of probation or cause the sentence to be served.

proportion graduating increased from about one-third of participants entering in 1993 to nearly half of those entering in 1995. Then, beginning in 1996, however, the graduation rate dropped dramatically to about one-fourth of participants and remained nearly as low among 1997 participants when followed for two years. (This shift in graduation corresponds with the change in admission practices from diversion to enrolling guilty plea cases described in the Phase I findings.)

Figure 11 Most Advanced Treatment Phase Completed by Clark County Drug Court Participants during Two-Year Observation Period, 1993 - 1997, by Year
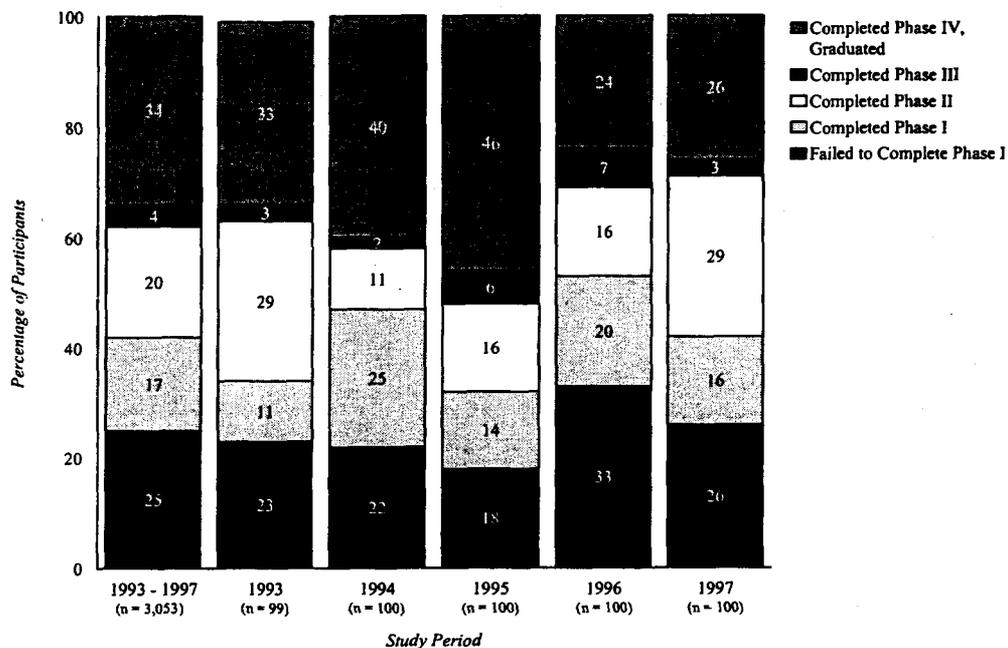
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Time in Treatment

In our earlier report, we showed that participants entering the Clark County Drug Court from 1993 through 1997 were active in treatment a median of 358[18] overall days during a one-year follow-up, with little variation apparent by year. In short, half of participants spent less than

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[18] Days active in treatment measures the number of days from the first treatment appointment date to the last recorded date the participant appeared at treatment.

358 days in treatment and half were active for more than 358 days. When the second year is added to the observation period, there is little change in the median time in treatment for participants in Las Vegas (361 days overall). (See Figure 12.) (One reason the median does not change much is because the numbers dropping out in less than one year did not change.) The average time in treatment remained high and increased slightly over time among the Clark County Drug Court cohorts, with the highest median number of days in treatment found among the 1997 participants (388 days).

Figure 12 Length of Time in Treatment (Median Days) among Clark County Drug Court Participants during Two-Year Observation Period, 1993 - 1997
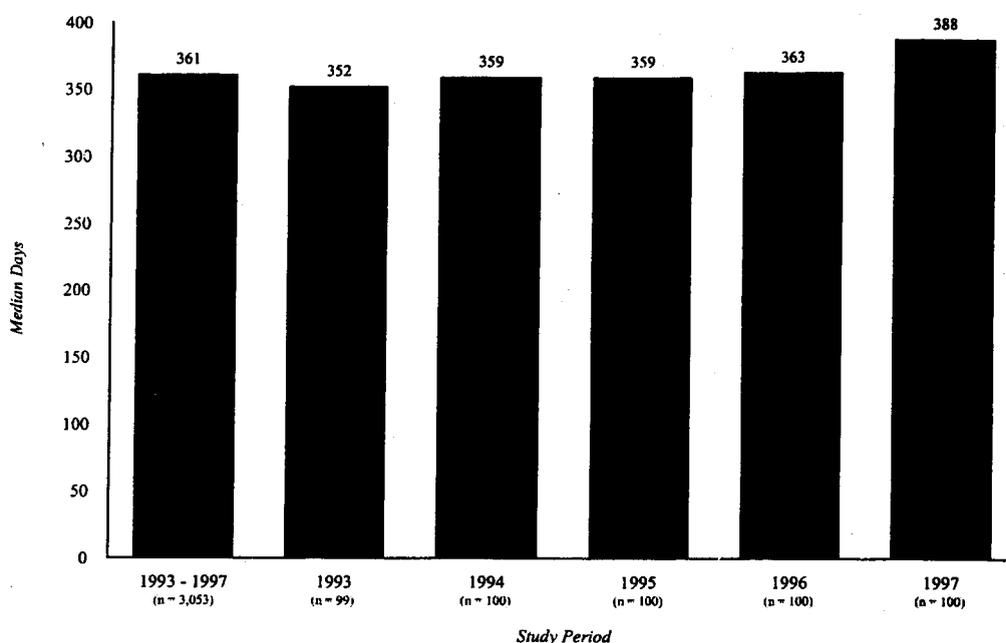
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Jail Sanctions and Time in Confinement

Over two years from drug court entry, Clark County Drug Court participants were jailed as sanctions for noncompliance in steadily increasing proportions from 1993 through 1997. Overall, 35 percent of drug court participants were confined at least once as a result of a

sanction. This overall rate masks a remarkable increase over time from 21 percent of the 1993

cohort to 51 percent of the 1997 cohort. (See Figure 13)

Figure 13 Types of Sanctions Imposed on Clark County Drug Court Participants
during Two-Year Observation Period, 1993 - 1997
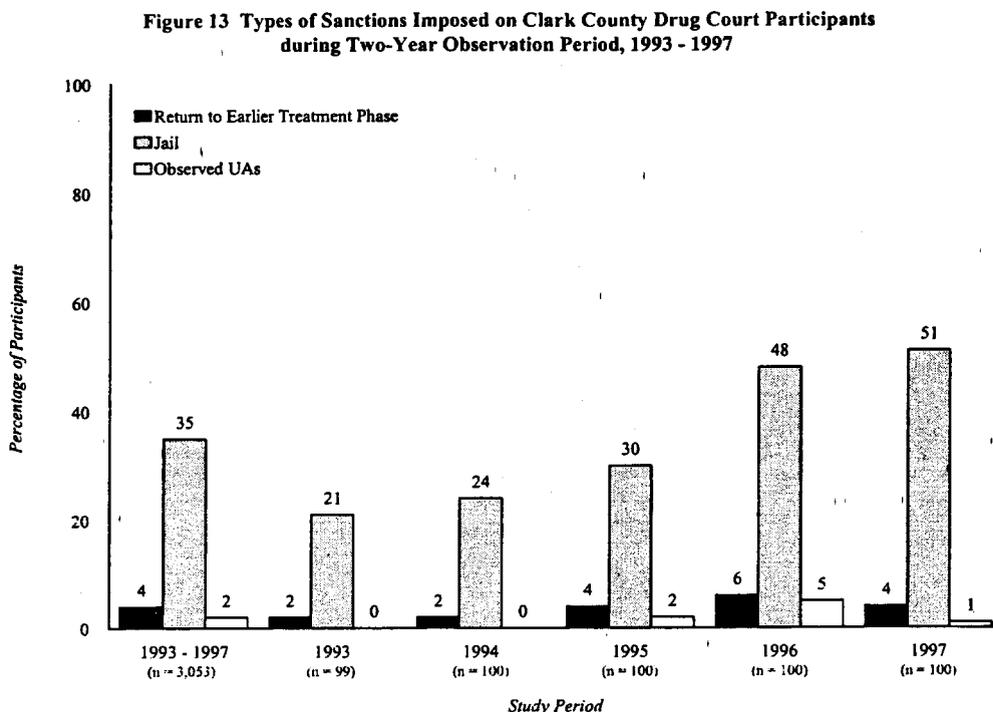
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Figure 13a shows that the average (median) time spent in confinement as a result of drug

court sanctions among Clark County Drug Court participants also increased over the years

studied as the court shifted to the policy of admitting mainly participants who pled guilty.

During the two-year follow-up, participants overall (1993-97) spent a median of zero days in jail.

However, the days in confinement ranged from a median of zero days in jail among the 1993,

1994, and 1995 drug court participants, to a median of five days among 1996 participants and 13

days among 1997 participants during the 24 months from entry. When only those who were

confined are examined (rather than participants as a group, some of whom were never confined),

the increasing trend in median length of confinement can be seen more clearly: the median

number of days in confinement increased from six days among the 1993 participants to 13 days

in 1995 and 22 days in 1997, more than a threefold increase in the average length of confinement.

Figure 13A Confinement of Clark County Drug Court Participants Directly Attributable to the Drug Court during Two-Year Observation Period, 1993 - 1997
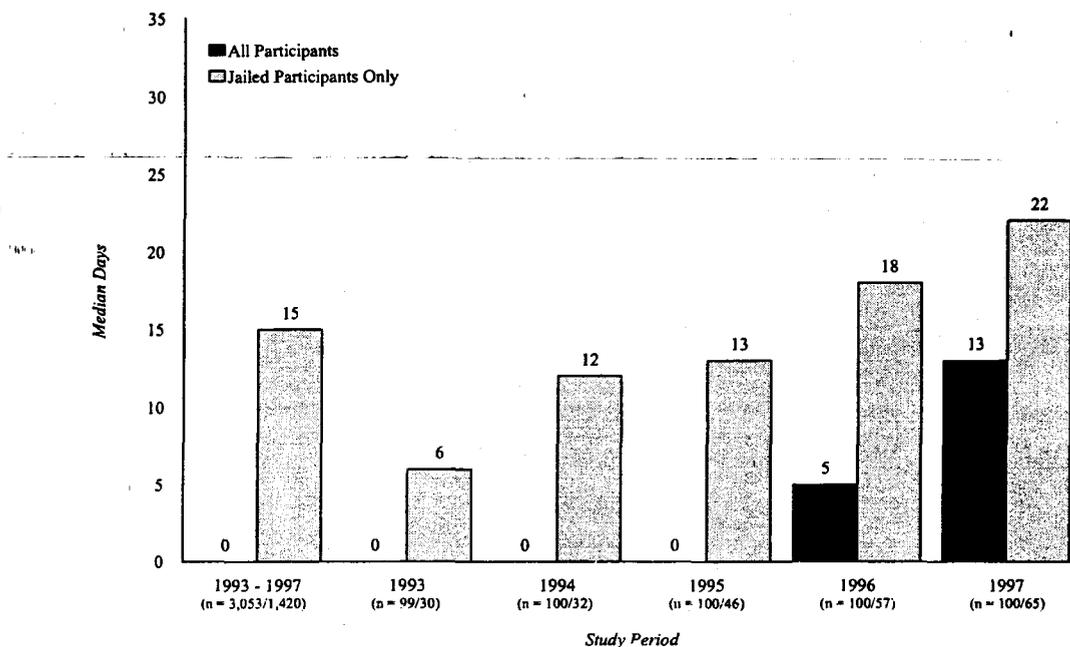
[Note: Confinement includes both Drug Court sanctions and Drug Court bench warrant confinement.]

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Participants' Status in the Drug Court at the End of Two Years

Because successful completion of drug court required at least 12 months of acceptable participation in treatment, most participants would not have their final status in the program determined at the 12-month mark reported in the Phase I findings. Figure 14 highlights the status of the cases of drug court participants in Clark County at the two-year mark. The overall profile of drug court cases from 1993-97 showed that about one-third had successfully graduated within 24 months or less, 42 percent were in some unfavorable status resulting in termination from the drug court, another six percent were still active and in the community and 18 percent were in fugitive status.

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Figure 14 Status in Treatment at End of Two-Year Observation Period among Clark County Drug Court Participants, 1993 - 1997

[Note: Status in treatment was determined using both treatment provider and criminal justice records (Blackstone).]

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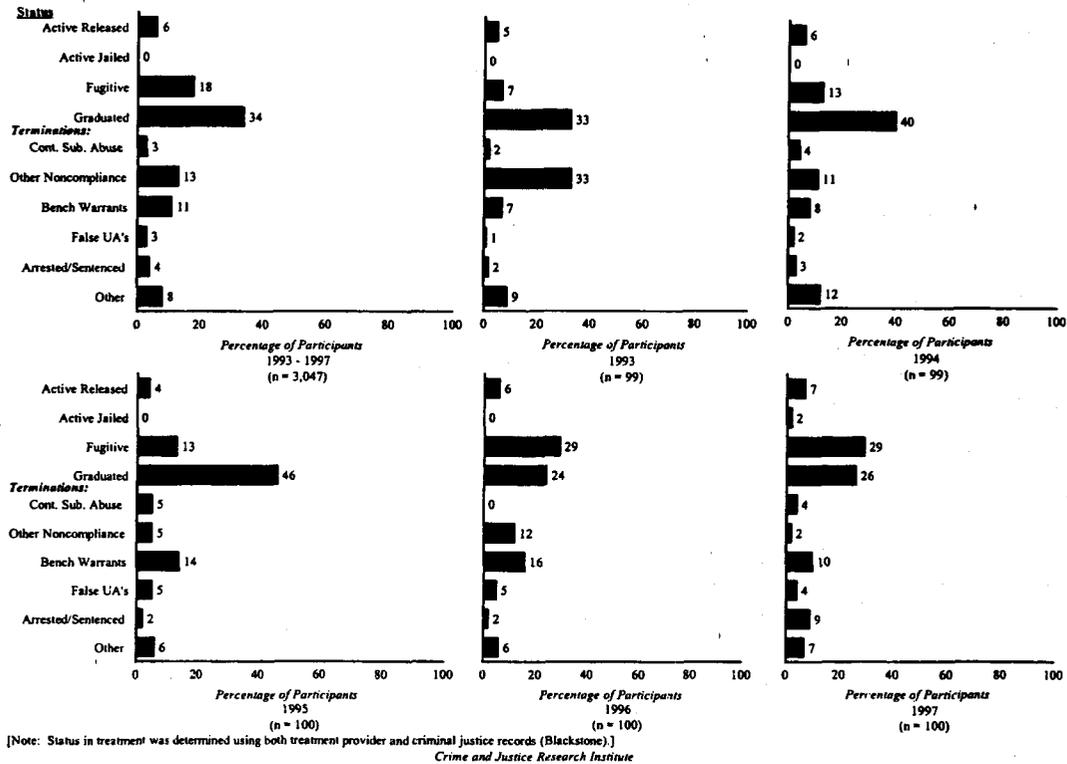
These patterns shifted when cohorts of drug court participants were examined over time. As we have seen, graduation rates decreased to about 24 percent and 26 percent of participants entering in 1996 and 1997. The other important change appears to be in fugitive status: from 7 percent of 1993 participants in fugitive status at the end of two years, the rate had increased roughly four-fold to 29 percent of participants entering the drug court in 1997. Simplified into "favorable" (graduated or still active in treatment and not in jail) and "unfavorable" (all other statuses) drug court statuses, Figure 15 shows that from the peak of 50 percent in a favorable status in the 1995 cohort, the rate dropped markedly to only 30 and 33 percent of the 1996 and 1997 participants at the end of two years.

Figure 15 Status in Treatment (Favorable/Unfavorable) at End of Two-Year Observation Period among Clark County Drug Court Participants, 1993 - 1997
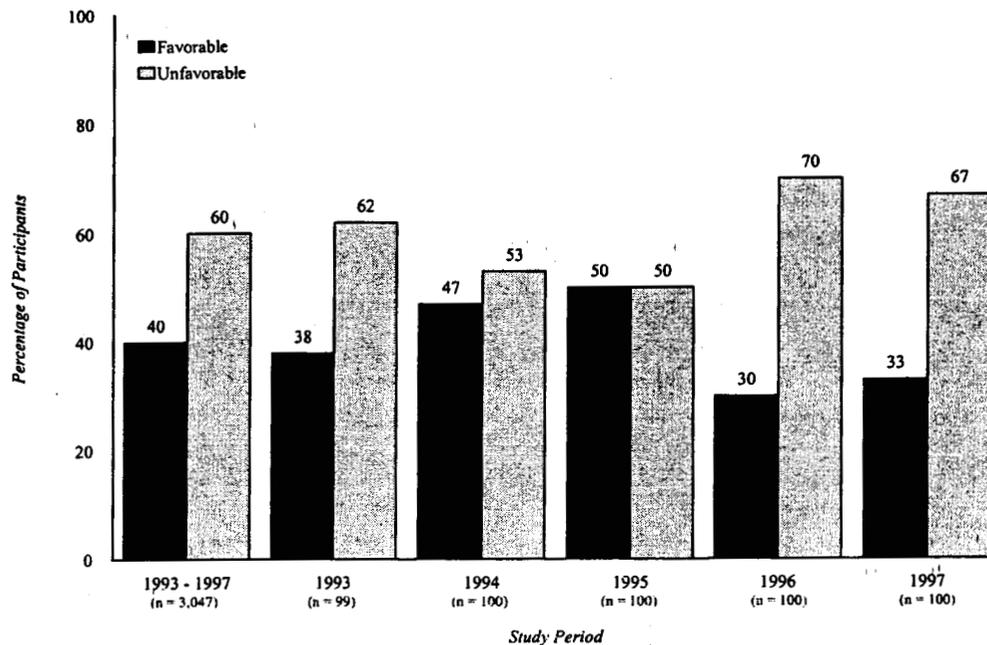
[Note: Favorable outcomes include graduations and cases that are still open and in good standing. Unfavorable outcomes include terminations and cases that are still open and fugitive/incarcerated. Status in treatment was determined using both treatment provider and criminal justice records (Blackstone).]

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Multnomah County: Treatment Outcomes Two Years from Entry into Drug Court

### Progress through Treatment During the Two-Year Observation Period

The rate of graduation among drug court participants in Multnomah County decreased notably during the study period. Figure 16 shows that nearly one-half of participants entering the Multnomah County Drug Court from 1991 to 1996[19] completed all three (or four) treatment phases and graduated within 24 months of entry. This proportion dropped by about one-half from 52 percent in the 1991-92 drug court cohort to about 26 percent in the 1996 cohort. The dramatic drop in graduation rate is accompanied by a sharp increase in the proportion of participants failing to complete Phase I of treatment particularly in the 1995 and 1996 cohorts. This large change suggests that participants were increasingly terminated if performing poorly in the first phase. (In our Phase I report, this finding was associated with the shift away from a

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[19] Two-year follow-up was conducted only for cases entering through 1996 in Multnomah County.

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single drug court judge to a frequent rotation of judges and non-judge referees as well as to more restrictive policies regarding termination from drug court in the early stages. During the early years of the program, the drug court judge displayed more tolerance toward poor performance in the early stages in hopes of keeping participants in treatment. The shift to automatic early termination policies reflected a noticeable change in philosophy.)

Figure 16 Most Advanced Treatment Phase Completed by Multnomah County Drug Court Participants during Two Year Observation Period, 1991 - 1996
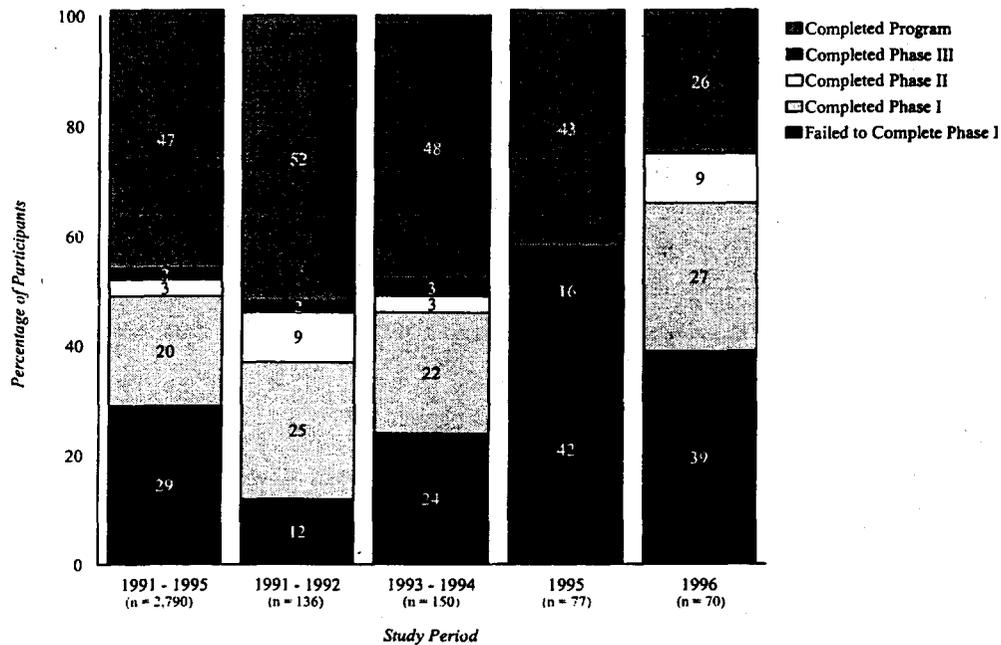
[Note: From the STOP program's inception to July 1996, the treatment process consisted of four phases. Subsequently, the process was revamped to include three phases. Participants from 1995 and 1996 have been separated to accurately reflect the shift.]

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Time in Treatment

In our earlier report, we showed that participants entering the Multnomah County Drug Court from 1991 through 1997 were active in treatment a median of 230[20] days during the first one-year follow-up, with the smallest median periods in treatment in the 1995-96 cohort (209 days) and the 1997 cohort (109 days). Using a two-year observation period, Figure 17 shows

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[20] Days active in treatment measures the number of days from the first treatment appointment date to the last recorded date the participant appeared at treatment.

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that, overall, participants entering the drug court from 1991 to 1996 averaged (median) 268 days in treatment, a slight increase from the one-year median.[21]

There was a notable difference in the treatment achieved by participants in successive cohorts over time. During the start-up of the drug court, the median time in treatment was 236 days. (Recall that the court discontinued the services of the original provider and suffered a several month delay in treatment until a new provider was found. See the Phase I report.) The median length of treatment jumped to 356 days for participants in the 1993-94 sample cohort once treatment services were regularized, but then dropped to a low of 209 days in treatment in the 1995-96 cohort.[22] These changes are associated with a difficult start-up period, a period of effective operation, and then a change to rotation of many judges and use of non-judge referees in the drug court, as well as early automatic termination policies.

Figure 17 Length of Time in Treatment among Multnomah County Drug Court Participants during Two-Year Observation Period, 1991 - 1996
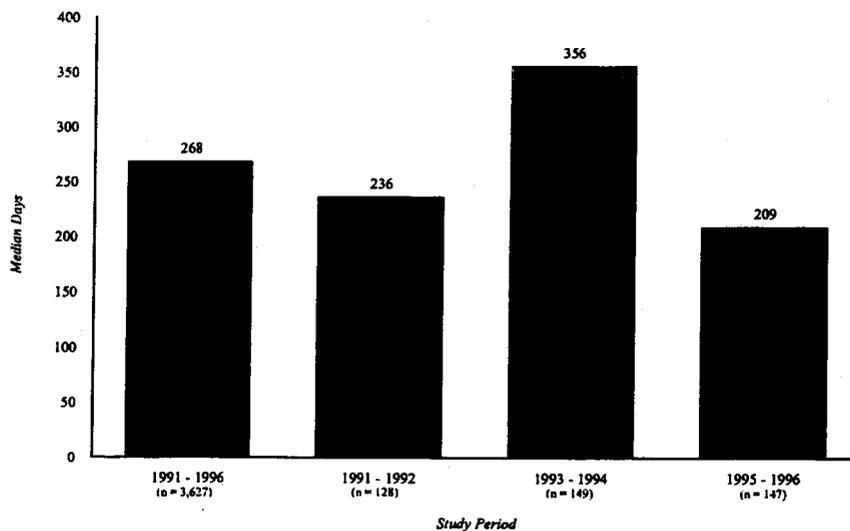
[Note: We were unable to collect two-year data for 1997 cases.]

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[21] Note that the slight increase from the one-year measure is accounted for by the large proportion of participants who failed by the one-year mark. Their participation in treatment does not increase merely by extending the follow-up period.

[22] We did not collect two-year follow-up data for the 1997 cohort (only one-year follow-up data exist for this cohort). We estimate that time in treatment for this group over two years would be shorter than that shown for the 1995-96 cohort based on the one-year patterns.

Use of Sanctions

Figure 18 shows that a variety of sanctions were employed by the drug court during the two-year follow-up.[23] Overall, seven percent of participants received a jail sanction, and ten percent were placed on Zero Tolerance. Notably, the use of jail increased sharply in 1995-96 to 14 percent, up from one percent in 1993-94. The increased use of jail in later years is likely tied to the change in program leadership (assignment of a non-judge referee) and subsequent modification of program rules eliminating much of the tolerance that had characterized the program in previous years. Overall, there was little change in sanctioning patterns from one to two years, suggesting that most of those participants actively engaged in treatment during the second year were meeting program requirements and did not experience sanctions.

Figure 18 Types of Sanctions Imposed on Multnomah County Drug Court Participants during Two-Year Observation Period, 1991 - 1996

Percentage of Participants
1991 - 1996
(n = 3,767)

Percentage of Participants
1991 - 1992
(n = 143)

Percentage of Participants
1993 - 1994
(n = 150)

Percentage of Participants
1995 - 1996
(n = 153)
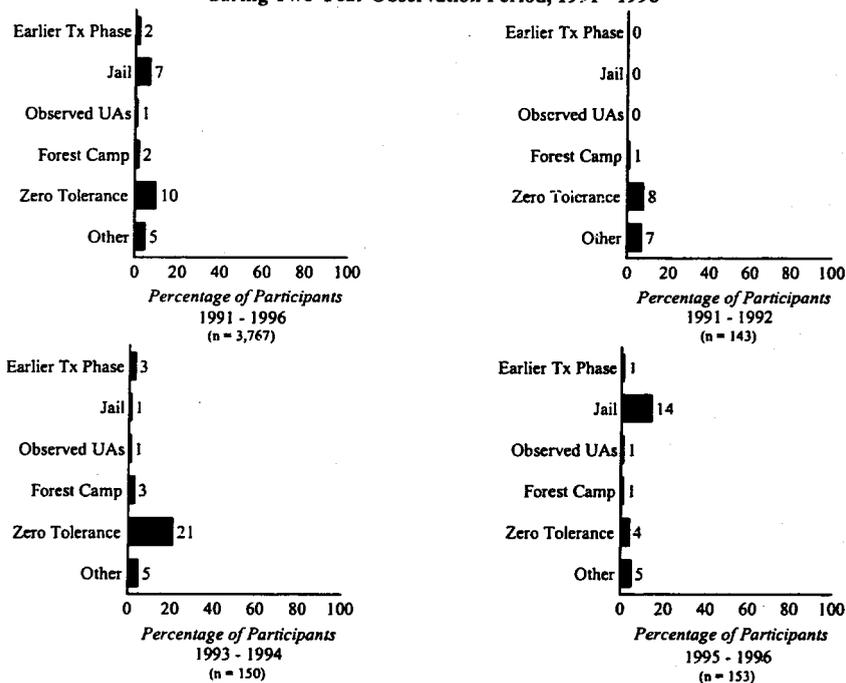
[Note: Although the Zero Tolerance program was not created until January 1994 under Judge Robinson, treatment provider records indicate its use in 1991 and 1992.]

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[23] We were unable to document confinement time attributable to drug court over the two-year follow-up period.

Participant Case and Treatment Status in the Drug Court at the End of Two Years

Figure 19 shows two-year case status of Multnomah County Drug Court participants both overall (1991-96) and for each sample cohort. Overall, the majority of participants had their cases closed and their relationships with drug court completed by the end of the second year. Two percent of cases were still open (with participants on release); this changed little over the three time periods shown. Another one percent of cases overall were still open with the participant in confinement, again with little change over time. A small proportion of participants were in fugitive status at the two-year mark, with an additional small proportion having charges dismissed.

Figure 19 Status of Cases among Multnomah County Drug Court Participants at the End of a Two-Year Observation Period, 1991 - 1996

	1991 - 1996 (n = 3,755)	1991 - 1992 (n = 143)
Still Open (Released)	2	6
Still Open (Confined)	1	0
Fugitive	6	9
Charges Dismissed	3	3
Guilty	46	31
Graduated	41	50
Other	1	1

	1993 - 1994 (n = 150)	1995 - 1996 (n = 152)
Still Open (Released)	4	1
Still Open (Confined)	1	1
Fugitive	7	5
Charges Dismissed	3	3
Guilty	37	57
Graduated	48	33
Other	1	1
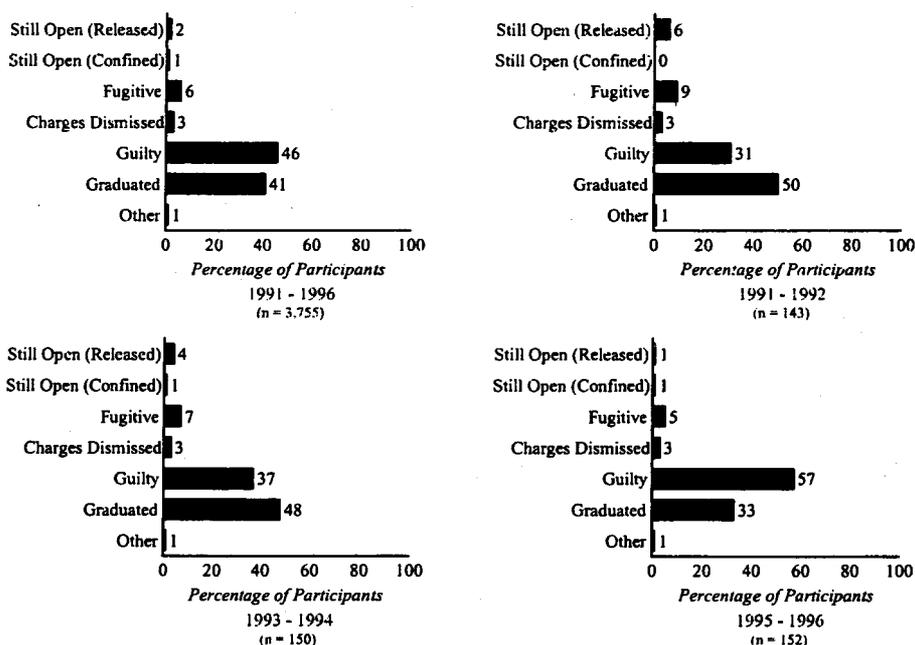
[Note: Two-year case status was determined using treatment provider and court data. There are 45 participants who are still active in treatment according to InAct data, but are considered graduates in court data. The discrepancy is likely a result of outstanding treatment fees and/or delays in updating treatment files. In order to be consistent, those 45 participants are considered graduates here and elsewhere in the report.]

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What did appear to change over time was the proportion with cases successfully closed due to graduation from the program: 50 percent of 1991-92 participants, 48 percent of 1993-94 participants, and 33 percent of 1995-96 participants graduated within the two-year observation

period. While the successfully closed cases (graduated/dismissed) decreased proportionately, the proportion with convictions as the final case status increased from 31 percent among 1991-92 participants and 37 percent among 1993-94 participants to more than half (57 percent) of the 1995-96 participants. This shift in graduations and guilty verdicts in 1995-96 is also explained, at least in part, by the change in judicial leadership and program philosophy in January 1996, when program rules became more stringent and less tolerant of participant setbacks.

Predicting Treatment Outcomes Two Years after Entry in Clark County and Multnomah County Drug Courts

Beyond describing the relative success or progress of drug court participants, this analysis of treatment outcomes in the two sites asked whether particular attributes of participants, their backgrounds or their substance abuse histories affect the probability of successful treatment outcomes. Thus, the analysis presented in this section seeks to identify predictors of treatment success and to discuss their implications when found. Knowledge of predictors of treatment may raise questions about the effectiveness of the treatment process and suggest directions for improvement.

Using multivariate analyses, including linear and logistic regression as well as CHAID, as appropriate, we attempted to identify predictors of the following specific treatment outcomes in both drug court jurisdictions:[24]

- Early termination (within six months)
- Time in treatment
- Attendance at 75 percent or more of scheduled treatment appointments (one-year follow-up)
- Graduation

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[24] The multivariate analyses presented here are intended to be illustrative. The predictive results were not validated, for example, through split samples.

Early Termination within Six Months

Treatment literature generally and earlier drug court research specifically have suggested that failure in treatment often occurs at a fairly early stage. An implication is that, by anticipating early failure, the treatment process could be strengthened to increase retention and overall treatment success. For the purposes of this analysis, we sought to model (predict) early termination defined as persons who were terminated by the court for non-compliance or were fugitive never to return (during the remainder of the follow-up period) within the first six months (i.e., well short of the 12-month minimum program length).

Clark County

As we have shown in the Phase I report, the Clark County Drug Court lost very few participants within the first month of drug court treatment. In fact, the Clark County Drug Court terminated only 17 percent of drug court participants within 180 days (1993-97), although the percentage varied by year and decreased notably over time, from 32 percent and 22 percent in 1993 and 1994, to 12 percent and seven percent in 1996 and 1997.

Drawing from over 50 potential predictor variables (including a range of demographic, current case, prior criminal history, and assessment attributes)[25] that would have been available at the initiation of the treatment process, logit analysis was only modestly successful in identifying significant predictors of early termination among Clark County Drug Court participants (see Table 6). Having an alias and testing positively at assessment (both of which significantly increased the likelihood of early dropout), as well as being married or living with a significant other (which decreased the likelihood) together distinguished categories of participants with lower and higher probabilities of early termination, taking into account the possible effects of other predictors.

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[25] See the technical appendices for the Phase I report for the complete list of variables collected in the study.

Table 6 Predicting Early Termination from Drug Court (within Six Months) among Clark County Drug Court Participants, 1993-1997

Predictor Variables	Parameter (Sig)
Having an Alias (No/Yes)	1.048 (.000)
Testing Positive at Assessment (No/Yes)	1.057 (.001)
Married/Living with Significant Other (No/Yes)	-1.038 (.016)
Constant	-2.727
Model Statistics	
Log Likelihood	349.683
Goodness of Fit (H&L)	.838
GF Significance	.975
Chi Square	32.501
DF	3
Significance	.000
N	413

Probability Level	Percent Early Termination	(n)	Percent of Total
Low	5.2	116	28.1
Medium	16.5	200	48.4
High	34.0	97	23.5
Total		413	100.0

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Predicted values from logistic regression were used to develop a three-level risk classification of early termination shown in Figure 20.[26] Participants classified as having the lowest probability were associated with a base rate of five percent early termination; medium risk participants showed a base rate of 17 percent early termination; and highest risk participants were terminated about 34 percent of the time and thus were about twice as likely as the medium risk, and six times as likely as the lowest risk group participants to be terminated within six months. When 1993-97 drug court participant samples are classified using this framework, about half are ranked as medium risk. However, more than one-fourth (28 percent) of participants were classified as lowest risk, and about one-fourth were classified as highest risk of early termination. Figure 20 shows variation by year in the likelihood of early termination classification associated with Clark County Drug Court participants, with 1997 showing the largest proportion of participants ranked as lowest early termination risk (39 percent) and the

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[26] Predicted values of the dependent variable (representing probabilities of early termination) were multiplied by a constant (e.g., .15) and grouped to produce classes of participants with differing probabilities of early termination.

smallest proportion ranked as highest risk (13 percent) of all yearly cohorts studied. Figure 21 applies this classification to each yearly cohort of drug court participants and shows the actual rates of early termination associated with each cohort and risk grouping. In general, the simple classification groups participants well: those grouped as lowest risk show the lowest rates of early termination, with the medium groups showing mid-level rates and the highest risk groups showing the highest proportions terminated (with the exception of 1997, which suffers from a small number of cases in the high risk category).

Figure 20 Probability of Early Termination (within Six Months) among Clark County Drug Court Participants, 1993 - 1997, by Year

Study Period
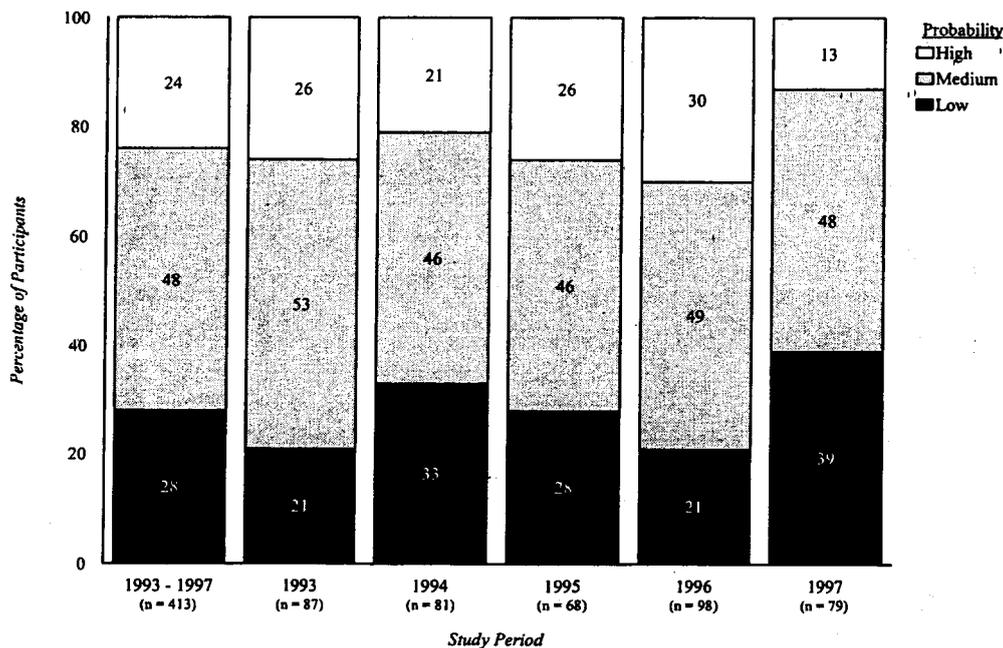
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Figure 21 Early Termination (within Six Months) among Clark County Drug Court Participants, 1993 - 1997, by Probability of Early Termination
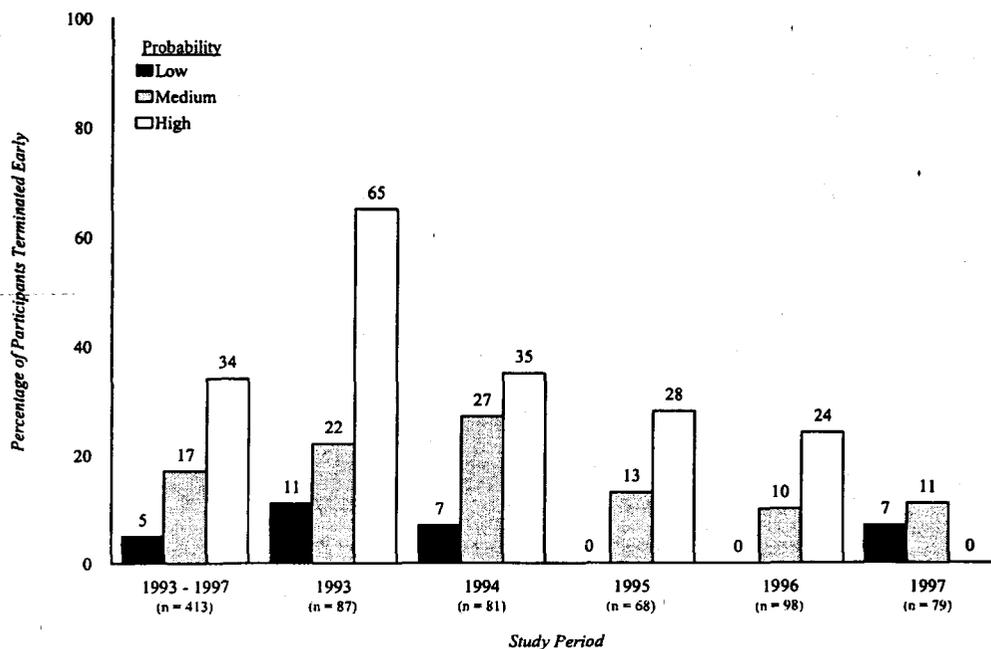
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Multnomah County

As has been described in more depth in the Phase I report, the Multnomah County Drug Court offers the special feature of an initial two-week "opt-out" period, during which defendants can decide to drop out of the drug court and have their charges adjudicated in the normal fashion. Thus, one might expect a higher rate of early termination in Portland, due to participants opting out.[27] In fact, overall, about 18 percent of the Multnomah County Drug Court participants were terminated in the first 30 days. By the 180-day mark, 48 percent of participants were found to have been terminated or to be permanently fugitive.[28] The determination of status at six months was made using treatment data. More specifically, active time in treatment was calculated from first appearance at InAct to last date seen by the treatment providers (less than 180 days or not).

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[27] In fact, few candidates actually chose to drop out of the program at that stage. See the Phase I report for a more in-depth discussion.
[28] By permanently fugitive we mean persons who were in a fugitive status at the six-month mark and who did not return to the court during the follow-up periods studied.

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Differences between participants' status in the program may exist, depending on which data source is used. For example, participants who are fugitive for extended periods of time may be considered inactive. We used treatment data to make the six-month status determination because we felt it was more "time-sensitive" or accurate than court data in terms of accounting for fugitive status. The percentage of participants being terminated within 180 days of program entry varied notably over time, with a low of 35 percent in the 1993-94 cohort to nearly half in 1995-96 and more than 60 percent in 1997. These changes in "early" termination of drug court participants in Multnomah County may be best explained by the shift toward more restrictive (and automatic) termination policies implemented beginning in 1996 with the shift from a dedicated drug court judge to a non-judge referee and then rotation of many judges during relatively short periods. During the court's earlier years, participants in an unfavorable status were kept "on the books" longer in the hopes that treatment could be resumed with eventual success.

Using the range of potential predictor variables described above in the Clark County analysis, logistic regression was employed to model termination from the drug court within six months. In this way, five participant attributes were identified as being significantly related to early termination, taken together: race (white, non-white), prior failures to appear (FTA), prior arrests for serious property offenses, and indications of marijuana and cocaine use (as measured through self-report, assessment, or from arrest information). These results suggest that being non-white (African-American or Latino), having prior FTAs, and prior serious property arrests are associated with an increased likelihood of termination within six months, while indications of marijuana and cocaine use prior to enrollment are associated with a lower likelihood of early termination (see Table 7). The finding that being non-white is a significant predictor of early

termination, other factors being equal, raises questions about the treatment/drug court process in Multnomah County that should be carefully addressed. See our discussion of community context below (Section X) for one possible explanation of this finding.

Table 7 Predicting Early Termination from Drug Court (within Six Months) among Multnomah County Drug Court Participants, 1991-1997

Predictor Variables	Parameter (Sig)
Race (White/Non-White)	.421 (.027)
Prior Failures to Appear (No/Yes)	.620 (.012)
Prior Arrests, Serious Property (No/Yes)	.951 (.014)
Indication of Marijuana (No/Yes)	-.720 (.000)
Indication of Cocaine (No/Yes)	-.643 (.001)
Constant	.354
Model Statistics	
Log Likelihood	720.095
Goodness of Fit (H&L)	9.223
GF Significance	.237
Chi Square	49.965
DF	5
Significance	.000
N	556

Probability Level	Percent Early Termination	(n)	Percent of Total
Low	29.4	85	15.3
Medium	42.2	230	41.4
High	60.6	241	43.3
Total		556	100.0

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Grouping the predictive scores from the logit model of early termination, a classification was developed ranking Multnomah County participants as low, medium or high probability of early termination. Figure 22 shows that proportionately few participants overall (15 percent) were categorized as having a low probability of early termination, while 43 percent were ranked as highly likely and 42 percent were ranked as moderately likely to be terminated early. The risk of early termination associated with the Multnomah County Drug Court participants varied by cohort: only 28 percent of the 1993-94 drug court cohort were ranked as high risk of early termination, compared to 51 percent of the 1995-96 participants and 46 percent of the 1997 participants.

Figure 22 Probability of Termination (within Six Months) among Multnomah County Drug Court Participants, 1991 - 1997
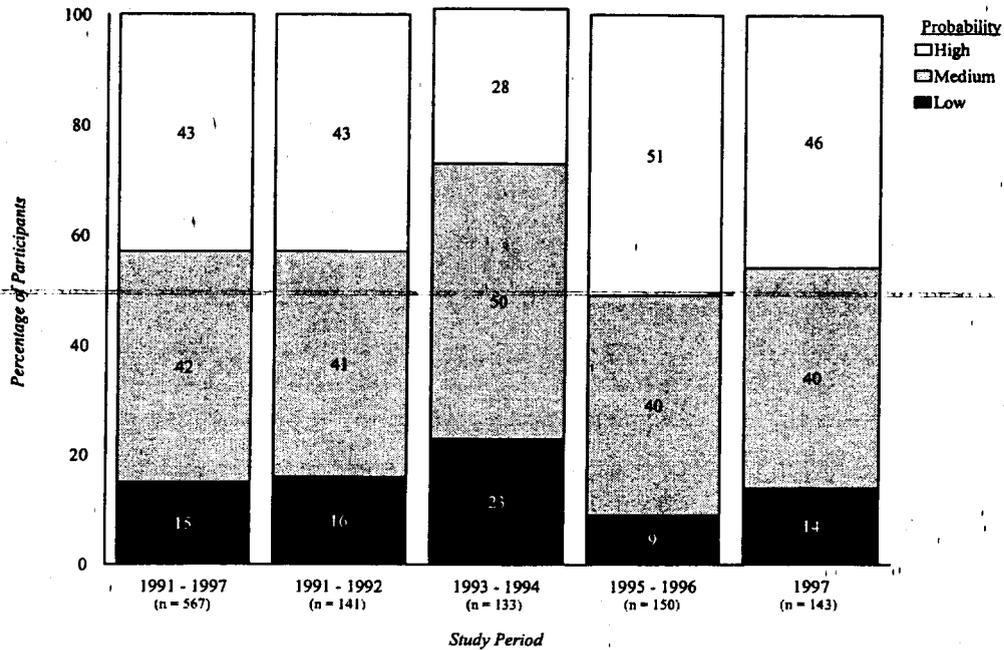
Figure 23 shows that the predictive classification ranks participants well when actual termination rates are concerned: 29 percent of the lowest probability participants (1991-97 combined unweighted sample of participants), 42 percent of the participants classified as medium probability, and 61 percent of the highest probability category were in fact terminated within six months of entry. When the early termination classification is applied to each cohort, however, it effectively ranks participants into groups that had low, medium, and high actual termination rates in only the 1993-94 and 1997 cohorts. Note that in the later years of the study (1995-96, 1997), the proportion of participants now classified as highly likely to be terminated early from the drug court increased to around one-half. At the very least, this suggests that the Multnomah County Drug Court was addressing a more challenging and more failure-prone population of participants from 1996 on. Moreover, participants in the 1993-94 cohort were less likely to be terminated early than all other cohorts.

Figure 23 Early Termination (within Six Months) among Multnomah County Drug Court Participants, 1991 - 1997, by Probability of Early Termination
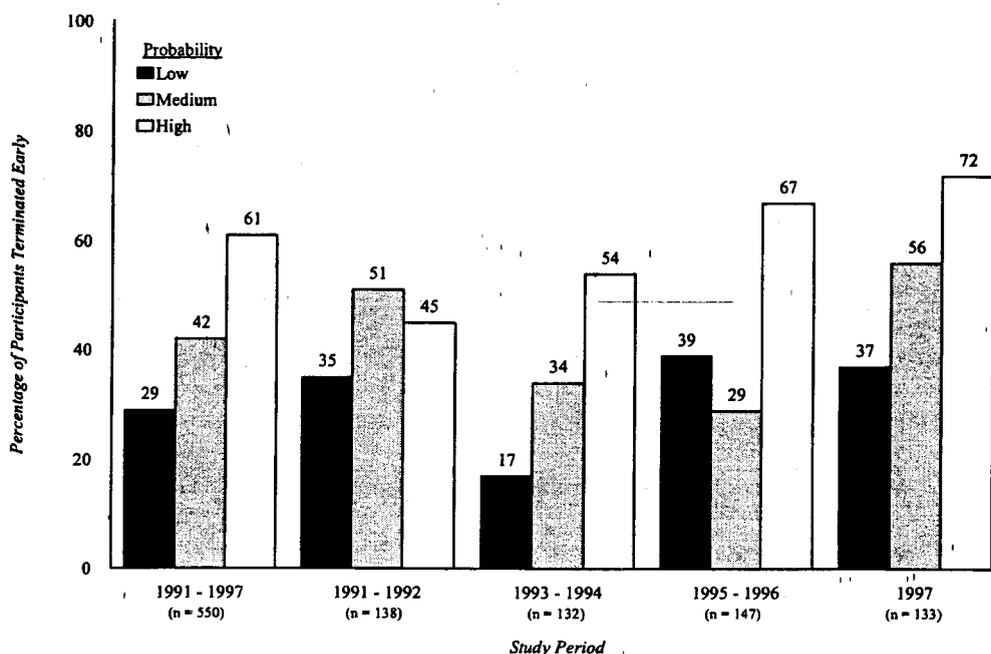
Time in Treatment

Clark County

The number of days spent in treatment (from initial assessment to last date seen) during the drug court program provides a measure of treatment participation and of treatment success (or at least retention in treatment). Defendants who perform poorly will survive in treatment for shorter periods than participants who perform well. Drug treatment advocates argue that treatment is more effective the longer a person is in treatment, using reasoning similar to medical dosage (that a certain dosage over a certain period of time is expected to be effective). When multivariate techniques were employed to model length of time in treatment among Clark County participants, we were unable to develop a satisfactory predictive model based on knowledge of attributes of participants that would have been known only at the early stages of processing (drug court entry and assessment). One inference might be that other factors we were

unable to measure explained retention in treatment, such as the efforts of the drug court and its treatment program staff to monitor the performance of participants closely.

Multnomah County

Multiple regression was employed to identify factors predictive of time in treatment. The regression solution was not strong; only two variables were significant, prior felony arrests and testing positively at the first drug test (within the first three days of treatment). Both factors were associated negatively with time in treatment. Participants who have prior felonies and who test positively at the first stages of treatment tend to spend less time in treatment than those who have no prior felony arrests and test negative for drugs early on. When the dependent variable, time in treatment is viewed as an outcome measure, an implication of this finding is that when the drug court is dealing with persons who test negatively shortly after their arrest (or within three days of entering treatment), they stay in treatment longer and are more likely to be successful. One might expect, however, that seriously drug involved defendants would be likely to show early positive test results and be more likely to have had prior encounters with the justice system.

Attendance at Scheduled Treatment Appointments (One Year)

Clark County

A third treatment outcome we sought to model was the percent of presumptively scheduled treatment appointments actually attended by Clark County participants (based on a constant expected number for the program). Figures 9 and 10 above compared expected and actual number of treatment appointments made by drug court participants in the two sites during the one-year observation period. In multivariate analysis, we sought to predict treatment participation at or above 75 percent of expected appointments among drug court enrollees. (In short, we tried to predict the "best-performers" in terms of attendance.) Overall (1993-97), nearly

half of participants attended three-quarters or more of their scheduled appointments. However, there was considerable variation by year (from a low of 32 percent of expected attendance in 1993 to a high of 60 percent of expected attendance in 1995).

CHAID[29] analysis was most useful in identifying predictors of 75 percent attendance at treatment appointments among Clark County Drug Court participants. Figure 24 displays the results of the CHAID analysis that identified predictors through its successive partitioning of participants into groups with notably differing probabilities of 75 percent attendance. Table 8 summarizes the eight participant groups that result from this analysis, ranked from lowest probability of 75 percent attendance (Group 1) to highest (Group 8). Persons least likely to achieve 75 percent attendance were characterized by prior drug convictions and negative initial tests for marijuana, but testing positive for other drugs at assessment. Participants most likely to achieve 75 percent attendance were married or living with a significant other, had no prior felony theft or receiving stolen property arrests, and had negative tests at assessment.

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[29] We also conducted a logit analysis which developed a less satisfactory but significant model using: race (African-American, -), prior serious property convictions (-), positive drug test at assessment (-), and marijuana use indicated (+). Predicted values were used to develop a two-level risk classification of 75 percent attendance, with 60 percent classified as low risk and 40 percent classified as high risk (base rates of 37 percent and 64 percent achieving 75 percent attendance, respectively).

Figure 24 Predicting Attendance at 75 Percent or More of Scheduled Treatment Appointments during a One-Year Observation Period among Clark County Drug Court Participants, 1993 - 1997, (CHAID Analysis)

Attended 75 Percent or More of Scheduled Treatment Appointments

Predicted = 48%
n = 494 (100%)

Positive Drug Test at Assessment

No, Missing

Predicted = 56%
n = 217 (44%)

Prior Felony Theft/RSP Arrests

No

Predicted = 60%
n = 165 (33%)

Yes

Predicted = 42%
n = 52 (11%)

Marital Status

Other, Missing

Predicted = 55%
n = 132 (27%)

Married/Living with Significant Other

Predicted = 79%
n = 33 (7%)

Prior Open Cases

No

Predicted = 62%
n = 82 (17%)

Yes

Predicted = 44%
n = 50 (10%)

Yes

Predicted = 42%
n = 277 (56%)

Tested Positive for Marijuana, Assessment

No, Missing

Predicted = 35%
n = 209 (42%)

Yes

Predicted = 62%
n = 68 (14%)

Prior Drug Convictions

No

Predicted = 39%
n = 167 (33%)

Yes

Predicted = 21%
n = 42 (9%)

Enter Drug Court in Post-Conviction Status

No

Predicted = 34%
n = 118 (24%)

Yes

Predicted = 51%
n = 49 (10%)

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Table 8 Summary of CHAID Classification Predicting 75 Percent Attendance at Treatment during a One Year Observation Period among Clark County Drug Court Participants, 1993-1997

Group	Description	(n)	Percent Total	Percent High Attendance	Probability Level
	Attendance at 75+ Percent of Treatment Appointments				
1	Prior drug convictions; testing negative for marijuana (or missing results) at assessment; testing positive at assessment	42	8.5	21.4	Low
2	Enter drug court through diversion; no prior drug convictions; negative for marijuana (or missing results) at assessment; testing positive at assessment	118	23.9	33.9	Low
3	Prior felony theft/RSP arrests; negative test at assessment (or missing results)	52	10.5	42.3	Medium
4	Prior pending arests; not married or living with significant other (or missing); no prior felony theft/RSP arrests; negative test at assessment (or missing)	50	10.1	44.0	Medium
5	Enter drug court post-conviction; no prior drug convictions; negative for marijuana (or missing results) at assessment; testing positive at assessment	49	9.9	51.0	Medium
6	Test positive for marijuana at assessment; test positive at assessment	68	13.8	61.8	High
7	No prior pending arrests; not married or living with significant other (or missing); no prior felony theft/RSP arrests; negative test at assessment (or missing)	82	16.6	62.2	High
8	Married or living with significant other; no prior felony theft/RSP arrests; negative test at assessment (or missing)	33	6.7	78.8	High
	Total	**494**	**100.0**		

Probability Level	Percent High Attendance	(n)	Percent of Total
Low	30.6	160	32.4
Medium	45.7	151	30.6
High	65.0	183	37.0
Total		494	100.0

Collapsing these eight categories of participants further produces a three-level classification indicating participants with low (31 percent), medium (46 percent) or high (65 percent) probabilities of 75 percent attendance. Figure 25 shows that, when this classification of participants is applied to the yearly drug court cohorts, the proportion of participants ranked as having a high likelihood of achieving 75 percent attendance declined from nearly half (46 percent) in 1993 to 33 percent in the 1996 and 1997 cohorts. (Again, this change parallels the shift to a more conviction-based drug court with higher risk participants.) Figure 26 demonstrates that with knowledge of these few attributes—including prior drug convictions, positive tests at assessment, positive tests for marijuana, prior felony property arrests, marital status, other open cases, and conviction status at entry to drug court—CHAID analysis produced a useful predictive classification that distinguished groups of participants according to their probabilities of achieving 75 percent attendance.

Figure 25 Probability of 75 Percent Attendance at Treatment during a One-Year Observation Period among Clark County Drug Court Participants, 1991 - 1997, by Probability of High Attendance
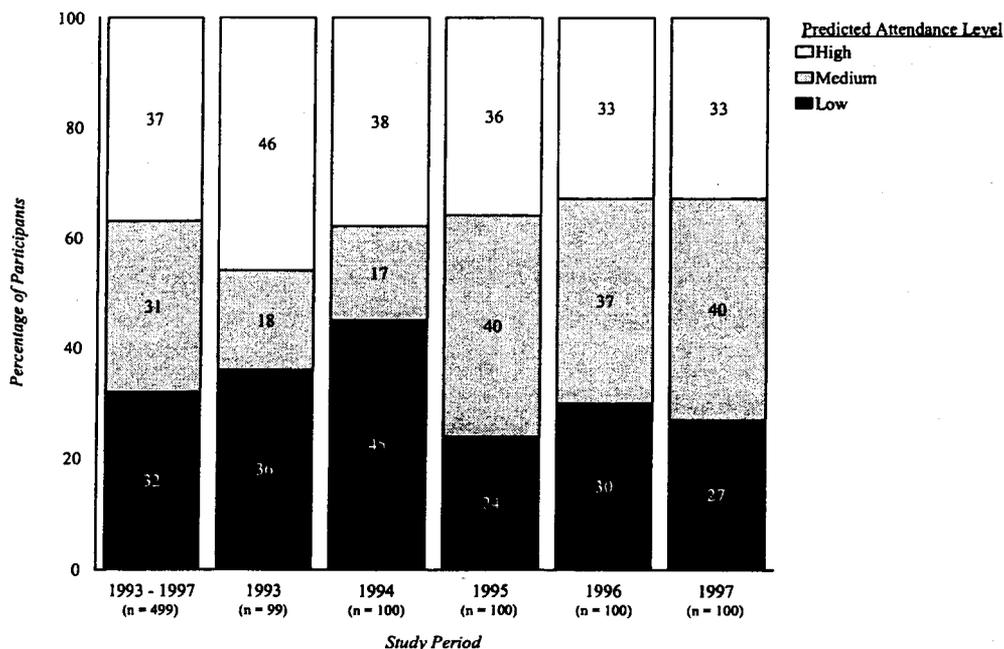
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Figure 26 75 Percent Attendance at Treatment during a One-Year Observation Period among Clark County Drug Court Participants, 1993 - 1997, by Probability of Attendance
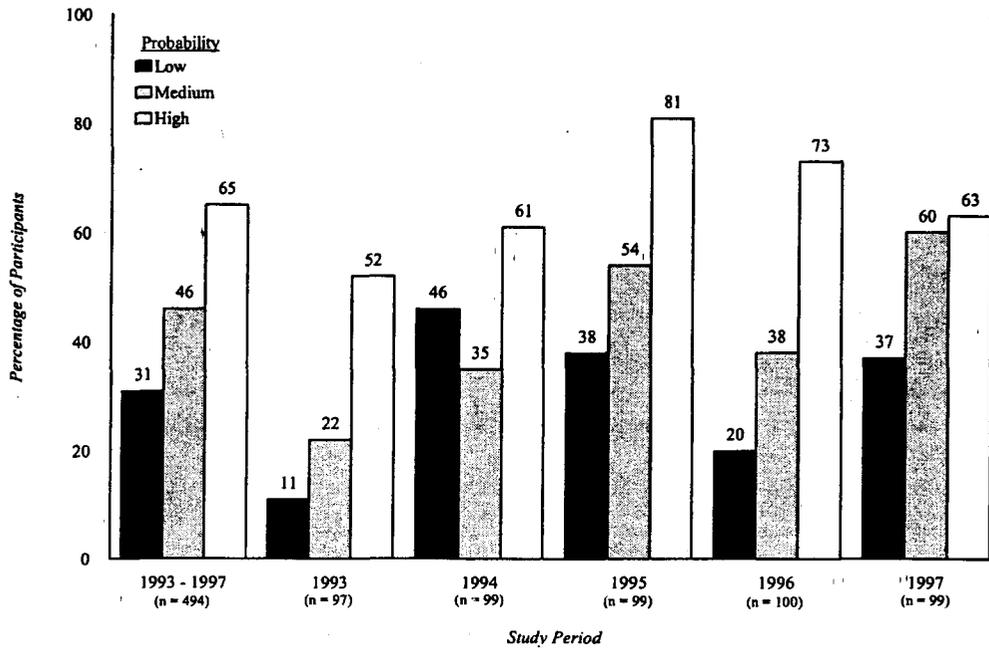
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Multnomah County

Overall (1991-97), 39 percent of the Multnomah County Drug Court participants attended 75 percent or more of their scheduled appointments during the first year after entry into the program. This proportion fluctuated slightly over time, from a high of nearly half of participants achieving that attendance in the 1993-94 cohort, dropping to a low of about 31 percent in the 1995-96 cohort, and then returning nearly to the high level among the 1997 participants.

The CHAID analysis shown in Figure 27 first found that prior felony arrests differentiated participants based on likelihood of high attendance, with those with prior felony arrests less likely than those without prior felony arrests to achieve high attendance. Among those with prior felony arrests, prior failures-to-appear in court (FTAs) was associated with a very low rate of high attendance, while those without were divided into persons with indications of marijuana use at assessment (increased likelihood of optimal attendance) and those without.

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Among those with no indication of prior felony arrests, having prior marijuana use and no heroin use was associated with increased likelihood of optimal attendance. Persons without prior felony arrests and no marijuana use who were over 40 years old had greater chances of high attendance, while those younger and with positive drug tests in the first three days of treatment had a very low predicted rate of 75 percent attendance.

Table 9 summarizes the eight drug court participant groups formed by the CHAID partitioning, ranked from a lowest probability group (with a 13 percent probability of achieving high attendance) to a highest probability group (with 59 percent probability). Participants with prior felony arrests and recent prior FTAs (Group 1) were classified as least likely to attend 75 percent or more of scheduled treatment appointments. Older participants (over 40), with no prior felony arrests and no marijuana use (Group 8) were ranked as having the greatest likelihood of achieving 75 percent attendance.

Figure 27 Predicting 75 Percent Attendance Treatment during a One Year Observation Period among Multnomah County Drug Court Participants, 1993 - 1997, (CHAID Analysis)

Attended 75 Percent or More of Scheduled Treatment Appointments

```
                          Predicted = 39%
                          n = 577 (100%)
                               |
                        Prior Felony Arrests
              ┌────────────────┴─────────────────────┐
          No, Missing                                Yes
       Predicted = 46%                          Predicted = 26%
       n = 378 (66%)                            n = 199 (34%)
             |                                        |
  Any Indication of Marijuana Use, Assessment   Prior FTAs w/in Last 3 Years
       ┌─────┴──────┐                          ┌───────┴────────┐
   No, Missing      Yes                        No              Yes
  Predicted = 36%  Predicted = 55%        Predicted = 31%   Predicted = 12%
  n = 182 (32%)    n = 196 (34%)          n = 145 (25%)     n = 54 (9%)
        |               |                       |
  Participant Age   Any Indication of     Any Indication of Marijuana Use,
                    Heroin Use,                Assessment
                    Assessment
   ┌────┴─────┐     ┌──────┴──────┐       ┌───────┴───────┐
40 or Younger  41+   No         Yes       No             Yes
Predicted=31% Predicted=59% Predicted=59% Predicted=41% Predicted=21% Predicted=41%
n=150(26%)    n=32(6%)  n=157(27%)  n=39(7%)  n=72(12%)   n=73(13%)
      |
Positive Drug Test within 3 Days
   ┌────┴─────┐
  No         Yes
Predicted=37% Predicted=20%
n=101(18%)   n=49(8%)
```

Table 9 Summary of CHAID Classification Predicting 75 Percent Attendance at Treatment during a One Year Observation Period among Multnomah County Drug Court Participants, 1991-1997

Group	Description	(n)	Percent Total	Percent High Attendance	Probability Level
	Attendance at 75+ Percent of Treatment Appointments				
1	Prior FTAs within last 3 years; prior felony arrests	54	9.4	12.9	Low
2	Tested positive for drugs within 3 days; age 40 or younger; no indication of marijuana use at assessment (or missing results); no prior felony arrests (or missing)	49	8.5	20.4	Low
3	No indication of marijuana use at assessment (or missing results); no prior FTAs within last 3 years; prior felony arrests	72	12.5	20.8	Low
4	Tested negative for drugs within 3 days; age 40 or younger; no indication of marijuana use at assessment (or missing results); no prior felony arrests (or missing)	101	17.5	36.6	Medium
5	Indications of heroin and marijuana use at assessment; no prior felony arrests (or missing)	39	6.8	41.0	Medium
6	Indication of marijuana use at assessment; no prior FTAs within the last 3 years; prior felony arrests	73	12.7	41.1	Medium
7	No indication of heroin use at assessment; indication of marijuana use at assessment; no prior felony arrests (or missing)	157	27.2	58.6	High
8	Age 41 or older; no indication of marijuana use at assessment (or missing results); no prior felony arrests (or missing)	32	5.6	59.4	High
	Total	**577**	**100.0**		

Probability Level	Percent High Attendance	(n)	Percent of Total
Low	18.3	175	30.3
Medium	39.0	213	36.9
High	58.7	189	32.8
Total		577	100.0

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The bottom section of Table 9 collapses the eight category classification of participants into three groups according to probability of 75 percent attendance: a low probability group (with 18 percent high attendance expected), a medium probability group (with 39 percent high attendance expected), and a high probability group (with 59 percent high attendance expected). When this classification predicting high attendance is applied to Multnomah County Drug Court participants, overall (1991-97) participants were almost equally distributed among the low, medium, and high probability 75 percent attendance categories. Figure 28 shows, however, that the probability of high attendance varied by sample cohort over time. The relative proportion of high probability participants (successful treatment attendees) declined in the successive drug court caseloads from 35 and 42 percent of the 1991-92 and 1993-94 cohorts respectively, to 27 percent of the 1995-96 and the 1997 cohorts. This figure also shows that as the relative proportion of drug court enrollees in the highest likely attendance category dropped, the proportion in the lowest projected attendance category increased, from 26 and 17 percent in the early cohorts to 40 and 37 percent in the later cohorts (1995-96, 1997). In short, from the perspective of treatment attendance, the Multnomah County Drug Court caseload grew more challenging over time and was less likely to achieve high attendance according to this predictive classification. Figure 29 shows that the low-, medium-, and high-expected attendance ranking from the CHAID analysis worked well in predicting relative attendance among participants when applied overall and to all sample periods.

Figure 28 75 Percent Attendance at Treatment during a One Year Observation Period among Multnomah County Drug Court Participants, 1991 - 1997, by Probability of High Attendance

Predicted Attendance Level
☐High
☐Medium
■Low
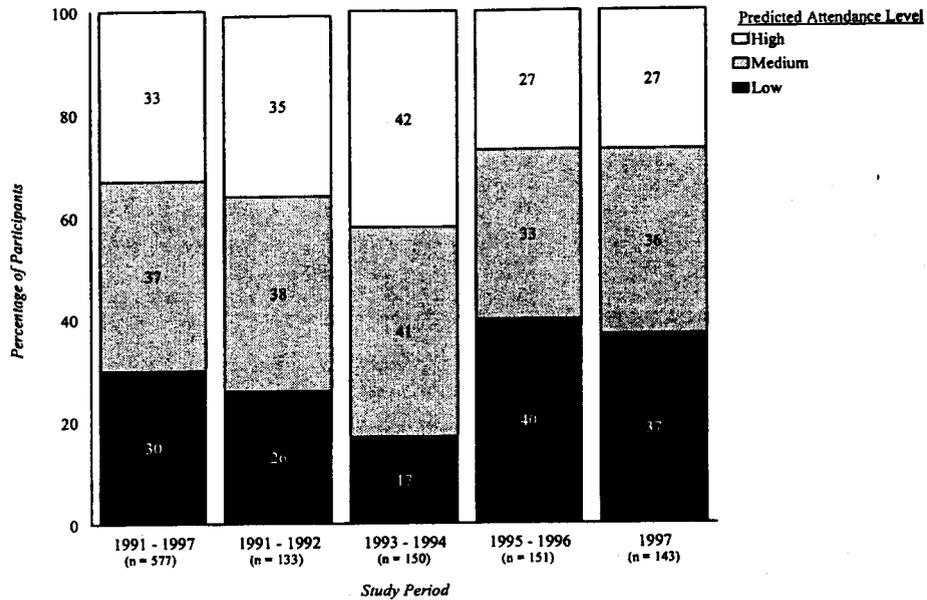
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Figure 29 75 Percent Attendance at Treatment during a One year Observation Period among Multnomah County Drug Court Participants, 1991 - 1997, by Probability of High Attendance

Probability
■Low
☐Medium
☐High

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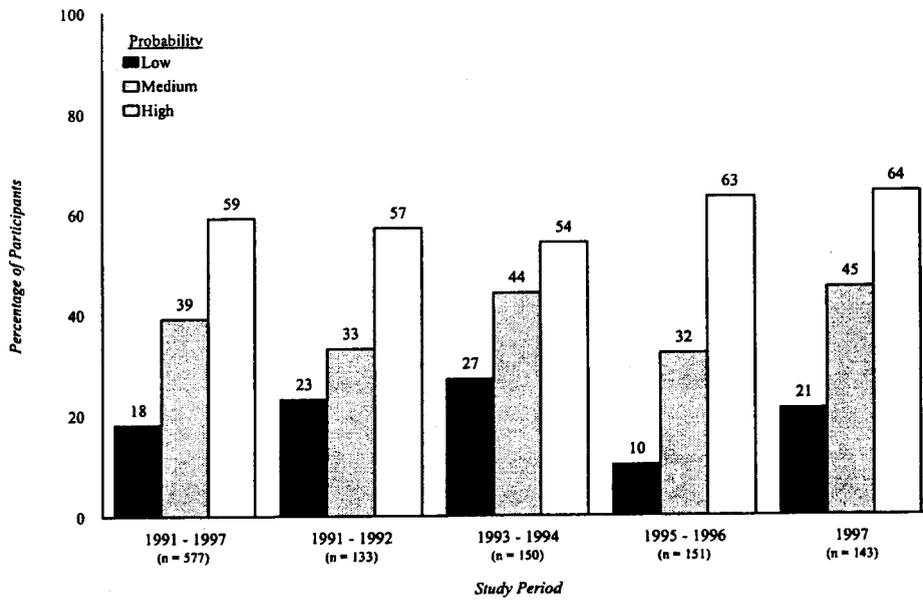
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Graduation

A final treatment outcome we attempted to model or predict, based on knowledge of participants' attributes available at the time of their entry into the program, is successful completion of the drug court treatment regimes in the two locations. This analysis asked whether one could anticipate likely success or difficulty in drug court in advance of program participation.

Clark County

Figure 30 displays the CHAID[30] analysis employed to model graduation (as measured within two years of program entry) among participants entering the Clark County Drug Court from 1993-97 (combined, unweighted sample). Prior arrests within the last three years, positive drug tests at assessment, employment, race/ethnicity (white/non-white), prior convictions within the last three years, gender, and conviction status at entry entered as useful predictors of the probability of graduation.

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[30] Logistic regression was also employed to identify predictors of graduation within two years. Risk predictors include: having an alias (-), having prior arrests (-), having prior serious property convictions (-), testing positive at assessment (-), being African-American (-), and testing positive for marijuana at assessment (+).

Figure 30 Predicting Graduation during a Two-Year Observation Period among Clark County Drug Court Participants, 1993 - 1997, (CHAID Analysis)

Graduate at Two Years

| Predicted = 34% |
| n = 499 (100%) |

Prior Arrests w/in Last Three Years

No

| Predicted = 45% |
| n = 199 (40%) |

Positive Drug Test at Assessment

No, Missing

| Predicted = 58% |
| n = 85 (17%) |

Yes

| Predicted = 36% |
| n = 114 (23%) |

Enter Drug Court in Post-Conviction Status?

No

| Predicted = 43% |
| n = 89 (18%) |

Yes

| Predicted = 12% |
| n = 25 (5%) |

Yes

| Predicted = 26% |
| n = 300 (60%) |

Employed, Time of Assessment

No, Missing

| Predicted = 20% |
| n = 196 (39%) |

Participant Race

White

| Predicted = 26% |
| n = 117 (23%) |

Non-White

| Predicted = 11% |
| n = 79 (16%) |

Participant Gender

Male

| Predicted = 34% |
| n = 59 (12%) |

Female

| Predicted = 17% |
| n = 58 (12%) |

Yes

| Predicted = 38% |
| n = 104 (21%) |

Prior Conviction w/in Last Three Years

No

| Predicted = 28% |
| n = 47 (9%) |

Yes

| Predicted = 47% |
| n = 57 (11%) |

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Following the CHAID partitioning method, the first predictor (prior arrests) of graduation split the sample into those with arrests (lower graduation probability) and those without arrests (higher graduation probability). Among the drug court participants without arrests, having a positive test at assessment and entering the drug court in a post-conviction status decreased the prospects for successful graduation within two years. Among those with prior arrests, employment status at assessment was the next predictor, with employed candidates having greater chances and unemployed having lower probabilities of graduation. Among the employed, having recent prior convictions further divided participants into higher probability (convictions) and lower probability (no convictions) graduation categories. Among those who had prior arrests and were not employed, race (non-whites had a lower probability) and gender (white females had a lower probability) entered as differentiators of the likelihood of graduation.

Through successive partitioning, the CHAID analysis identified eight groups of drug court participants ranked from lowest (11 percent) to highest (58 percent) probability of successful graduation. (See Table 10.) Persons with the highest probabilities of graduating tested negatively for drugs at assessment (or had no results) and had no recent prior arrests (58 percent graduated); persons who were non-white, were unemployed, and had recent arrests had the lowest probability of graduating (11 percent). These eight participant groups were collapsed into three (low-, medium-, and high-probability) categories characterized by 14, 36, and 54 percent probabilities of graduation, respectively.

Table 10 Summary of CHAID Classification Predicting Graduation during a Two-Year Observation Period among Clark County Drug Court Participants, 1993-1997

Group	Description	(n)	Percent Total	Percent High Attendance	Probability Level
	Graduation within 2 Years				
1	Non-white, not employed or employment status unknown, recent prior arrests	79	15.8	11.4	Low
2	Entered drug court post-conviction, tested positive at assessment, no recent prior arrests	25	5.0	12.0	Low
3	Female, white, not employed or employment status unknown, recent prior arrests	58	11.6	17.2	Low
4	No recent prior convictions, employed, recent prior arrests	47	9.4	27.7	Medium
5	Male, white, not employed or employment status unknown, recent prior arrests	59	11.8	33.9	Medium
6	Entered drug court through diversion, tested positive at assessment, no recent prior arrests	89	17.8	42.7	Medium
7	Recent prior convictions, employed, recent prior arrests	57	11.4	47.4	High
8	Tested negative at assessment or results unknown, no recent prior arrests	85	17.0	57.7	High
	Total	499	100.0		

Probability Level	Percent High Attendance	(n)	Percent of Total
Low	13.6	162	32.5
Medium	36.4	195	39.1
High	53.5	142	28.5
Total		499	100.0

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Figure 31 classifies each of the studied cohorts entering the Clark County Drug Court. The proportion of participants ranked as having a high probability of graduation changed little in successive cohorts (ranging only from 27 to 29 percent). In contrast, however, the proportion of participants in the lowest probability category increased steadily from a low of 21 percent of the 1993 participants to a high of 40 percent in the 1997 cohort—a nearly doubling of the proportion of participants most unlikely to achieve graduation in a two-year period.

Figure 31 Probability of Graduation during a Two Year Observation period among Clark County Drug Court Participants, 1993 - 1997, by Year (CHAID)
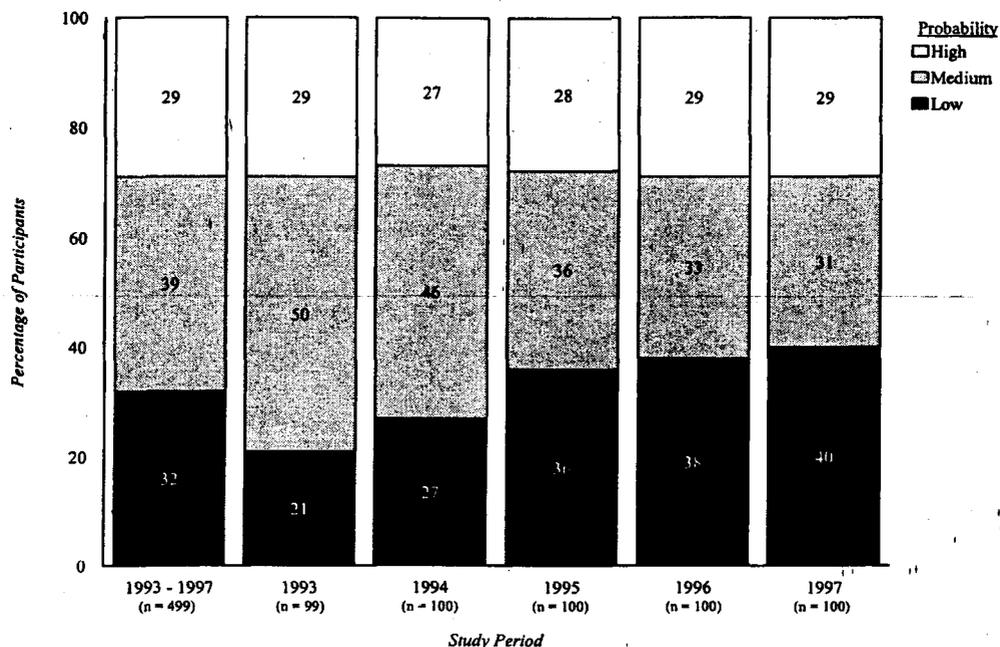
Figure 32 displays the two-year graduation rates of participants entering the Clark County Drug Court using the predictive graduation classification. Except for the 1996 cohort, the three-category ranking of participants "worked" relatively well in predicting graduation rates in the sense that, overall and in all other years, participants ranked as lowest likelihood of graduation indeed showed the lowest rates of graduation, ranging from four to 21 percent. Participants grouped as medium graduation prospects showed mid-level rates (ranging from 18 to 58 percent). Highest ranked participants showed the highest rates of graduation, from 35 to 64 percent.

Figure 32 Graduation during a Two Year Observation Period among Clark County Drug Court Participants, 1993 - 1997, by Probability of Graduation
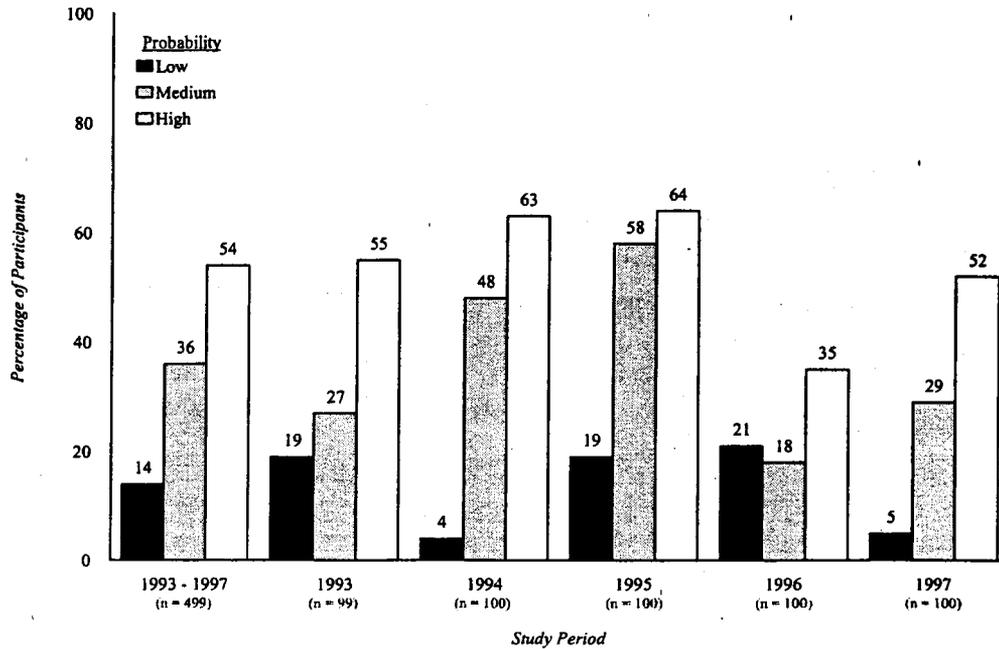
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Multnomah County

Using Multnomah County Drug Court data, CHAID analysis identified four predictors of graduation, shown in Figure 33, which partitioned participants into five groups with differing probabilities of graduation (as measured two years after program entry). The 1991-96 sample is partitioned first on prior felony arrests. Among persons with prior felony arrests (lower graduation probability), the next predictor was having prior misdemeanor convictions. Persons with prior felony arrests and prior misdemeanor convictions had lower graduation prospects (22 percent) than those with prior felony arrests and no prior misdemeanor convictions (41 percent). Among participants with no indication of prior felony arrests (higher graduation probability), indication of marijuana use from assessment entered as the next predictor. Persons with no prior felony arrests and using marijuana at the time of their drug court arrest had a higher probability

of graduation (58 percent) than those who did not use marijuana (41 percent). Those not using marijuana were further split on race; whites who had no marijuana use and who had no prior felony arrests having a higher probability of graduation (48 percent) than non-whites (26 percent).

Table 11 summarizes the CHAID classification results by listing the five categories of participants identified and ranking them according to relative probability of graduation. Twenty-two percent of the lowest probability group (Group 1, persons with prior misdemeanor convictions and prior felony arrests) would be expected to graduate, compared to 58 percent of the highest probability group (Group 5, persons with marijuana use at entry and no prior felony arrests). Figure 34 applies the graduation classification to the first three Multnomah County participant cohorts.[31] This figure suggests that the 1993-94 drug court cohort included a notably larger proportion (47 percent) of high likelihood graduation prospects and a smaller proportion of low graduation probability participants than found in the 1991-92 or the 1995-96 cohorts. This finding is consistent with the earlier finding that nearly half of the 1993-94 participants did indeed graduate. The finding that the 1991-92 participants also recorded a high rate of graduation, however, may be partly explained by the special circumstances of the drug court's difficult start up period (when the first treatment provider was discontinued and several months passed until the new provider was in operation) at the end of which a large number of participants had reached the minimum 12 months in the program and had to be "promoted."

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[31] Note that data for two-year follow-up was not available for the 1997 cohort in Multnomah County.

Figure 33 Predicting Graduation during a Two-Year Observation Period among Multnomah County Drug Court Participants, 1991 - 1996, (CHAID Analysis)

Graduated in Two Years

Predicted = 44%
n = 446 (100%)

Prior Felony Arrests

No, Missing

Predicted = 50%
n = 297 (67%)

Yes

Predicted = 32%
n = 149 (33%)

Any Indication of Marijuana in Assessment

Prior Misdemeanor Convictions

No

Predicted = 41%
n = 143 (32%)

Yes

Predicted = 58%
n = 154 (35%)

No

Predicted = 41%
n = 75 (17%)

Yes

Predicted = 22%
n = 74 (17%)

Participant Race

White

Predicted = 48%
n = 93 (21%)

Non-White

Predicted = 26%
n = 50 (11%)
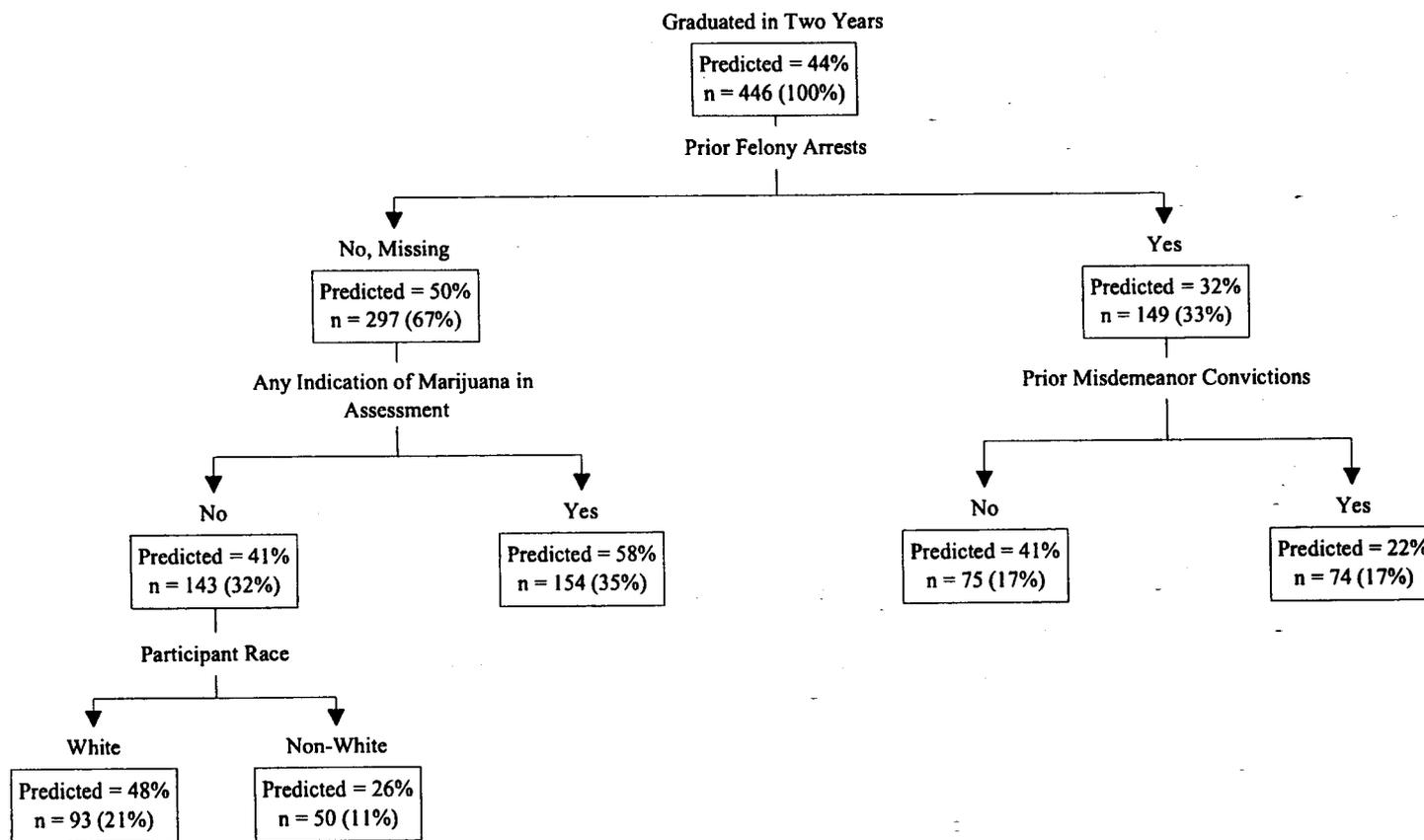
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Table 11 Summary of CHAID Classification Predicting Graduation during a Two Year Observation Period among Multnomah County Drug Court Participants, 1991-1996

Group	Description	(n)	Percent Total	Percent High Attendance	Probability Level
	Graduation within 2 Years				
1	Prior conviction for misdemeanor, prior arrest for felony	74	16.6	21.6	Low
2	Non-white, marijuana is not indicated in assessment, did not have prior felony arrests	50	11.2	26.0	Low
3	No prior conviction for misdemeanor, prior felony arrest	75	16.8	41.3	Medium
4	White, marijuana is not indicated in assessment, did not have prior felony arrests	93	20.9	48.4	Medium
5	Marijuana is indicated in assessment, did not have prior felony arrests	154	34.5	57.8	High
	Total	**446**	**100.0**		

Probability Level	Percent Graduation	(n)	Percent of Total
Low	23.4	124	27.8
Medium	45.2	168	37.7
High	57.8	154	34.5
Total		446	100.0

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Figure 34 Probability of Graduation during a Two-Year Observation Period among Multnomah County Drug Court Participants, 1991 - 1996

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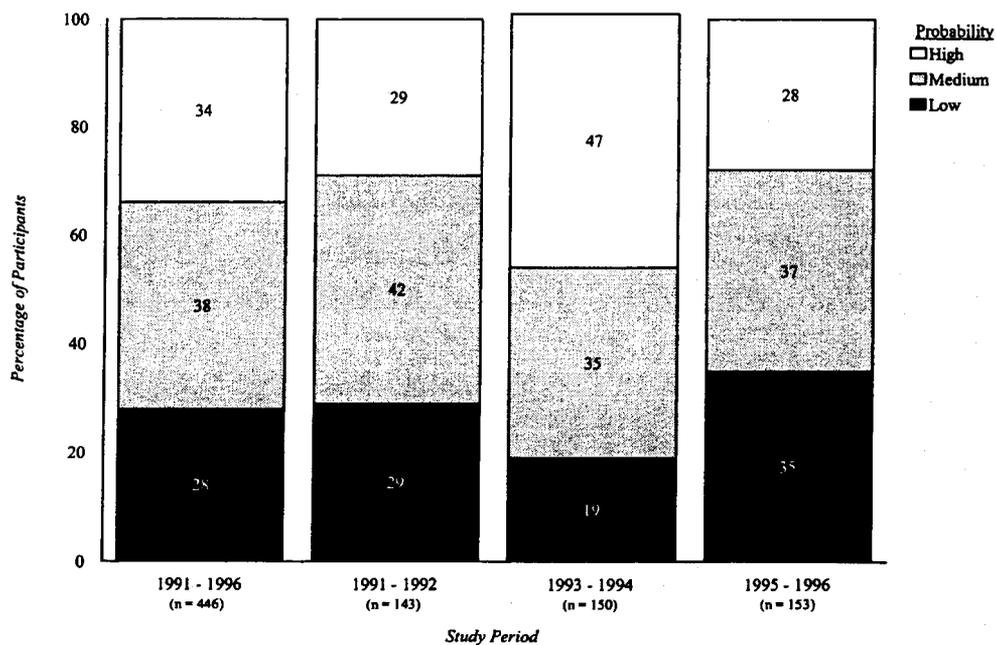
Figure 35 shows the graduation rates associated with the graduation classification. Overall and in each cohort, participants ranked in the lowest graduation probability group produced the lowest rates of graduation (23 percent overall and ranging from 17 percent in the 1995-96 cohort to 21 percent in the 1993-94 cohort, to 33 percent of the 1991-92 cohort). The highest probability groups also displayed the highest actual rates of graduation, except in 1991-92 (58 percent overall, 49 percent of the 1991-92 cohort, 63 percent of the 1993-94 cohort and 58 percent of the 1995-96 cohort). With the exception of the 1991-92 cohort, participants ranked as medium graduation probability produced the middle graduation rates.

Figure 35 Graduation during a Two Year Observation Period among Mulnomah County Drug Court Participants, 1991 - 1996, by Probability of Graduation
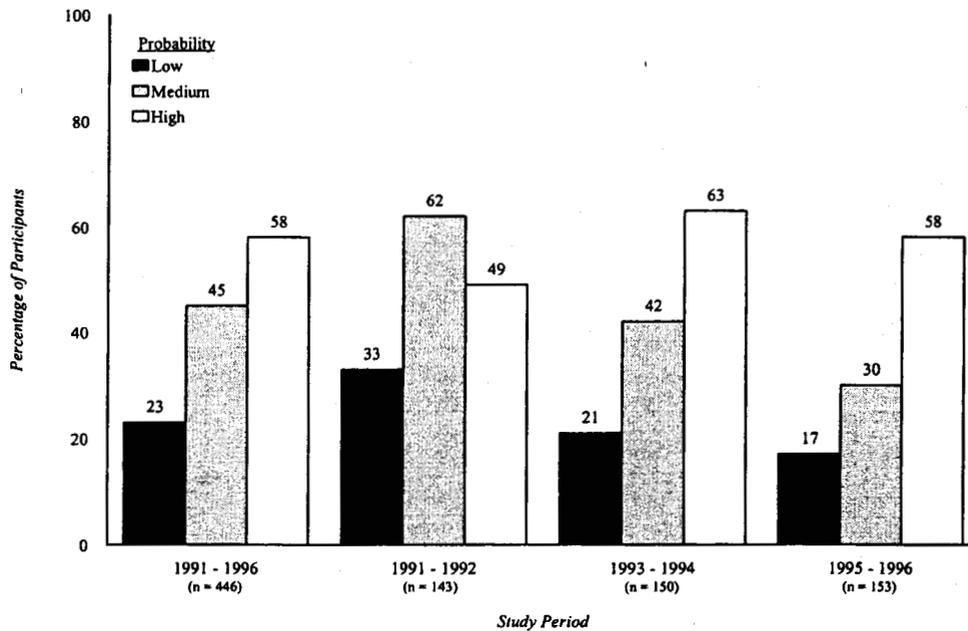
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Themes and Implications from the Analysis of Treatment Outcomes in the Two Sites

The two-year analysis of treatment outcomes relating to the Clark County and Multnomah County Drug Courts reveals a number of changing patterns in the treatment processes over time.

Progress through Treatment: Early Termination

In both sites, the percentage of entering participants successfully graduating from the drug courts decreased over time—from nearly half at the peaks to roughly one-fourth toward the end of the respective study periods. These remarkable parallel findings have different explanations, however. In Clark County, the change in graduation rate as measured two years from entry dropped beginning in 1995 as the new conviction-based admission criteria went into effect. As we have seen in the rearrest analysis, this shift was associated with higher risk participants, longer times to graduation, and lower rates of graduation. In the Multnomah County Drug Court, the halving of the graduation rate from 1991-92 to 1996 was associated with a major shift in judicial approach, including use of non-judge referees, frequent rotation of a large number of judges and a shift in termination policy restricting the flexibility shown previously with defendants in the early stages of treatment.

When multivariate analyses sought to identify the factors predictive of one measure of treatment progress, early termination (within six months), the results were modest in Clark County and more successful in Multnomah County. In Clark County, other factors being equal, having an alias and testing positively at the first treatment appointment (indications of prior system involvement and active drug use) were associated with a greater probability of early termination from the program, while being married or living with a significant other reduced such prospects. In the Multnomah County Drug Court, being non-white (African-American or Latino), having prior arrests for serious property offenses, and having prior failures to appear in court were related to a greater likelihood of early termination from drug court, while testing positively for marijuana or cocaine (or admitting to its active use) at assessment was associated with a smaller probability of early termination, other factors constant. The finding that being

non-white decreases a person's chances of staying in treatment—controlling for other factors—may be explained by the different patterns of drug use and crime associated with whites and non-whites. The finding that marijuana users will have a better chance of staying in treatment, net of other factors, suggests that the non-marijuana users in drug court will have a more difficult time. Other drugs include methamphetamines, heroin, and crack cocaine; all are seen as more challenging for treatment than marijuana use. The race/ethnicity effect in Multnomah County suggests that special issues may be present relating to differences among groups that influence chances of staying in treatment and, consequently, ultimate success. (Note that the geographic analyses of neighborhoods and the focus group discussion with drug court participants in Multnomah County (Goldkamp, White et al., 2001b) support this kind of interpretation of these predictive findings.)

<u>Time in Treatment</u>

A related measure of treatment outcome, time in treatment, is usually viewed as related to treatment success (the longer in treatment, the better the treatment success). In Clark County, the time in treatment associated with participants remained high over the study period (median, 361 days), with the time in treatment increasing only slightly from the one- to the two-year follow-up. The time in treatment was lower among Multnomah County's participants overall (median, 268 days) for the study period (through 1996), with a peak in the 1993-94 cohort and a sharp drop in the 1995-96 cohort (median, 209 days). In Clark County, as the court population shifted to convicted persons on probation or suspended sentence, persons had less incentive to complete the treatment period compared to the earlier emphasis on diversion. In Multnomah County, as the shift in judicial assignment and philosophy (and to automatic early termination policies)

occurred, the fact that more participants were terminated translated into shorter average periods in treatment for drug court participants overall.

When we tried to predict time in treatment among Clark County participants, analyses simply could not produce a significant or useful model. We conclude that length of time in treatment was rather consistent and that background or descriptive factors we had available did not shape the likelihood of time in treatment significantly. A modest predictive solution was obtained when examining the Multnomah County data: having no prior felony arrests and having no positive tests at entry to treatment increased the length of time in treatment. This is consistent with the findings predicting early termination; participants with no prior histories and no positive test results have greater success in adhering to the treatment regimen, while higher risk participants have a more difficult time.

Percent of Expected Treatment Actually Attended

When treatment performance was measured as the percentage achieving high attendance (75 percent of expected or presumptively scheduled treatment), about half of the Clark County participants achieved that rate, with minor variation over time. The overall high-attendance rate was lower among Multnomah County participants at about 39 percent overall, but with a sharp decline from about half of the earlier participants to 31 percent of the 1995-96 participants. Multivariate analysis in Clark County showed that persons who were married or living with a significant other, had no prior theft-related arrests, and had no positive tests at assessment were most likely to achieve 75 percent treatment attendance. Persons with prior drug convictions, negative tests for marijuana, but positive tests for other drugs had a much lower probability of high attendance. Our analysis also showed that for these higher risk participants, the method of entry into the drug court also mattered: persons entering through diversion had a higher

probability of 75 percent attendance than persons entering through conviction (entry of a guilty plea). This finding is significant given the overall impact of the shift toward guilty pleas as the primary mode of entry into the drug court in Clark County. It shows that the method of entry appears to make a specific, as opposed to a general difference, net of the effect of other factors. Persons who test positively at assessment, who do not test positively for marijuana, who have no prior drug convictions and who entered through diversion have a lower probability of 75 percent attendance (34 percent) than their counterparts who entered drug court through plea (51 percent high attendance). In Portland, having prior felony arrests, recent prior FTAs, indications of heroin use, and positive tests at assessment all are associated with a lower probability of high attendance, while being over age 40 and having indications of marijuana use increase the likelihood of 75 percent attendance.

Graduation

We noted previously that the graduation rates of drug court participants in the two courts were similar and experienced similar drops to around one-fourth of entrants toward the end of the study periods. Among Clark County participants, graduation was predicted by prior arrests, prior convictions, positive drug tests at assessment, race/ethnicity, gender, and method of entry into the court. Among those with no recent prior arrests and an initial positive drug test, entering the drug court through guilty plea was associated with a lower chance of graduation than through diversion. The race/ethnicity and gender of participants was predictive of graduation probability in the following specific way: persons with prior arrests, who were unemployed at assessment, and who were non-white had a lower probability of graduation (11 percent) than of similar white participants (26 percent). Among those same white participants, women were less likely to graduate within two years (17 percent) than men (34 percent). These

findings point to effects related to method of entry into the drug court and race and gender in specific categories of participants that influence the prospects for graduation from drug court. Given our other findings and discussions with drug court participants in focus groups in Clark County, we interpret these findings to mean that race and ethnic status are surrogate measures for the kinds of drug, crime, and other problems experienced by participants in the different communities where they reside. They therefore pose a challenge for the Clark County Drug Court in developing responses that might best address the needs and experiences of participants in a culturally relevant and problem-specific way to eliminate chances that graduation can be influenced by questionable criteria.

Multivariate analysis on the Multnomah County data identified prior felony arrests, prior misdemeanor convictions, marijuana use (measured at assessment), and participant race as predictors of graduation from drug court. It is not surprising, given our other findings, that persons with prior felony arrests and prior misdemeanor convictions should have a lower probability of graduation, or that persons with no prior felony arrests and positive tests for marijuana should have a higher likelihood of successful completion of drug court. However, in the specific group including participants with no prior felony arrests and no positive tests for marijuana, the fact that race/ethnicity is a differentiator of graduation prospects is again problematic. White participants in this category show a much higher graduation probability (48 percent) than non-whites (26 percent). It is our interpretation of the Multnomah County data that the race effect in this instance is also linked to drug use and other factors associated with the neighborhoods in which participants of different racial and ethnic groups resided. Explanations for this race difference in the probability of graduation will need further examination by the drug

court to consider methods for addressing the special issues that may be associated with non-whites in the category identified.

Part Two
Drug Court Operation: Selected Issues

V.   Courtroom Workload as a Measure of Drug Court Development

Introduction

The assumption of the drug court model that drug courts make special use of the criminal courtroom has several implications. One general assumption about courtroom use is that the drug court is expected to relieve other criminal courts of some significant portion of the drug-related caseload. By handling the drug court eligible cases, the model would predict, the introduction of the drug court would have a positive effect on the overall processing of cases as well as on related functions of the prosecutor and defense counsel. We examined this assumption in the Phase I report. In Clark County, the high-volume drug court enrolled about 20 percent of the kinds of drug cases that would have been eligible for drug court, while in Multnomah County, the drug court enrolled about 50 percent of the pool of eligible felony drug cases. In each location this represented about 700 persons per year in the peak years. In this aspect, then, the two drug courts we studied did capture a substantial portion and number of cases that otherwise would have been handled through adjudication in other courtrooms like any other criminal case.

A second general expectation from the drug court model is that the nature of proceedings in the drug court courtroom would differ considerably from the normal courtroom. Proceedings would be more informal, more flexible, the participants would directly interact with the judge, the judge's role would be central and hands-on, and proceedings would be generally non-adversarial and intended to facilitate the treatment process.

These expectations about the role of the courtroom make the courtroom itself an appropriate subject of study when examining the impact of drug courts. Depending on the assumptions in question, one might examine the drug court courtroom and its impact making use

of a variety of methods, both qualitative and quantitative. In this research, we have not taken on a full-scale study of the role of the courtroom in the drug court process. However, we have taken some first steps in this direction by examining the role of the drug court courtroom through analysis of its "business," as measured by the courtroom workloads of the drug courts in Clark County and Multnomah County and by testing the impact of courtroom actions (and the judicial role) on participant outcomes. (In the concluding section of this report, we attempt to assess the relative impact of some key courtroom activities on drug court outcomes among participants.) In this section we consider the role of the courtroom through analysis of its routine business. The analysis is mainly descriptive in intent and seeks to draw inferences about the nature of the drug courts from the content of the business they routinely carry out during the courtroom day or the courtroom week.

Method for the Study of Courtroom Workload in the Two Drug Courts

To understand "what a drug court does," we examined the day-to-day business of the two drug courts by studying samples of their daily and weekly dockets over time. Unlike much of the other analyses we have presented focusing on participants and their outcomes, this analysis considers the content of the drug court workloads, matters scheduled and decided. The content of the courtroom week, viewed over time, serves as a measure of the development or evolution of the drug courts from their early implementation stages to more advanced stages of operation as mature court programs.

Because the Clark and Multnomah County Drug Courts had each been in operation for nearly a decade, it was simply not feasible to study all drug court sessions conducted over time. Instead, we sampled court sessions in each jurisdiction over time. The Clark County courtroom workload data were based on one week's worth of sessions selected from each month of each

year (sampling all sessions in the same week of each month), from the start of the program in November 1992 through February 1999. In all, we sampled 76 week's worth of sessions or a total of 184 sessions over that period of time. Remarkably, except for occasional vacation and sick days, a single judge, the Honorable Jack Lehman, presided over the Clark County Drug Court since its inception in 1992. We chose to sample by week rather than by individual session because, as the drug court developed over time, it expanded from one session per week to two sessions per week (in November 1993) and then added a high volume night session in December 1995 for clients who were employed and in good standing. We reasoned that the most appropriate way to study the drug court's workload was to capture all of its business on a weekly basis, regardless of the number of sessions held in a week or number of cases heard in a specific session. In short, the courtroom study in Clark County focused on the drug court's weekly courtroom workload as represented by one week per month over the duration of its operation.

The approach taken to study the Multnomah County Drug Court workload was similar. We selected all sessions (morning, afternoon, and night) occurring in the third full week of each month from October 1994 through April 1999 drug court dockets. Court dockets (from which we selected our sample and drew data) were not retained for the period prior to October 1994. The Multnomah County weekly courtroom workload data were based on a sample of 54 weeks including 236 sessions from this four and one-half year period of time. The period for which courtroom dockets were unavailable is significant because it represents the early stages of development of the Multnomah County Drug Court (which began operation at the end of 1991).

During the period covered in the Multnomah County workload study (October 1994-April 1999), no less than 22 judges and one referee presided over the drug court, in sharp contrast to the judicial staffing of the drug court in Clark County. Judicial staffing of the drug

court changed dramatically within that period of time, however, from coverage by one judge, the Honorable Roosevelt Robinson, from October 1994 through December 1995, to coverage in 1996 by a non-judge referee and then, from January 1997 through May 1998, to assignment of a series of 17 judges and a referee to preside over the drug court. Finally, beginning in June 1998, the Honorable Judge Harl Haas, the founding and original drug court judge in Multnomah County, returned to the program and the court operated under his direction through December 2000.[32]

Weekly Drug Court Workload in Clark County (1992-1999)

Types of Matters Scheduled

Figure 36 shows the number and type of matters scheduled in the Clark County Drug Court over time in the form of a line graph. The weekly measures of scheduled matters in the drug court include the number of scheduled appearances overall (for any matter), the number of first appearances (candidates considering entering the drug court), the number of status reviews scheduled, the number of appearances by persons officially entering drug court, and the number of appearances of persons asking to quash bench warrants for failing to attend a court session.[33]

From the beginning of the Clark County Drug Court's operation in the fall of 1992, the number of scheduled appearances grew sharply from a handful to a relatively large number in early 1999. The number of appearances scheduled (matters set) for the drug court reached from 65 to 70 participants per week by the end of 1995 and then increased substantially beginning in 1996 to peak at over 400 per week by the end of 1998 and the beginning of 1999. The sharp

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[32] The impact of judicial staffing patterns in Multnomah County on participant outcomes is examined more specifically in Section VI below.
[33] The number of first appearances includes those choosing to enter drug court (shown separately in Figure 36) and those not entering drug court.

drops in weekly workload in the drug court were seasonal, occurring in January of the later years.

Figure 36 Number and Type of Weekly Appearances in the Clark County Drug Court, 1992 - 1999, by Month
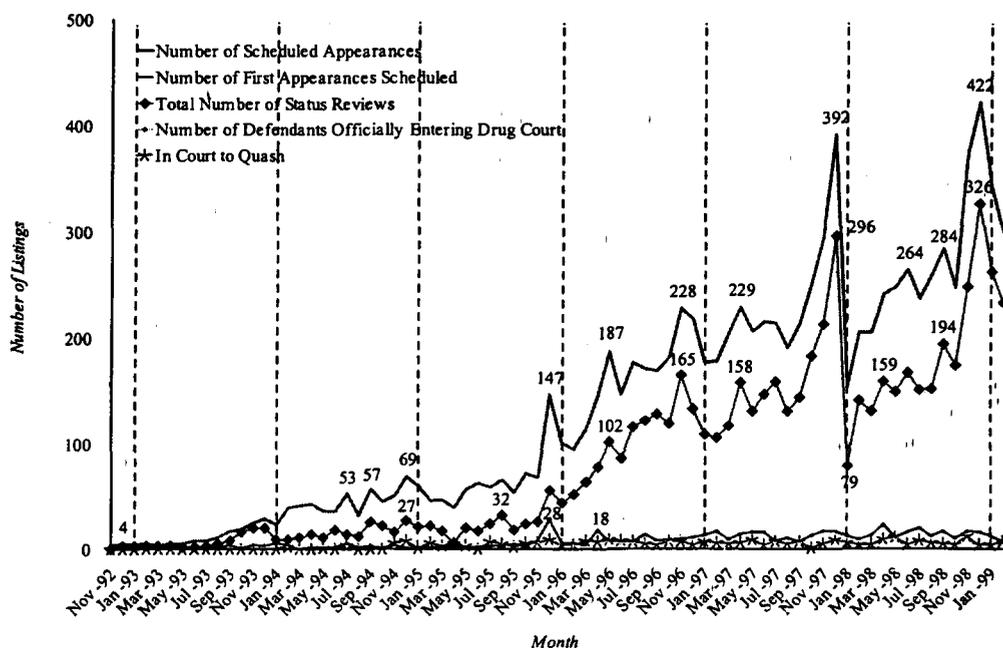
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Figure 37 simplifies these trends by employing median yearly numbers of matters scheduled in the drug court from 1992 through 1999. This simplified graph shows the sharp increase in the overall weekly drug court workload of matters set in Clark County (from a median of five in 1992 and eight in 1993 to 248 in 1998 and 322 in 1999), driven primarily by the sharp growth in status reviews as the drug court enrolled increasing numbers of participants over time. The median weekly number of first appearances and defendants officially entering drug court grew steadily over time, from two or three in 1992 and 1993, to eight in 1996, peaking at 14-15 in 1997 and 1998, before dropping off slightly in 1999.

Figure 37 Median Weekly Workload in the Clark County Drug Court, by Year
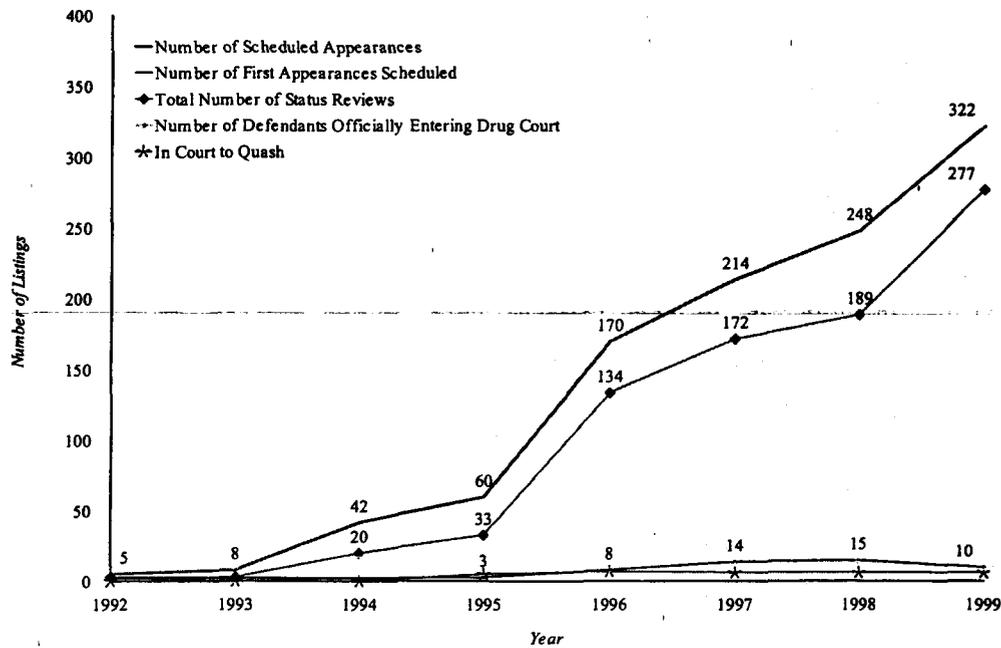
Figure 37 shows a consistent, slowly growing number of appearances of persons starting drug court as new participants each week, with the result that the number of status reviews conducted each week multiplied. Finally, there was also a steady flow of participants (five to seven) attending drug court to have bench warrants quashed. This reasonably steady, low number suggests that as the drug court workload burgeoned (with rapidly increasing numbers of appearances), the numbers of persons returning after missed appearances did not.

Figures 36 and 37 reveal what appear to be two core characteristics of drug court workloads:[34] a) as the volume of matters scheduled for drug court grows over time, the large majority of scheduled matters involve status reviews, or appearances scheduled for the review of participants' progress in treatment; b) as the volume of scheduled matters increases, the ratio of

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[34] We base this statement not only on the current study but also on our study of the Philadelphia Treatment Court (Goldkamp, Weiland, Collins, & Moore, 1999; Goldkamp, Weiland, & Moore, 2001).

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status review to non-status review matters grows dramatically, from about one to one in 1992 during the start-up phase to almost ten to one at the beginning of 1999. In other words, over time a small and slowly increasing volume of non-status matters (specifically new enrollments) produces an almost exponential increase in drug court volume.

These phenomena are illustrated simply by collapsing measures of weekly drug court workload (matters scheduled) into one-year periods shown as pie charts in Figure 38. The proportion of non-status review matters (including new enrollments) scheduled in the Clark County Drug Court over time drops from 56 percent in the first sessions of the drug court in 1992 (note that there were only nine sessions representing 1992) to 20 percent of the first full-year of appearances scheduled in 1993 and to five percent of scheduled matters in 1999.

Figure 38 Role of Status Reviews in the Clark County Drug Court Workload,
November 1992 to February 1999, by Year

1992
(n = 9)

1993
(n = 116)

1994
(n = 304)

1995
(n = 529)

1996
(n = 1,629)

1997
(n = 2,435)

1998
(n = 2,693)

1999
(n = 583)

TOTAL

11/92 - 2/99
(n = 8,298)

□ Status Reviews
■ Non-Status Matters

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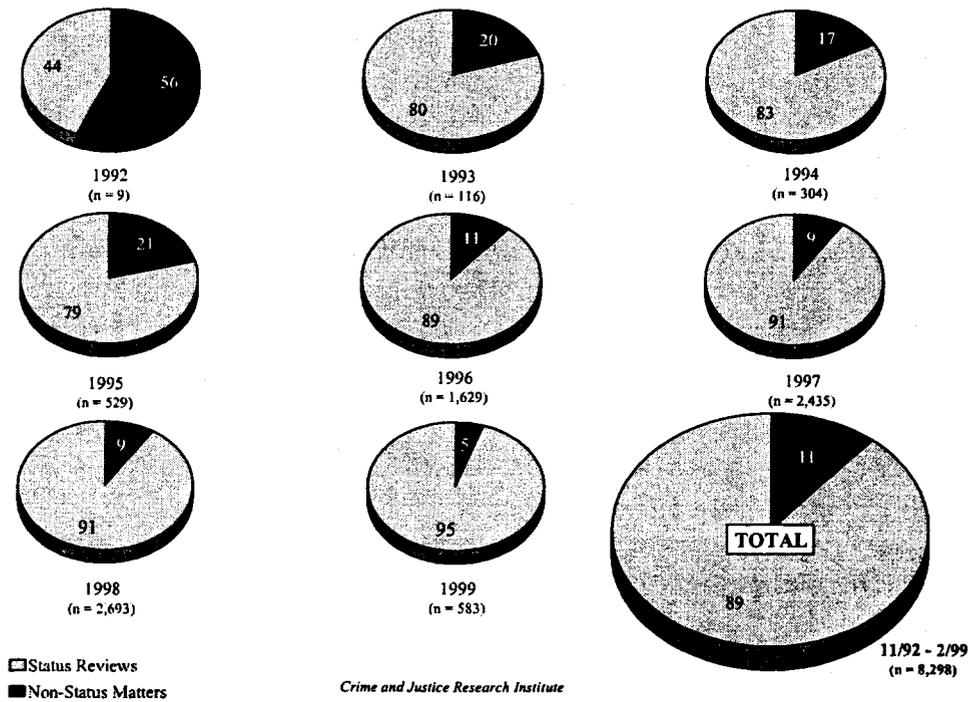
Figure 39 characterizes the make-up of the drug court workload on a weekly basis by focusing more specifically on the proportion of scheduled appearances representing persons

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eligible for drug court who are appearing for the first time. Appearances of potential enrollees decreased in relative share of the workload from a majority of cases scheduled in the drug court's earliest stages to three percent in 1999. This analysis is important in the sense that listings of persons who have never before appeared in drug court represent the potential candidates or enrollees who will populate the drug court. (Certainly, all persons appearing in drug court for the first time do not opt to enter the program or are not found to be eligible.)

Figure 39 Percentage of First Appearances among Total Weekly Session Business in the Clark County Drug Court, November 1992 to February 1999

Year of Session
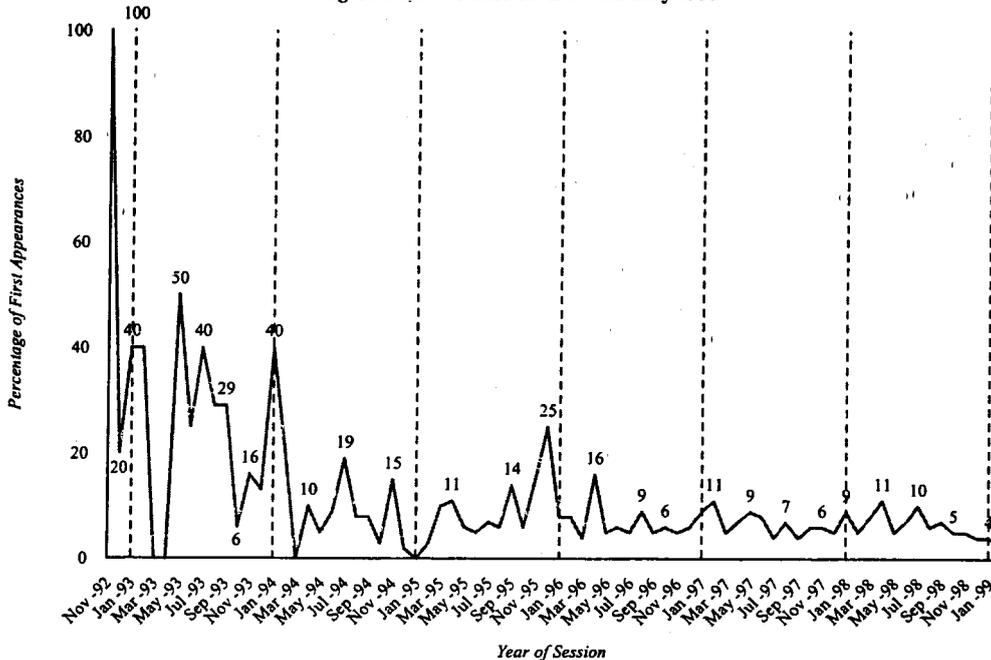
Actions Taken during the Courtroom Week

Scheduled matters represent the business the drug court intends to conduct during a courtroom day (or on a weekly basis). A different measure describes matters actually handled or disposed by the drug court. (For example, a defendant may be scheduled for a first appearance but may fail to appear.)

Dispositions in Non-Status Review Matters

Figure 40 depicts the kinds of dispositions typically made in non-status review matters in the Clark County Drug Court each year (as an average of weekly calendars) over the study period. These matters involve either persons appearing for the first time to determine whether they would enter the drug court or persons who missed a court appearance and are appearing to request that a bench warrant be quashed. Overall, from 1992 through the beginning of 1999, persons appearing and formally entering drug court accounted for a majority (61 percent) of dispositions in non-status matters. Only four percent of non-status dispositions involved first appearances in which the candidate did not enter the program, either by choice or by being rejected by the court (found ineligible) for some reason. Just over one-third of non-status dispositions involved persons requesting to have the judge quash drug court bench warrants. After the first start-up months in 1992, the proportion of non-status dispositions accounted for by persons entering drug court increased from 30 percent in 1993 to more than 60 percent from 1997-1999. The small rate of first appearances not resulting in enrollment into the drug court suggests that the screening of candidates in advance of court was quite effective (that few defendants scheduled for a first drug court appearance who then decided they were not interested or who were found to be ineligible occurred infrequently).

Figure 40 Disposition of Non-Status Review Appearances in the Clark County Drug Court, November 1992 to February 1999, by Year

1992
(n = 5)

1993
(n = 23)

1994
(n = 53)

1995
(n = 113)

1996
(n = 182)

1997
(n = 229)

1998
(n = 253)

1999
(n = 30)

TOTAL

11/92 - 2/99
(n = 888)

■ First Appearance, Withdrawal/Reject
□ First Appearance, Enter
■ Quashing Bench Warrant

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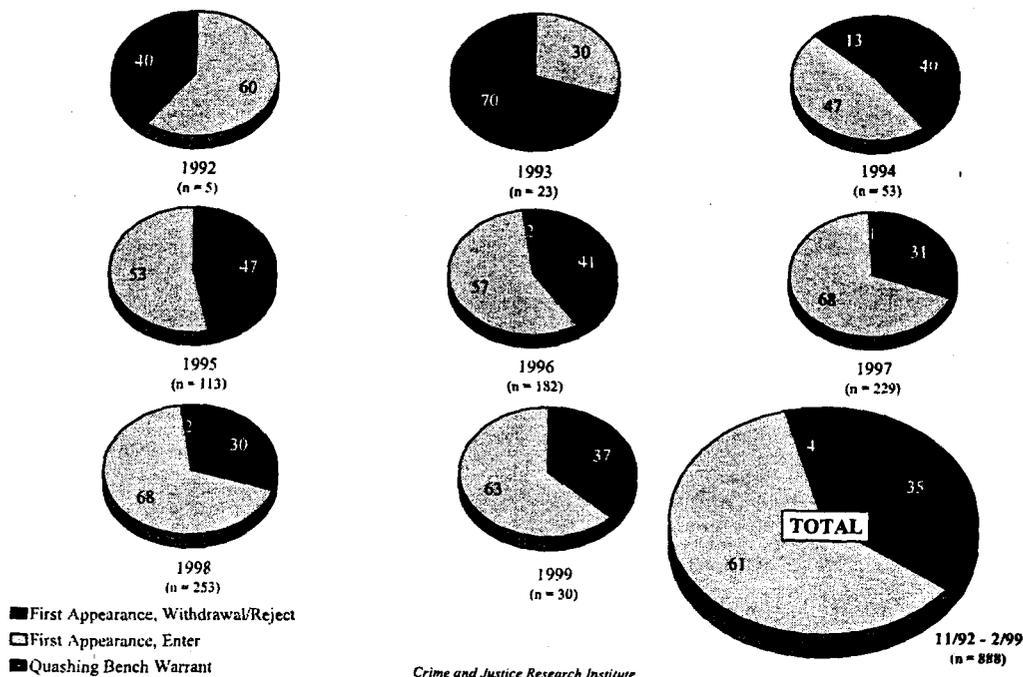
Dispositions in Status Reviews

Figure 41 summarizes the outcomes of status reviews, the major part of the drug court's business, conducted during the weekly workload (averaged over the year). Over the entire study period, the dispositions in most (64 percent) status reviews conducted in the Clark County Drug Court were "favorable," that is, involved participants making acceptable progress in the program short of graduation. The percentage of favorable status reviews varies notably over time, however, from under 50 percent in 1993 (45 percent), 1994 (40 percent), and 1995 (49 percent) to nearly 70 percent or more in 1992 (75 percent), 1996 (68 percent), 1997 (69 percent), and 1999 (70 percent). Graduations increased steadily over time as might be expected to reach an overall level (with minor fluctuation year to year) of about three percent of dispositions in status reviews.

Figure 41 Status Review Outcomes in the Clark County Drug Court, November 1992 to Febrary 1999, by Year

1992
(n = 8)

1993
(n = 135)

1994
(n = 487)

1995
(n = 766)

1996
(n = 1,902)

1997
(n = 2,735)

☐ Favorable
◼ FTA
◼ Unfavorable (Sanctioned or Admonished)
◼ Terminated
◼ Graduated

1998
(n = 3,093)

1999
(n = 637)

TOTAL

11/92 - 2/99
(n = 9,763)

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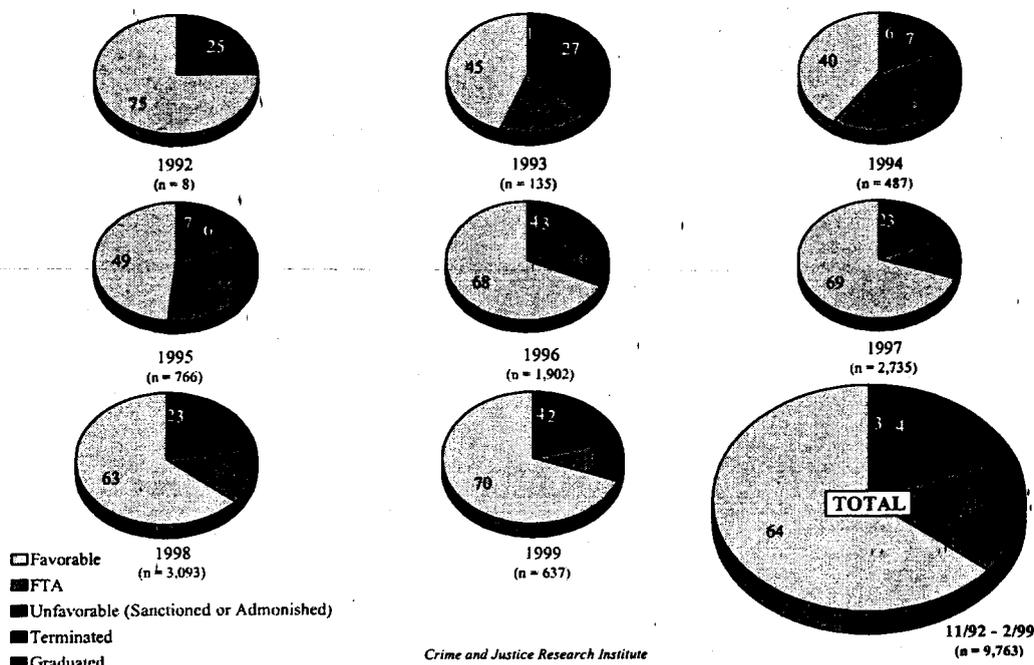
Unfavorable status reviews, including cases of participants receiving a sanction[35] or being admonished by the judge but not including terminations from the program, occurred in a relatively small portion of status reviews overall (12 percent overall). With some variation from year to year over time, the proportion of status reviews resulting in unfavorable outcomes increased threefold, however, from five percent in 1994 to 15 percent or more in 1998 and 1999.

A separately measured disposition, the issuance of a bench warrant by the judge for failure to attend drug court, could also be considered an "unfavorable" disposition in status reviews. From 1992-99, nearly one fifth (17 percent) of all scheduled status reviews resulted in a failure to appear (FTA) by participants. Although there were no FTAs in the first few sessions the program was in operation (during the end of 1992), failures to appear increased from accounting for 18 percent of status review dispositions in 1993 to 41 percent in 1994 and 33

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[35] Sanctions include jail, observed UAs, being returned to an earlier phase of treatment, being ordered to receive acupuncture, and having one's fees re-assessed.

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percent in 1995. As the drug court shifted toward accepting mainly convicted persons (and moved away from its emphasis on diversion), failures-to-appear resulting in bench warrants decreased as a status review disposition to 16 percent in 1996, 12 percent in 1997, 14 percent in 1998 and just 10 percent in 1999. One explanation for this drop in failure-to-appear/bench warrant disposition in status reviews is that greater numbers of participants were in drug court as a condition of probation or suspended sentence beginning in 1996. Failure to-comply would result in being sent to jail or prison in short order as a violation of probation.

The most negative disposition in status reviews, of course, was termination of the participant from the drug court by the judge for failing to comply with the requirements of the program. Termination, occurring in four percent of the status reviews from 1992-99, was a more common disposition in status reviews in the early stages of the drug court's implementation, accounting for 25 percent in the small number of 1992 court sessions and 27 percent of the status reviews conducted during 1993. After 1993, terminations became a much less frequent disposition in status reviews, ranging from seven percent in 1994 to two percent in 1999.

Figure 42 simplifies all status review dispositions into either favorable (good progress or graduation) or unfavorable (sanctions, admonishment, failure to appear, termination) categories. Using this rough measure of status review outcomes, Figure 42 shows that (excluding 1992) the favorable status review dispositions increased from just under half in 1993 and 1994 to nearly three-quarters (74 percent) in 1999. The decrease in unfavorable status review dispositions that this figure reflects is probably most explained by the shift in the drug court's population of enrollees to primarily convicted persons in the drug court as a condition of probation or suspended sentence. Convicted persons risk severe penalties—serving prison time—for failure

to comply with drug court conditions. (We have seen earlier, however, that this shift did not

translate into either a lower rate of rearrest or a higher rate of graduation.)

Figure 42 Favorable vs. Unfavorable Status Review Outcomes in the Clark County Drug Court,
November 1992 to February 1999, by Year

1992
(n = 8)

1993
(n = 135)

1994
(n = 487)

1995
(n = 766)

1996
(n = 1,902)

1997
(n = 2,735)

1998
(n = 3,093)

1999
(n = 637)

☐ Favorable
■ Unfavorable

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11/92 - 2/99
(n = 9,763)
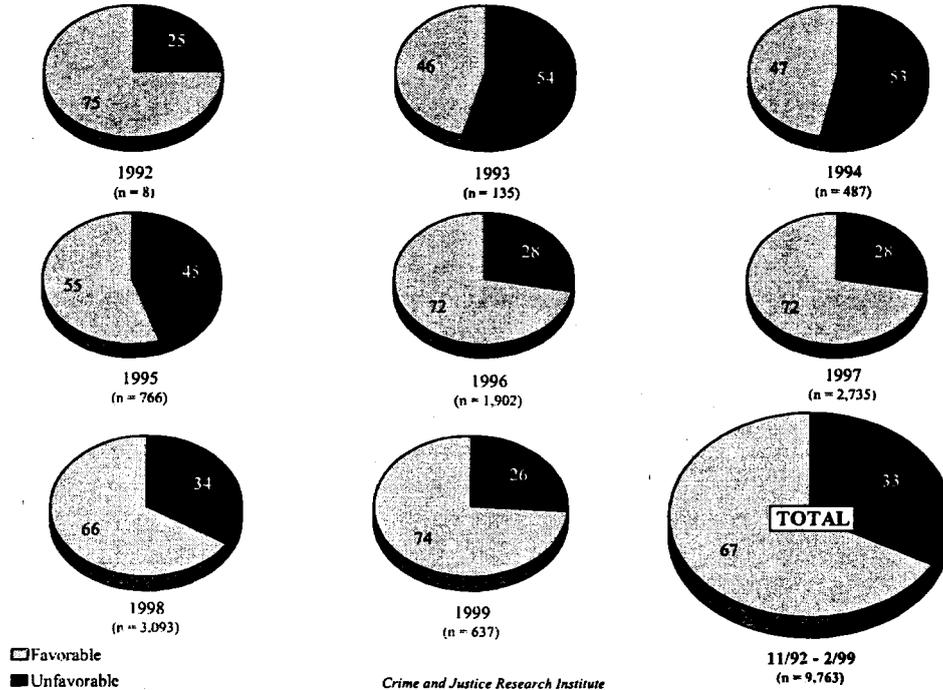
Weekly Drug Court Workload in Multnomah County (1994-1999)

Types of Matters Scheduled

Analysis of the average weekly workload of the Multnomah County Drug Court also

considered two workload measures, matters scheduled and actions taken. Figure 43 displays the

weekly workload measures of matters scheduled in that court each month during the period from

October 1994 through April 1999.[36] These indicators of appearances scheduled in the drug court

parallel those employed in the discussion of the Clark County workload above and include the

total number of appearances scheduled during the courtroom week; the number of individuals

scheduled to appear for the first time in front of the drug court judge (at what is referred to as the

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[36] Docket data were not available for the earlier years of the court's operation.

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"petition hearing") to state whether or not they wish to enter the drug court; the number of status reviews scheduled (also including individuals who are scheduled to attend drug court to observe, a form of sanction known as "sit sanctions"); the number of persons scheduled for their first appearance as a new enrollee or participant in drug court; and the number of participants who are returning from fugitive status (in and out of custody) on bench warrants for missing drug court.

Figure 43 Number and Type of Weekly Drug Court Appearances in the Multnomah County Drug Court, 1994 - 1999

Session Month and Year
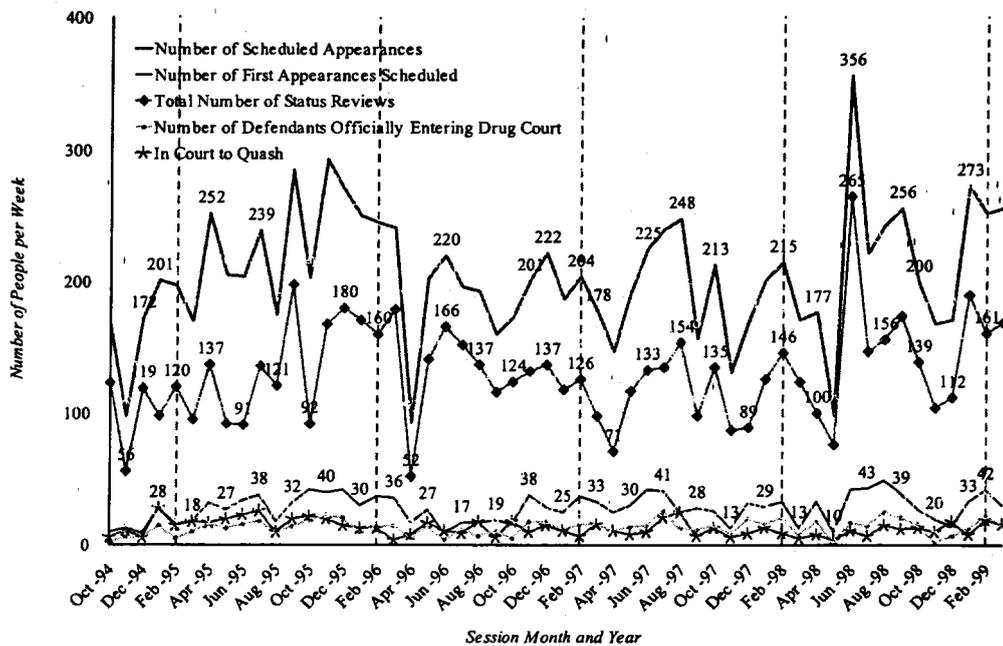
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The trends apparent in Figure 43 for the Multnomah County Drug Court (especially when viewed as a truncated segment of all weekly workload data that is missing the data for 1991-93)[37] are similar to those found in the Clark County data. First, the total number of appearances scheduled for the drug court per week increased over time. In October 1994, the court's weekly workload included scheduled appearances for 167 persons. This number had increased to 256

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[37] The numbers for the earlier years were almost certainly much lower than the numbers shown in the 1994-99 period.

appearances scheduled in the court in April 1999. The general increase from the beginning to the end of this span of drug court operation was not the result of a steady, continual increase in workload over time. At first, there was a fairly direct increase in the total weekly number of individuals scheduled to appear in court from November 1994 until December 1995. The workload of the Multnomah County Drug Court then experienced a sharp drop in total appearances scheduled through April 1996. (Only 93 individuals were scheduled to appear at only two scheduled drug court sessions in May 1996.) This drop in workload corresponded to a shift in the supervision of the drug court from a single, dedicated drug court judge to a referee (non-judge).

The number of scheduled appearances increased to around the 200 level before dropping to a low of 99 in June 1998 and then peaking sharply to a weekly workload of 356 scheduled appearances in July 1998. The July spike then dropped to levels between 200 and 300 through April of 1999. The general trends in total appearances scheduled in the drug court are seen more easily in Figure 44, which plots the median weekly appearances for each year studied. This simplified trend still shows the sharp increase in the workload during 1994, a dipping from 1995 through 1997, and then an upturn toward the court's highest volume in 1999.

Like the Clark County data, the Multnomah County Drug Court weekly workload data show that the bulk of the court's weekly business is accounted for by status reviews of persons in the drug court and that the increase in total workload is substantially driven by the increase in scheduled status reviews of active participants, from 123 in October 1994 to 169 in April 1999. Moreover, like the Clark County Drug Court workload data, the Multnomah County data show a widening gap between the number of status reviews and the number of first appearances (of potential enrollees) over time. There is no measurable increase in the ratio of status reviews to

first appearances of potential candidates (nearly ten to one in 1994 and in 1999), mainly because of the missing data for the early years when far fewer appearances would have been accounted for by status reviews. (There would have been an increase with data reflecting the drug court's start up years.)

Figure 44 Median Weekly Workload in Multnomah County, by Year

—Number of Scheduled Appearances (146, 220, 204, 195, 207, 238)
—Number of First Appearances Scheduled (11, 30, 25, 30, 30, 30)
◆ Total Number of Status Reviews (99, 123, 143, 117, 137, 158)
→ Number of Defendants Officially Entering Drug Court (4, 14, 11, 15, 15, 15)
✶ In Court to Quash (8, 20, 12, 13, 10, 15)
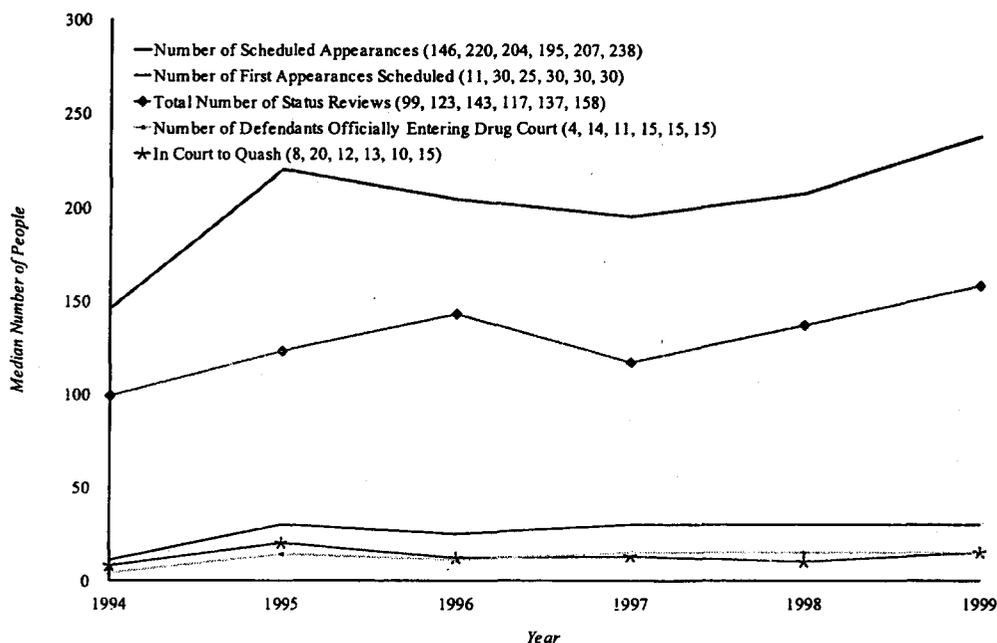
[Note: This analysis represents a truncated portion of the drug court workload history because data were unavailable for the years 1991-1993.]

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The remaining three categories of drug court appearances shown in Figures 43 and 44—defendants scheduled for a first appearance in drug court (petition hearing), enrollees making their first appearance as participants, and participants returning from fugitive status (including in-custodies)—accounted for a much smaller share of the drug court's weekly workload throughout the study period. The weekly number of defendants making their first appearance in drug court rose slightly over time (from ten in October 1994 to 30 in April 1999), while the number of persons making first appearances as new enrollees remained fairly steady at about half

the level of overall scheduled first appearances. The number of individuals returning to the court on bench warrant status remained small but fairly stable over time.

Figure 45 portrays the weekly workload of the Multnomah County Drug Court simply as made up of status review and non-status review appearances. Over the entire study period, status reviews accounted for nearly two-thirds of appearances scheduled on a weekly basis, with some fluctuation over time, reaching a low of 52 percent of the weekly workload in 1995 to a high of 72 percent of the weekly workload in 1996. These findings show a notably lower proportion of the workload taken up by status reviews in the Multnomah County Drug Court compared to the Clark County Drug Court workload.

Figure 45 Role of Status Reviews in the Multnomah County Drug Court Courtroom Workload, October 1994 to April 1999

1994
(n = 437)

1995
(n = 2,424)

1996
(n = 2,445)

1997
(n = 2,344)

1998
(n = 2,478)

1999
(n = 952)

□ Status Reviews
■ Non-Status Reviews

TOTAL

10/94 - 4/99
(n = 11,080)

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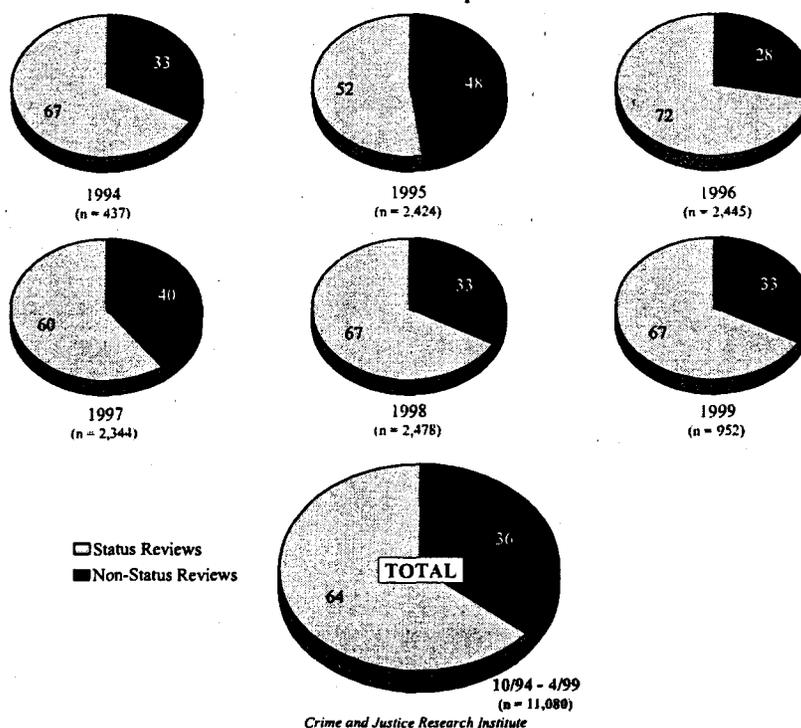
The portion of the weekly drug court workload accounted for by persons making their first appearances in drug court was relatively small, about 12 percent overall, ranging annually from 8 percent to 15 percent of the business scheduled. These levels are somewhat higher than

the levels associated with first appearances of potential candidates in the Clark County Drug Court. Figure 46 charts in more detail weekly first appearances as a proportion of total scheduled appearances in the Multnomah County Drug Court. This figure shows a large drop in the percentage of appearances accounted for by potential enrollees starting in May of 1996, but reversing in following months. This drop occurs because only two drug court sessions were held in the sampled week in May 1996, rather than the four or five sessions typically held (the reason for two or three cancelled sessions is not known).

Figure 46 Percentage of First Appearances among Total Weekly Session Business in the Multnomah County Drug Court, by Month

Session Month and Year
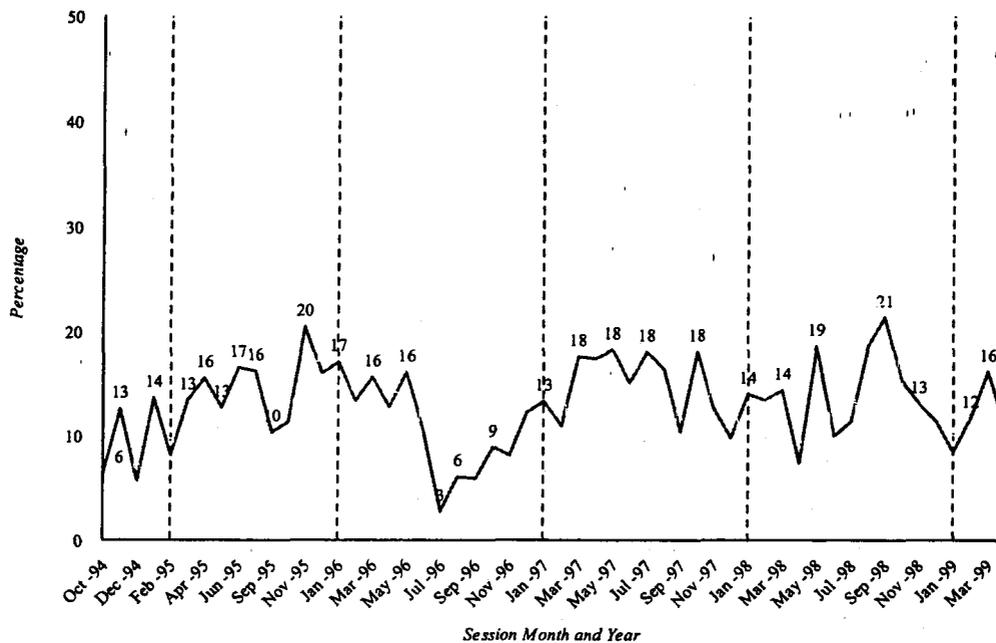
Actions Taken During the Courtroom Week

Dispositions in Non-Status Review Matters

The second way of describing the Multnomah County Drug Court's workload is to examine the dispositions of the matters scheduled, the matters transacted as opposed to the matters scheduled. An important category of dispositions in non-status review matters involved

decisions by and about defendants to enter the drug court. At the first appearance (petition hearing) in the drug court, defendants could decline to participate or could withdraw an earlier expression of interest in participating. The court could refuse to accept candidates at first appearance because of some eligibility problem, or, they could agree to enroll and be formally accepted by the court and placed in treatment. Other non-status matters involved decisions about individuals for whom bench warrants had been issued (they could be remanded to custody or be continued in the program),[38] as well as those involved in "other" statuses.

In status reviews, Multnomah County Drug Court dispositions resembled those found in Clark County. On the positive side, they could include a favorable review (based on acceptable progress by the participant) or graduation (after completion of all requirements). On the unfavorable side, status reviews could result in unfavorable outcomes (admonition and warnings by the judge, imposition of sanctions[39]), issuance of a bench warrant for failure to appear, or termination from the drug court program.

Dispositions in the cases of persons appearing in drug court for the first time (at the petition hearing) accounted for the majority (60 percent) of non-status review dispositions produced by the drug court on a weekly basis over time. Figure 47 shows that, although the percentage of non-status dispositions accounted for by defendants withdrawing, declining or being denied entry remained fairly constant from 1994 until 1998 (hovering around 17 percent of non-status review dispositions), it dropped to nine percent in the first four months of 1999. The percentage of non-status dispositions accounted for by defendants choosing the drug court option remained relatively stable throughout the study period, ranging from a low of 24 percent of non-

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[38] In fact, we were unable to determine dispositions of cases involving participants returning from fugitive status, whether returning voluntarily or in-custody.

[39] See the Phase I report for a discussion of the use of sanctions in the Multnomah County Drug Court (which include jail, Forest Camp, and the sit sanction, among other options).

status dispositions in 1994 to a high of 31 percent in 1998. (These findings offer further evidence that the introduction of the District Attorney's Expedited Plea Program (X-PLEA) in July 1997 did not substantially affect the overall percentage or actual number of persons choosing the drug court option at their first appearance. See Section IX below in which the impact of the X-PLEA program offering early release and probation in exchange for prompt guilty pleas on the drug court is considered.)

Figure 47 Dispositions of Non-Status Review Appearances in the Multnomah County Drug Court, October 1994 to April 1999, by Year

1994
(n = 55)

1995
(n = 575)

1996
(n = 455)

1997
(n = 602)

1998
(n = 577)

1999
(n = 213)

TOTAL

☐First Appearance: Withdraw/Decline/Denied
▨First Appearance Enter
■Bench Warrant Return
■Petitioner Other Status
■Other Status

10/94 - 4/99
(n = 2,477)
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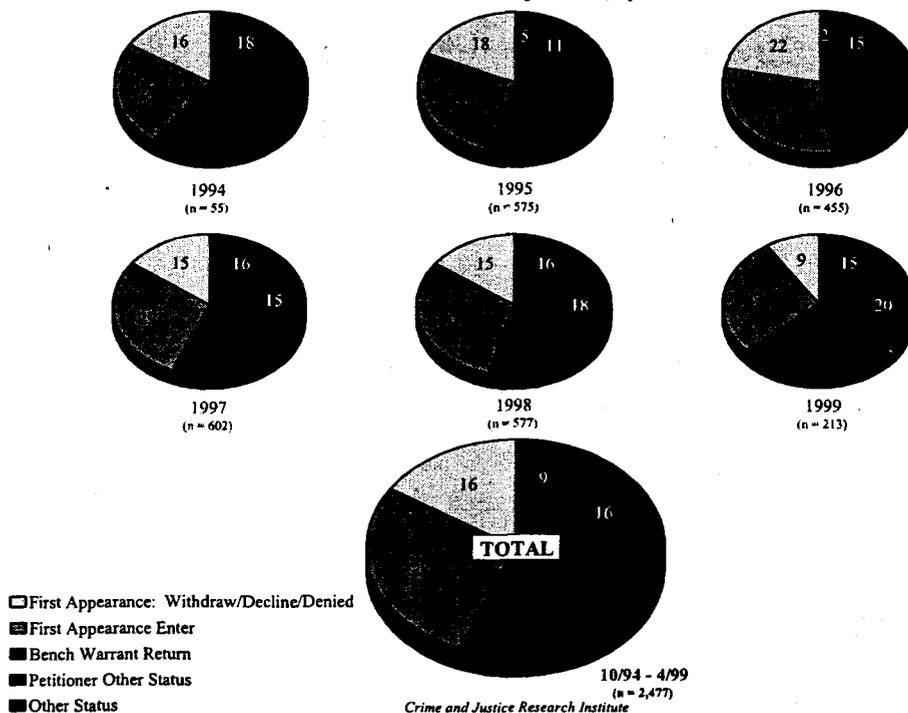
"Other petitioner" statuses accounted for an average of 16 percent of the non-status dispositions in the Multnomah County Drug Court during the period studied. Most of these dispositions were first appearances that were "set-over" or continued to a later date, usually at the request of defense counsel.

Overall, active participants returning to court in fugitive status (not persons due for their first appearance in drug court) accounted for 31 percent of the non-status dispositions. This

percentage varied substantially over time from a high of 42 percent of non-status dispositions in 1994 to a low of 20 percent in 1998. Except for a small increase from 1998 to 1999, the percentage of dispositions involving persons returning from fugitive status declined consistently throughout the study period. "Other status" dispositions included set-overs for persons not appearing for the first time, individuals in court to fulfill their "sit sanction,"[40] and a very small number of participants who graduated from the program but who still owed money to the court.

Dispositions in Status Reviews

A large majority (71 percent) of the status reviews conducted as the primary part of the weekly drug court workload during the period studied resulted in favorable outcomes. (See Figure 48) The percentage of weekly status review dispositions that were favorable (excluding graduations, which are shown separately) varied from year to year, with fewer favorable outcomes among the 1995 weekly drug court dispositions (58 percent) and the 1997 dispositions (63 percent) than in the other years (70 percent in 1994, 77 percent in 1996, 78 percent in 1998 and 80 percent in 1999). Graduations accounted for a small proportion of the dispositions in weekly status reviews (five percent or less) throughout the period studied.

A small proportion of reviews (four percent overall) resulted in "unfavorable" dispositions (short of termination)—in the range of from one to eight percent depending on the year—in which participants were sanctioned or admonished for poor compliance with program requirements. A small proportion of weekly status reviews resulted in termination from the drug court (four percent or less) throughout the study period.

Another clearly unfavorable disposition in weekly status reviews was the absence of defendants from court. Over time, failures to appear in drug court—resulting in the issuance of a

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[40] A "sit sanction" could be ordered by the drug court judge to require a drug court participant to attend court, sit in the jury box and watch the entire day's or several days' proceedings.

bench warrant—occurred in about 18 percent of scheduled status reviews. (About one in five participants scheduled for an in-court review of progress in treatment failed to attend drug court.) This overall rate masks a change in the trend of missed appearances in the direction of fewer FTAs, from roughly one-fourth of weekly scheduled reviews in 1994 and 1995 (22 and 27 percent, respectively) to 13 and 15 percent of weekly reviews in 1998 and 1999.

Figure 48 Status Review Outcomes in the Multnomah County Drug Court, October 1994 to April 1999, by Year

□ Graduations
▨ Terminations
▉ Sanctioned (Unfavorable)
▉ FTA
▉ Favorable

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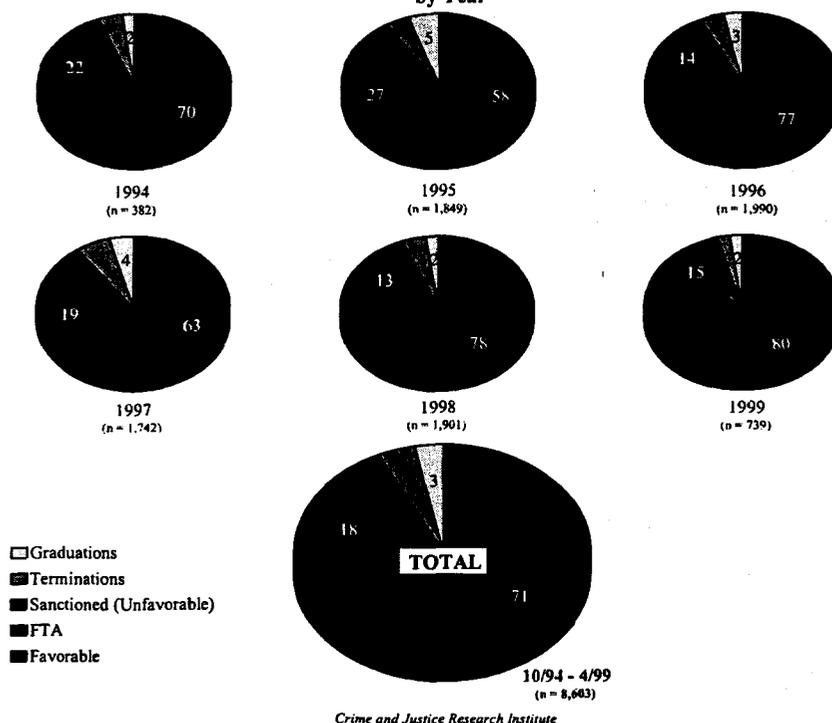
Figure 49 shows that, when weekly status review dispositions are categorized more simply into favorable (acceptable reviews or graduation) and unfavorable (unacceptable progress, admonition,[41] sanction, failure to appear, or termination), the great majority of

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[41] Because these workload data were taken from notes on dockets describing dispositions, we are not extremely confident about the percentage of status reviews in which the judge may have admonished the participant. It is likely that many such admonitions occurred but were at a level of severity that did not result in being recorded by the court clerk. In other words, one could make the case, using a stricter standard, that some of the reviews categorized here as "favorable" or acceptable, were somewhat less than reflective of acceptable performance. From workload data, this determination cannot be made with more precision. The topic of courtroom outcomes in individual cases of sample participants is, however, covered in the Phase I report.

dispositions are favorable, 74 percent overall for weekly dockets from 1994 through 1999; 80

percent or more were favorable in three of the six years examined, with only slightly less than 70

percent receiving favorable dispositions in the 1995 and 1997 weekly status reviews.

Figure 49 Favorable vs. Unfavorable Status Review Outcomes in the Multnomah County Drug Court, October 1994 to April 1999, by Year

1994
(n = 382)

1995
(n = 1,849)

1996
(n = 1,990)

1997
(n = 1,742)

1998
(n = 1,901)

1999
(n = 739)

TOTAL

10/94 - 4/99
(n = 8,603)

☐ Favorable
■ Unfavorable

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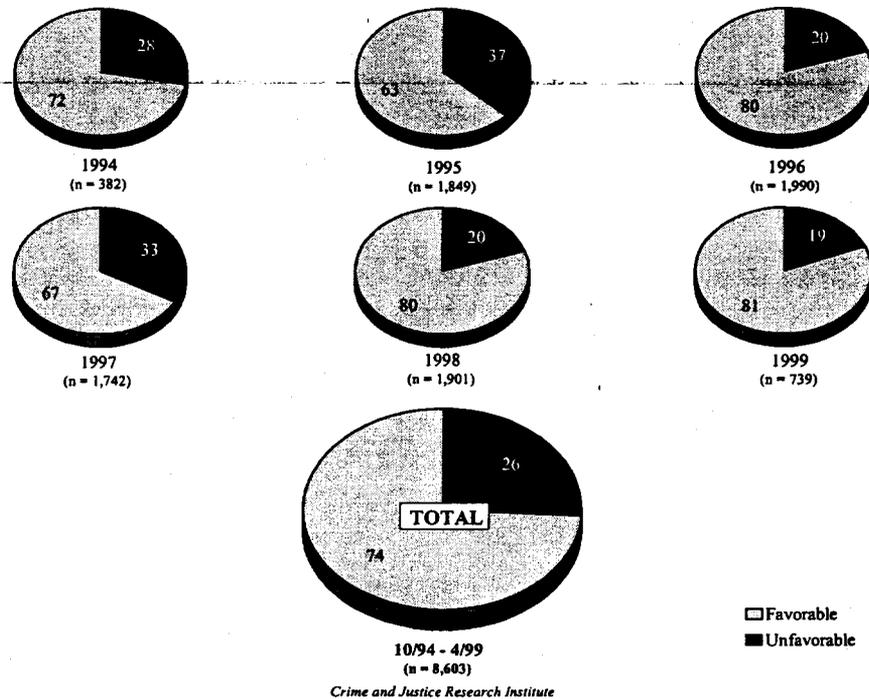
Issues Raised from the Drug Court Workload Analyses

In this section, we have employed one approach to examine the implications of the role of

the courtroom under the drug court model, as illustrated by these two established drug courts.

The analyses of the Clark and Multnomah County Drug Court workloads, framed as weekly

profiles of the matters set and disposed on the courts' dockets, have identified common themes

across the two different jurisdictions. The analyses are purposefully designed to focus on the

content of the court workload, not the volume.[42] The workloads of the two drug courts grew

increasingly to be dominated by the "business" of transacting status reviews, although other

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[42] The growth in the volume of the cases dealt with by the drug courts is discussed in the Phase I report.

matters, such as enrolling candidates making their first appearances before the court and dealing with fugitives, were critical. In fact, the vast majority of the work of the drug courts in both locations had to do with status reviews. This finding is not in itself very earth-shattering; it is, after all, only the logical extension of the drug court practice of requiring frequent visits to the courtroom by participants in treatment. The implication of this fact for the use of court and courtroom resources, however, is of great practical relevance to the operation of the criminal courts.

In the graphs presented above, the steadily increasing share of the drug court workload accounted for by status reviews stands in sharp contrast to the much smaller and only slowly increasing portion of the workload made up of new cases involving candidates appearing for the first time. To varying degrees, both jurisdictions showed increasingly disparate ratios of status reviews to new admissions as the courts operated for longer periods. In other words, while a steady portion of new cases—peaking at around 25-35 cases per week in both sites—were channeled away from the traditional criminal caseload, the courtroom workload generated increased almost exponentially.

This gap between status review and new case workload has at least two important implications. First, a relatively small and stable number of entering cases (new candidates or participants) causes a caseload that rapidly proliferates in terms of matters to be set and dealt with by the drug court. (See Figure 49A.) This phenomenon differs sharply from the "normal" criminal courtroom where large caseloads more nearly represent large numbers of cases resolved (adjudicated). An implication for the larger criminal court system is that the drug courts do channel a substantial and relatively stable number of cases away from the normal adjudicatory

process, but, in so doing, require increasing courtroom resources (courtroom workload) to handle the far greater number of hearings or appearances required to "resolve" each case.

A second implication of this finding is that, in the real and practical world of the criminal courts, drug courts can or naturally may tend to reach a sort of "imbalance ratio,"[43] or a point at which the disproportion between status reviews and the processing of new cases into the drug court system become dysfunctional (the court is only handling existing cases and soon depletes its population for lack of sufficient new cases) or too resource intensive (too few cases from the criminal caseload are dispatched at too high a cost in resources). This issue requires further investigation to consider the experiences of other drug courts across the United States. It nevertheless raises the question of what the appropriate balance between new case and monitoring of continuing cases (status reviews) may be. This question may be resolved differently in different jurisdictions.

Figure 49A The Drug Court Workload: Disparity between Enrollments and Status Reviews

	1 Year	5 Years	10 Years
Ratio = $\frac{\text{Status Reviews}}{\text{New Admissions}}$	1:1	5:1	10:1
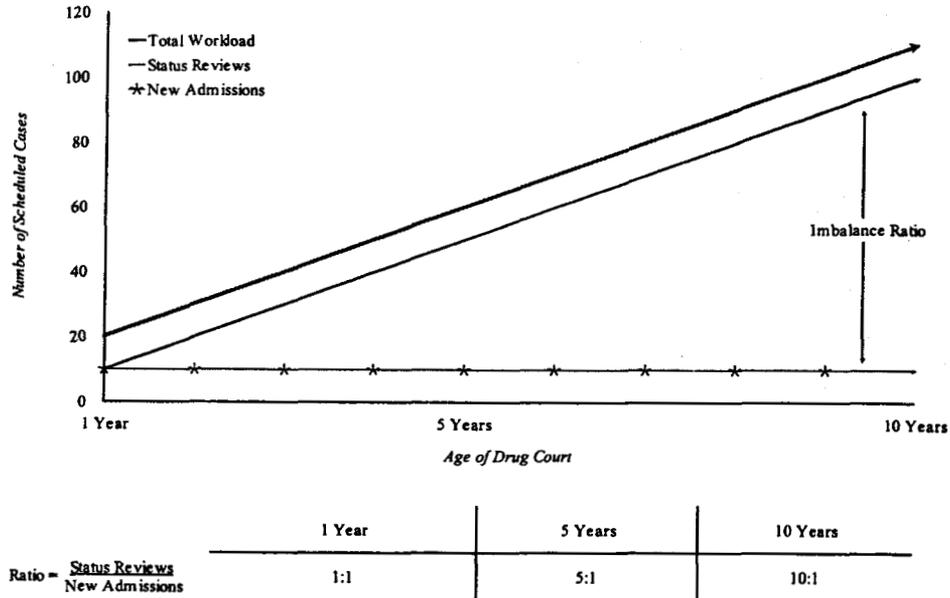
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[43] We have adapted this term from Daniel Freed's work relating to pretrial detention in the 1960s.

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VI. Judicial Staffing and Its Effect on Participant Outcomes in Multnomah County

The Assumption of the Central Importance of the Dedicated Drug Court Judge

From its beginnings, the drug court innovation was about a new, unorthodox, hands-on role of the judge that represented a major departure from traditional judicial proceedings. A major assumption of the drug court approach was that its effectiveness depended on the special role of the judge as facilitator, supervisor of treatment, arbiter, and guarantor of accountability among drug court participants. This assumption was driven by the fact that the first drug court judges—the Hons. Stanley Goldstein in Miami, Harl Haas in Portland, and Jack Lehman in Las Vegas—were pioneers known for their dynamic in-court personalities. The judicial style innovated by the first handful of drug court judges set the mold for the judges who followed. As the first courts shaped replication efforts across the country, the central role of the judge in the drug court emerged as the principal element of the innovation that set it apart from other treatment initiatives attempting to deal with the substance abusing criminal justice population.

The nature and importance of the judicial role in drug courts has been well described elsewhere (see e.g., Goldkamp, 1994, 1999a, 2000; Goldkamp & Weiland, 1993; National Association of Drug Court Professionals, 1997). Its principal features include an informal, non-adversarial style in a dramatically changed courtroom arena (now a "theatre in the square") in which the drug court participant interacts directly with the judge, instead of through counsel, to accomplish the aims of the treatment process. The hands-on, supervisory role of the judge in the treatment process—which is carried out through the frequent in-court appearances required of participants—is assumed by advocates of drug courts to be critical in facilitating the treatment process for a number of reasons. First, participants (and courtroom actors alike) are impressed by the status of the judge, the credibility the judge brings to the treatment related proceedings,

and the special attention the judge gives to each case. The drug court judge conveys the impression that he or she is familiar with the details of each individual's progress. Advocates explain that the judge serves as an authority figure who engages drug addicted participants in the treatment process and who holds them accountable for their performance by dispensing rewards and sanctions (including the power to confine them or release them or to dismiss their criminal charges).

In the early stages of the drug court movement, this unorthodox, iconoclastic, and even anachronistic[44] judicial role was viewed skeptically by members of the larger judiciary, to greatly understate their general reaction. Many judges saw the drug court judge performing the role of a "social worker" or "probation officer" and simply thought it was an inappropriate role for judges, who should more properly serve as detached and impartial arbiters. Within the drug court movement itself, the first question about the role of the judge was not whether a single, dedicated judge was appropriate or really needed in a drug court, but whether that judge needed to be "charismatic." (Could a drug court work just as well under the oversight of an ordinary, less dynamic judge?) Thus, some wondered whether the initial positive results reported by the early drug courts were a product of the special qualities that the early pioneering judges brought to the innovation.

As drug courts have proliferated, they have raised important resource and management questions for the administration of criminal courts. The question of whether the dedication of a single drug court judge (and courtroom) is really necessary for a successful drug court effort remains an important question that goes to a core assumption of the drug court model. Leaders of the judiciary responsible for their overall operation are forced to ask whether many judges

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[44] Some observers have noted that in the drug court the criminal court judge takes on the informality, paternalism, and greater discretion reminiscent of the traditional juvenile court judge.

assigned to the drug court in short rotations, the use of quasi-judges (referees, commissioners, or magistrates), or even of probation officers could accomplish the same results obtained by the resource intensive assignment of a single drug court judge.

In related research, we conducted focus groups with drug court participants in six cities (Goldkamp, White et al., 2001b) and asked them about some of the assumptions of the drug court model. Participants in each location indeed viewed the judge as the most important influence in their drug court experience, were convinced that they were receiving individual attention from the judge, and believed that, when they failed to perform adequately in the program, the judge would immediately know and be upset with them. It was clear that through their interactions with the judge in drug court, participants personalized their treatment experience and regarded it as quite different from the feelings of anonymity associated with processing in normal criminal courtrooms. The focus group participants argued that judges were an irreplaceable element of the drug court because of their special relationship with participants and their abilities to resolve all sorts of ancillary issues related to their criminal cases, old warrants, appearances in other courtrooms, and treatment related issues ranging from housing and employment to childcare, education, and social services.

Participants also freely admitted that, without the judge, they would not feel "forced" to comply with the treatment process, and that, as experienced "addicts," they would easily find ways to "play" or "beat" the program, as many of them admitted doing in prior treatment programs (Goldkamp, White et al., 2001b: 115). These drug court participants did not believe that a lesser official, such as a probation officer, could bring the same authority to the drug court role or have the same effect on their behavior as a "real" judge who would hold them personally accountable. Focus group participants pointed out the problems posed by frequent substitution

of judges in drug court, comparing the substitute judge to a "substitute teacher" who was "easy

to get over on" (Goldkamp, White et al., 2001b: 46).

These drug court participants' views of the nature of the judge's role are reflected in the

following excerpts from the focus groups (Goldkamp, White et al., 2001b: 47-51):

> . . . She helps, she cares, she wants you to get your life together.

> . . . Judge . . . is like a father figure in a sense . . . he seems to know your background, your kids, your name, I mean he knows a lot of details about you—he remembers what he talked about with you last time.

> . . . If you have one judge that oversees this program and she is constant then we all know what to expect, but when you have a whole lot of judges coming in they don't know what you've been through or what's really been happening with you.

> When you have one judge they are able to track what you are doing better . . . one is better because you have a link . . .

> . . . When it is such a personal issue, it is nice to be recognized by someone. I think that one judge is better because you already have a rapport built up with him.

The Impact of Judicial Staffing in the Multnomah County Drug Court: Taking Advantage of a "Natural Experiment"

Both the drug court model and participants themselves assume that the single, dedicated

judge is a critical element in producing the drug court's positive impact. Because the role of the

single drug court judge is so critical to the assumptions of the drug court model and because of

the resource implications of its adoption, it represents an important question for research.

Testing this core assumption, however, raises difficult methodological problems.

An ideal experiment would randomly assign drug court participants to alternative

versions of judicial staffing in the same court system to assess the effect of the dedicated drug

court judge. In theory, participants would be assigned to a drug court presided over by a single

drug court judge, to a drug court staffed by multiple judges in rotation (e.g., judges sat for four

weeks in drug court and then moved to another assignment), to a drug court supervised by a

quasi-judge (a non-judge judicial officer), or even to a drug court managed by a senior probation

official. The researchers would draw inferences about the relative impact of the single-judge effect by comparing outcomes (e.g., participant performance in court, in treatment as well as desistance from substance abuse and criminal behavior) generated under the different approaches over sufficient follow-up periods. This neat textbook approach, however, would have little chance of being adopted in the practical world of the criminal courts because of the logistical difficulties that would be associated with the manipulation of judicial schedules and courtrooms to provide the conditions for the study.

Still another design for assessing the impact of the single-judge versus other judicial staffing approaches might compare participant outcomes generated over some period of time by drug courts in different locations that operated under alternative judicial staffing approaches. This strategy would draw inferences about the effects of the single drug court judge by contrasting participant outcomes associated with each drug court. As reasonable as this strategy sounds, it would suffer from (at least) two major difficulties. First, it is unlikely that one could identify drug courts that were reasonably similar in all respects except the method of judicial supervision employed. Whether there are in reality a sufficient number of—or even any—drug courts operating under each of the alternative staffing approaches of interest in such a study is doubtful. Second, even if one could find appropriate drug courts operating under the desired judicial models, the multi-site comparison would face threats to validity that would greatly hamper the researcher's ability to attribute any differences in participant outcomes found to differences in judicial supervision in the drug courts. In fact, other differences among the site courts instead could account for differences in outcomes. These might include the criminal laws governing the courts in each area (the kinds of penalties associated with various drug crimes), the nature of the enrolled populations, kinds of criminal cases accepted, the resources made available

to the drug court, screening and treatment procedures, the drugs of abuse prevalent, the drug court and treatment program procedures, frequency of courtroom appearances, use of sanctions and incentives, or other variations in the context, make-up, or operation of the courts. For these reasons, at least at this stage of drug court research, such a cross-jurisdictional design would not be feasible—or, at least, would require resources beyond those usually available to carry out this type of research successfully.

The methodological challenges associated with these approaches to study the importance of the single drug court judge notwithstanding, the unique history of the Multnomah County Drug Court has nevertheless provided a special opportunity to examine this assumption of the drug court model in what amounts to a "natural experiment," or more accurately perhaps, a "natural quasi-experiment." The special opportunity is presented by the fact that the Multnomah Court did operate under different judicial staffing approaches over the period covered in this evaluation. The history of judicial staffing of the Multnomah County Drug Court includes periods in which single drug court judges, a non-judge referee, and multiple judges in rotation presided in the drug court (see Figure 50).

The court's founding judge, the Honorable Harl H. Haas, presided over the Multnomah County Drug Court from its inception in 1991 through the end of 1993. One of the original "models" of drug court judging, Judge Haas provided strong leadership in conducting the drug court until he was succeeded in January 1994 by another dynamic judge, the Honorable Roosevelt Robinson. Judge Robinson presided over the drug court and guided its growth over the next two years. Thus, from 1991 through 1995, two single judges in succession for two-year periods presided over the Multnomah County Drug Court.

Figure 50 Judges Presiding in the Multnomah County Drug Court, 1991-1998

Year	Judge	Number of Sessions	Referee	Number of Sessions
1991-1993	Haas	All		
1994-1995	Robinson	All		
1996	**(6 Judges, 1 Referee)**			
	Beckman	3	Lawrence	86
	Freeman	4		
	Haas	1		
	Keys	24		
	Robinson	5		
	Wittmayer			
	Total	37	Total	86
1997	**(16 Judges, 2 Referees)**			
	Bergman	79	Lawrence	59
	Brown	50	Weisberg	1
	Ceniceros	6		
	Fasano	2		
	Freeman	1		
	Galagher	1		
	Gernant	4		
	Haas	18		
	Hull	1		
	Kalberer	1		
	Marcus	1		
	Maurer	5		
	Moultrie	1		
	Robinson	2		
	Wilson	2		
	Wittmayer	5		
	Total	179	Total	60
1998	**(5 Judges, 3 Referees)**			
	Amiton	4	Cinniger	6
	Haas	146	Lawrence	98
	Keys	1	Overgaard	1
	Moultrie	1		
	Robinson	4		
	Total	156	Total	105

Beginning in January 1996, the nearly five-year period of the dedicated, single-judge approach to supervision of the drug court was interrupted with the assignment of a non-judge referee (Referee Lawrence), who operated the drug court in 86 of the 123 sessions conducted during that year. Six judges also presided over a total of 37 sessions (with one judge, Judge Keys, responsible for most). This change, from a judge to a non-judge presiding in drug court represented the first time in the nation that anyone other than a judge was given the day-to-day responsibilities for conducting drug court. This step posed a test for the drug court model in that it removed the "real" judge from the court's central role and functioned instead with an official who carried out the same functions, but without the full powers of a judge. Other changes accompanied the introduction of the non-judge into the drug court, including modification in a number of policies governing compliance with drug court requirements and termination from the program (inflexible automatic termination rules were introduced for persons having difficulties in the early phases of treatment).

In 1997, the approach to judicial assignment to the drug court changed dramatically again. In addition to two referees (accounting for about 60 of 241 sessions), 16 judges sat in drug court in rotation. Two judges (Bergman and Brown) accounted for 129 of the 241 sessions, while 14 other judges presided in 50 drug court sessions that year. This period was characterized by difficulties in continuity, operation, and impact of the drug court (see the Phase I report). This judicial assignment approach reverted to primary reliance on referees in the first half of 1998, with three referees accounting for 105 of 115 drug court sessions. (Referee Lawrence was responsible for 98 of these.) Four judges contributed a total of 10 sessions during the first half-year. The period of alternative judicial staffing (non-judge and rotation of many judges) in drug court came to an end in June 1998, when Multnomah County's founding drug court judge, Harl

Haas, was returned to the drug court to restore the single-judge approach. (He presided for a period extending through the year 2000.)

Measuring the Impact of Judicial Staffing on Participant Outcomes

Our evaluation data, drawing on sample cohorts of participants entering the Multnomah County Drug Court in successive periods from 1991 through 1997, allows analysis of the impact of these variations in judicial staffing through 1997 (stopping short of studying the period when the single-judge approach was reintroduced). The question posed for the research in this section is whether differences in judicial staffing of the drug court were related to participant outcomes.[45] We chose to address this question by recording the number of different judges (or non-judges) to whom participants were exposed (presiding over sessions they attended) while they were progressing through the drug court program.

Participant Exposure to Judges in Drug Court

Table 12 shows that the proportion of participants "exposed" to one or two judges during their drug court experience dropped dramatically from 100 percent of the 1991, 1992, and 1994 enrollees, and 98 percent of the 1993 enrollees, to 55 percent of the 1995 enrollees and 26 and 24 percent of the 1996 and 1997 enrollees.[46] In short, until 1995, the "rule" was that drug court participants would experience no more than two judges (including substitute coverage for vacations, etc.) during their involvement in the drug court. Changes beginning part way through 1995 meant that this proportion was reduced nearly by half to 55 percent of enrollees exposed to one or two judges only. The proportion with one or two judges halved again to 26 percent of the

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[45] Note that we examined the impact of the shift in judicial assignment on court operation in time series analysis in the Phase I report.

[46] Note that the sample numbers are relatively small because cohorts of participants were sampled in two year pairs (1991-92, 1993-94, 1995-96) with the exception of 1997. About 150 entering defendants were sampled from each period. The 1997 sample was supplemented to permit more in-depth analysis of a year during which participants were exposed to a large number of presiding officials in a short period of time.

1996 enrollees and 24 percent of the 1997 enrollees. During 1996 and 1997, the great majority of participants saw three or more judges (or non-judges), with as many as one-fourth seeing six or more judges during their involvement in the drug court.

Table 12 Participants Entering the Multnomah County Drug Court 1991-1997, by Number of Judges (and Non-Judges) Seen, by Year of Entry

				Number of Judges (and Non-Judges) Seen				
	Total		1 to 2		3 to 5		6 to 10	
Year of Entry	N	Percent	N	Percent	N	Percent	N	Percent
1991-1997	(687)	100.0	(411)	60.0	(194)	28.0	(82)	12.0
1991	(44)	100.0	(44)	100.0	(0)	0.0	(0)	0.0
1992	(98)	100.0	(98)	100.0	(0)	0.0	(0)	0.0
1993	(87)	100.0	(86)	98.0	(1)	2.0	(0)	0.0
1994	(63)	100.0	(63)	100.0	(0)	0.0	(0)	0.0
1995	(78)	100.0	(43)	55.0	(35)	45.0	(0)	0.0
1996	(74)	100.0	(19)	26.0	(39)	53.0	(16)	22.0
1997	(243)	100.0	(58)	24.0	(119)	49.0	(66)	27.0

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Figure 51 simplifies representation of exposure to judges, indicating the proportions of participant cohorts entering the drug court in different periods experiencing ranges of numbers of presiding judges (or non-judge referees). This figure groups participants into three enrollment periods roughly representing the use of different judicial staffing patterns: a) participants who enrolled during the initial single-judge staffing approach (1991-95); b) participants who enrolled during the primarily referee-supervised period (1996);[47] and c) participants who enrolled during the period with 16 judges and two referees (1997).

Most participants (90 percent) who entered the Multnomah County Drug Court between 1991-95 only experienced one or two judges presiding over their drug court appearances. Given the need to cover vacations, sick days, etc., this finding suggests that the large majority of participants entering during these years experienced the single-judge model. Ten percent,

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[47] From what we have seen above, the growth in the number of judges or referees seen by participants started increasing part way into 1995. Thus, this grouping according to years is necessarily rough.

however, were exposed to from three to five judges during their participation in the program, with most of these accounted for by participants entering the drug court during 1995.

Figure 51 Percentage of Drug Court Participants by Number of Judges Seen, 1991 - 1997'
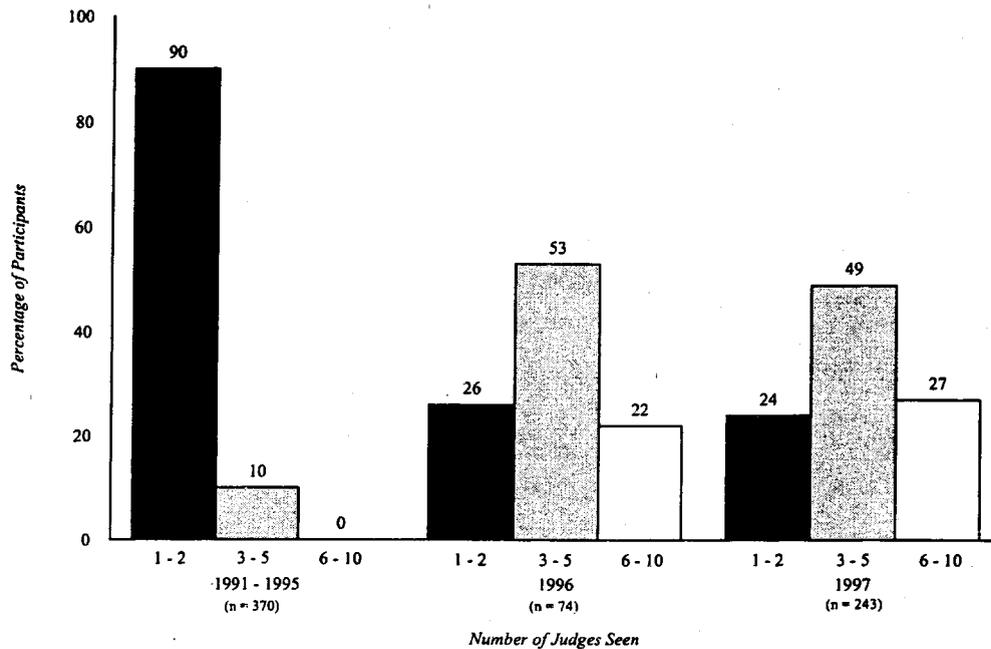
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As we have seen from Table 12, participant exposure to judges shifted seriously after 1995. Using the three period grouping of participants, only about one-fourth of entering participants during 1996 (26 percent) and 1997 (24 percent) were exposed to as few as one or two judges. Roughly half during both periods (53 percent of the 1996 participants and 49 percent of the 1997 participants) experienced from three to five judges (or non-judges), with as many as roughly another one-fourth (22 percent of 1996 and 27 percent of 1997) of participants exposed to six or more judges.

Having documented this fairly dramatic increase through 1997 in the average number of judges to whom participants were exposed in successive cohorts, the principal research question

is whether the number of judges (or non-judges) seen by participants was related to later participant performance. The drug court model, assuming an important effect associated with the single drug court judge, would presumably predict that participants supervised in court by one or two judges (allowing for occasional substitutions for vacation, etc.) would record notably better outcomes than those who saw many judges (or non-judges). Persons supervised by many judges or non-judges would not benefit as much as single-judge participants from the symbolic authority of the judge experienced in courtroom interactions, would not feel the personal connection to the judge or feel that the judge was as familiar with their cases, would experience more inconsistency from session to session in the treatment of both their own and their peers' noncompliant behavior, etc.

The Relationship between Exposure to Judges and Rearrest

Figure 52 examines the relationship between number of judges seen by participants and rearrest during the first year after entry in the drug court as measured combining all samples (1991-97) and by year of entry. When the 1991-97 data are taken together, there seems to be a slight, though oddly curvilinear, relationship between judge exposure and later rearrest. The relationship is "odd" because the lowest rearrest rates are recorded by participants seeing only one judge *and* by participants seeing five or more judges (33 and 30 percent respectively). Persons exposed to from two to four judges were rearrested somewhat more often (40 percent of those seeing two or four judges and 44 percent of those seeing three judges). When this relationship is examined for each sampling period, the pattern is not consistent. Because of the small number of cases resulting when samples were split by single year periods (they were

initially drawn to represent two-year periods), it is difficult to identify meaningful patterns by year,[48] with the exception of the 1997 drug court sample.

Figure 52 Rearrest among Drug Court Participants by Number of Judges Seen from 1991 - 1997, Multnomah County
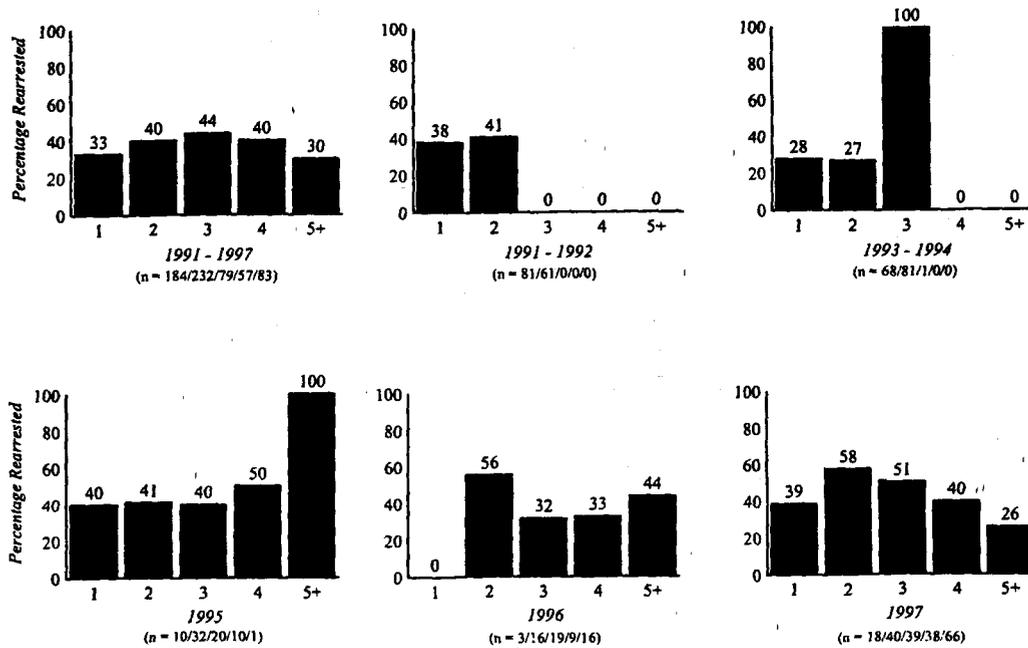
The 1997 data—the year of 16 judges and two non-judge referees in the drug court—disproportionately shape the results shown in the 1991-97 analysis because the 1997 sample was supplemented (by about 100 additional drug court cases) to permit more in-depth analysis. When the augmented sample of participants entering the Multnomah County Drug Court in 1997 is examined, the same curvilinear relationship as shown for participants overall (1991-97) is found—except the curve is steeper and variation in rearrest by number of judges is greater. Among 1997 participants, the lowest rearrest rate (26 percent) was recorded among those who saw five or more judges. Persons who saw only one judge and persons who saw four judges

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[48] For the purposes of the remaining analyses, judges and referees are treated as a single unit of analysis, assuming that drug court participants would not normally be able to differentiate between the two. When judges and referees are combined, the fewest number of judges seen by a participant in our sample is one, and the highest number is ten.

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showed the next lowest rearrest rates (39 and 40 percent respectively). Participants who saw two or three judges during their involvement in the drug court showed the highest rates of rearrest (at 58 percent and 51 percent).

Interaction between Number of Judges and Length of Time in Drug Court in Explaining Rearrest

These bivariate findings present contradictory or at least equivocal support for the hypothesis deriving from the drug court model that the single drug court judge is a critical element that contributes to reduced reoffending. Interpretation of this curvilinear relationship is difficult because the combined 1991-97 data and the 1997 data in particular seem to suggest that either a) being exposed to only one judge (the smallest judge exposure possible) or, quite the contrary, b) being exposed to five or more judges (the greatest exposure possible) results in lower probabilities of rearrest than exposure to two to four judges (exposure to a medium number of judges). On the one hand, the single-judge assumption of the drug court model appears to be supported in the finding of the next lowest rearrest rate, while it appears to be soundly rejected in the finding that those exposed to the largest number of judges will generate the lowest rates of rearrest.

One possible explanation for this apparently odd finding is that the number of judges to whom a participant is exposed and the length of time a participant spends in the drug court are related and interact to affect rearrest probability. During 1997 in particular (with 16 judges and two referees sitting in the drug court within a 12 month period), one would expect that participants in the program for the longest periods (up to 12 months) would encounter the greatest number of judges presiding over the drug court sessions they attended. Exposure to a large number of judges, in fact, would be a sign that participants were successful in continuing and (maybe even) completing treatment; in other words, the more successful participants could

not help but be exposed to a large number of judges or non-judges during their minimum 12-month involvement. As the most "successful" participants well on the way to graduation, they would also be the least likely to be rearrested.

Participants who stay in the program for only a short period because of non-compliance are more likely to experience only one judge. A short stay in the program would also be associated with a higher probability of rearrest. In fact, many participants terminated early from drug court were terminated because of a new arrest. Thus, short-stay, one-judge participants should show relatively higher rates of rearrest. The exposure to judges/length of time in drug court interaction cannot explain the 1997 finding that exposure to only one judge was associated with a relatively low rate of rearrest. However, another version of this interaction may shed some light.

Another category of one-judge participants would be expected to have comparatively lower rearrest rates: those who had only one judge for the duration of their involvement in drug court and who succeeded in staying in and completing the program by performing well (and showing a low rate of rearrest). These are the one-judge participants, in fact, envisioned by the drug court model—those who are shepherded by their dedicated drug court judge through the 12-month treatment program and who avoid becoming involved in crime.

To help in the interpretation of these findings, Figure 53 examines the relationship between number of judges and rate of rearrest while controlling for length of time participants were in drug court. When these controls are applied, the relationship between number of judges (participants' exposure to judges) and rearrest does not "disappear" as it would if the judge-rearrest relationship were spurious. The relationship instead survives, showing different relationships depending on the length of time participants were in treatment.

**Figure 53 Relationship between Number of Judges and Rearrest among Multnomah County Drug Court
Participants, Controlling for Time in Treatment in One Year**
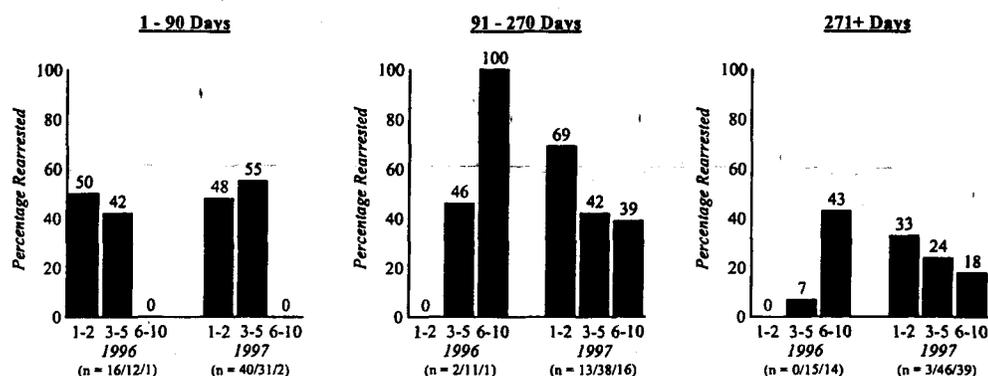
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Among persons who were terminated or opted out of the Multnomah County Drug Court
within the first three months (90 days or less), there was a slight (non-significant) relationship in
the direction hypothesized by the drug court model. Participants exposed to one or two judges
during their short period in the drug court were rearrested less frequently (48 percent) than
participants seeing from three to five judges (55 percent). However, among persons attending
drug court from 91 to 270 days and those attending for 271 or more days before termination or
completion, a weak relationship in the reverse of the hypothesized direction is found.

Within the 91 to 270 day treatment group, a substantial majority (69 percent) of persons
seeing one or two judges was rearrested, compared to 42 percent of persons seeing from three to
five judges and 39 percent of persons seeing from six to ten judges. These differences seem
large in the "wrong" direction; however, the relationship is based on a small number of cases and
is not significant. Finally, the same "reverse" but weak judge/rearrest relationship is seen among

persons in drug court from 271 days or longer; 33 percent of participants who saw one or two judges, 24 percent of persons who saw from three to five judges and 18 percent of persons who saw six to ten judges were rearrested. (The small number of cases is partly due to the fact that there were few persons who had only one or two judges and stayed in the drug court for this length of time.) This relationship is also not significant and is based on a relatively small number of cases. The lower rates of rearrest generally and specifically the lowest rates among the three to five judge and six or more judge groups may be partly explained by the fact that these groups include persons who completed the 12-month program successfully and, over 12 months during 1997, they would have been exposed to quite a number of judges (and non-judges) in their court appearances.

In short, the effect of considering the exposure to judges/rearrest relationship by controlling for length of time in the drug court did clarify the relationship, hinting at an interaction between time in the program and number of judges seen by participants. Because of the small number of cases and lack of significance, the results remain difficult to interpret. Suffering from an insufficient number of cases as they do, nevertheless, they do not provide clear support for the notion that the fewer judges seen (as in the single-judge ideal), the better the results when measured by rearrest in the first year. In fact, this analysis suggests that length of time in treatment overshadows the importance of participants' exposure to judges in explaining rearrests. For persons terminated from the court in a short period (up to 90 days), a hint of the hypothesized relationship is found, but it is slight and not significant because of the small number of cases. For persons lasting in drug court for over 90 days, the findings are less supportive of the single-judge effect; instead showing a hint of an inverse relationship (also not significant), the opposite of the drug court model's presumption.

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Developing Alternative Measures of Judicial Exposure

Limitations in the Measurement of Participants' Exposure to Judges on Later Outcomes

Investigation of the number of judge/later outcomes relationship posited by the drug court model is not straightforward, as the bivariate and trivariate analysis above has shown. The fact that the best opportunity to measure the effect of many different judges occurs mainly in one period (1997) limited the data we had available for analysis, even though we supplemented the original sample for that period. The interrelationship between number of judges and length of involvement in the drug court—particularly in 1997—further confounds explanation of that important relationship. Another problem is that perhaps "number of judges" does not measure very well the notion of the quality of the exposure to a single judge. In addition, that measure does not differentiate between judges or non-judges who were "primary presiders" or just substitutes who made a number of appearances during the year but who did not contribute much to the disposition of the drug court business overall. Thus, one might argue that one participant may have seen three very good judges for reasonably extended periods of time. Another may have seen one for most of the year's appointments and four others for a session or two. Our data fail to support analysis of such distinctions (and would deplete its number of cases quickly in trying to do so).

Judge Exposure as Longest Period Seeing One Judge Controlling for *A Priori* Risk of Rearrest and Sample Period (1991-1995, 1996-1997)

In addition to employing an unsatisfactory measure of "judge exposure," the trivariate analysis above also suffers from the fact that other factors, such as participants' *a priori* risk of rearrest, were not taken into consideration. Given our body of analysis in this evaluation, it is possible that these factors could play an important role in explaining rearrest outcomes, affecting or even making spurious the judge exposure/rearrest relationship. Moreover, the use of multiple

judges (or non-judge referees) in the Multnomah County Drug Court is associated with a particular era of that court's history, as we've shown in Table 12 above. Thus, another concern is that we are encountering an historical effect (with single-judge courtroom experiences more common before 1995 and less common after 1995) that may be related to judicial staffing. We attempted to address these concerns in the multivariate (logistic regression) analysis of judge exposure and outcomes shown in Table 13, drawing on the complete body of Multnomah County data (1991 through 1997, including the supplemental 1997 data).

Table 13 summarizes a series of analyses of one-year drug court outcomes, asking the following question: After taking into account a) participants' *a priori* risk attributes (their risk of reoffending based on attributes predictive of rearrest) and b) the historical period in which they entered the Multnomah County Drug Court, does exposure to judges (measured through largest number of days under one judge and number of judges seen) make a difference in later participant outcomes?

A Priori Risk

Earlier in this report, we described findings from analysis of rearrest among the cohorts of participants entering the Multnomah County Drug Court. From a version of this earlier analysis (based on all samples and the supplemented 1997 sample combined), we identified a number of participant attributes which, when taken together, modeled rearrest (within one year) reasonably well. The summary model of this analysis presented in Table 14 identifies the following risk attributes: race (non-whites were more likely to be rearrested); whether the participant had an alias (no/yes—persons with aliases were more likely to be rearrested); pending charges (no/yes—persons with other cases pending were more likely to be rearrested); and

heroin use (no/yes—persons with heroin use indicated at assessment were more likely to be rearrested).

Table 13 Number of Days Seeing a Single Judge, and Number of Judges Seen, Controlling for Sample Period, 1991-1995, 1996-1997

	Any Rearrests One Year	Drug Rearrests One Year	Non-Drug Rearrests One Year	Any Jail Sanctions	Missed Five Appointments	Unfavorable Termination
Risk						
Race (White/Non-White)	.594 (.002)	.995 (.000)	.317 (.110)	.172 (.329)	.210 (.356)	.268 (.240)
Alias	-1.540 (.000)	-1.275 (.000)	-1.256 (.000)	-.923 (.000)	.015 (.937)	-.095 (.648)
Pending Arrests	.968 (.002)	.530 (.095)	.948 (.001)	.907 (.005)	.192 (.606)	.061 (.866)
Indication of Heroin	.737 (.000)	.999 (.000)	.258 (.231)	.374 (.050)	.326 (.198)	.229 (.325)
One Judge						
Time Seeing One Judge	-.002 (.030)	-.001 (.228)	-.002 (.077)	.000 (.754)	.004 (.001)	-.014 (.000)
Number of Judges Seen	(.094)	(.121)	(.758)	(.451)	(.000)	(.000)
1-2 (Indicator)						
3-5	-.136 (.589)	-.064 (.822)	.077 (.767)	.050 (.830)	1.389 (.000)	-1.501 (.000)
6-10	-.729 (.035)	-.815 (.052)	-.161 (.647)	-.300 (.335)	2.242 (.000)	-2.810 (.000)
Timeframe						
Sample Period (91-95/96-97)	.149 (.599)	.160 (.613)	.023 (.938)	-.037 (.888)	-.070 (.819)	1.531 (.000)
Model Statistics						
Log Likelihood	765.631	608.388	719.255	898.762	588.375	599.057
Goodness of Fit	6.479	5.171	5.367	10.606	19.793	13.945
GF Significance	.594	.739	.718	.225	.011	.083
Chi Square	136.232	96.734	78.174	56.564	50.744	331.924
DF	8	8	8	8	8	8
Significance	.000	.000	.000	.000	.000	.000
N	692	692	692	693	625	693

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Table 14 Predictors of Rearrest in One Year for Drug Court Participants, 1991-1997, Multnomah County (Including 1997 Oversample)

Predictors	Rearrest
Race (Non-White/White)	.532 (.006)
Alias (No/Yes)	-1.453 (.000)
Pending Arrest Charge (No/Yes)	.812 (.010)
Heroin Use Indicated (No/Yes)	.651 (.002)
Time in Treatment (No. of Days)	-.002 (.000)
Model Statistics	
Log Likelihood	723.036
Goodness of Fit	4.385
GF Significance	.821
Chi Square	128.448
DF	5
Significance	.000
N	651

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Drug Court History

The analysis also enters a variable representing the period when the single judge experience was more common (1991-95) versus the period when it was less common (1996-97). We concede that this division of the court's history is somewhat imprecise, given our discussion above showing that the shift to multiple judges presiding in the Multnomah County Drug Court began part-way through 1995.[49] However, it was a feasible demarcation in the data and remains a fairly good indicator of the different eras of judicial staffing. Entering this variable in the logit model seeks to control for the period in which the drug court was operating (separate from the judge measures), which we know is associated with historical period.

Judge Exposure as Longest Period Seeing One Judge

In this analysis, we sought to improve the measure of exposure to judges. We adopted the largest number of days (longest continuous period) participants were supervised by a single judge as the variable measuring judge exposure. In employing this measure, we were seeking to capture better the rationale of the drug court model, which is based on the assumption that drug

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[49] In a later analysis, we could improve on this in selecting a more precise cutoff date defining the two eras.

court impact is dependent on the capacity of a single judge to closely monitor the progress of participants in the program and to convey to them the impression of continuity and consistency. The point of the single-judge emphasis is not that participants would never be exposed to "substitute" judges (on the occasion of vacation or sick days). Perhaps measuring participant exposure to judges (the degree to which they experienced the single-judge approach) could be better measured by the longest period of time participants were under supervision of a single judge.

Analysis of Participant Outcomes

Table 13 presents the models developed when this approach is taken to logit analysis of the following six drug court outcome measures:

- Rearrest within one year of entry
- Rearrest for drug offenses within one year of entry
- Rearrest for non-drug offenses one year from entry
- Jail sanctions during drug court
- Missing five treatment appointments or more
- Unfavorable termination from the program

With measures of risk and the drug court historical era entered as controls, two measures of judge exposure (number of judges seen during drug court involvement and longest period seeing one judge) were entered in models seeking to predict these outcomes.[50] A judge exposure effect was found in four of the six analyses of drug court outcomes.

Any Rearrest: With drug court era and risk variables as controls, the longest time seeing one judge was a significant but weak predictor of rearrest within one year (interpreted as showing that the longer the period with one judge, the lower the likelihood of rearrest). In the same model, one measure of number of judges seen (from six to ten) was also a significant

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[50] Because time in treatment is significantly correlated with the judge effect measures, it is not included in this model.

predictor, indicating that compared to persons seeing one or two judges, persons seeing from six to ten judges had a lower rearrest probability.

Drug Rearrest: The modeling of rearrest for drug charges followed a similar pattern. However, with controls, the longest period with one judge was not a significant predictor; seeing from six to ten judges was again significant (in the direction of a lower probability of rearrest).

Rearrest for Non-Drug Charges: No measure of participants' exposure to judges was significant in modeling non-drug rearrest occurring one year from entry into the drug court.

Any Jail Sanctions during Drug Court: The likelihood of incurring jail sanctions during the drug court program was not affected by exposure to judges using these measures.

Missing Five or More Treatment Appointments: The measure of treatment performance, missing five or more appointments while in drug court, was related to both measures of judge exposure, taking into account the effects of the other factors. The longer the period a participant was seen by one judge, the greater the likelihood bad attendance occurred. Seeing more than one or two judges was also positively and strongly associated with missing five or more treatment appointments.

Unfavorable Termination from Drug Court: Being unfavorably terminated from drug court was influenced by judge exposure as reflected by both measures, independent of controls. The longer the time a participant saw one judge, the lower the chance of unfavorable termination. Seeing more than one or two judges was negatively associated with chances of unfavorable termination as well. The modeling of unfavorable termination was the only analysis in which the drug court era was a significant predictor. Taking into account the effects of risk and judge exposure, defendants entering drug court during 1996-97 had a greater probability of unfavorable termination. (We suspect that this finding reflects the fact that during the 1996-97

period, greater proportions of participants were terminated not so much because of judicial staffing, but because of the more stringent automatic termination policies introduced in 1996, corresponding with the shift away from the single judge.)

Measuring Judge Exposure as a Rate: Number of Judges per 100 Days in the Drug Court

The analyses presented in Table 15 repeat the same general approach taken in the analyses employing the "longest time seeing one judge" measure, but drops the simple "number of judges seen" measure for a rate which norms the number of judges seen to the length of time participants were in the drug court program. The rationale for this measure is that it standardizes judge exposure to length of time in the program (per 100 days period), thus taking into account the problem that participants who leave the program in a short period would see one judge, while others who remain successfully in the program for a long period would see more judges.

Table 15 Using Rate of Judges per 100 Days in Treatment

	Any Rearrests One year	Drug Rearrests One Year	Non-Drug Rearrests One Year	Any Jail Sanctions	Missed Five Appointments	Unfavorable Termination
Risk						
Race (White/Non-White)	.585 (.004)	.988 (.000)	.274 (.193)	.174 (.350)	.042 (.866)	.428 (.069)
Alias	-1.482 (.000)	-1.239 (.000)	-1.162 (.000)	-.818 (.000)	-.075 (.705)	-.105 (.616)
Pending Arrests	.957 (.004)	.616 (.068)	.851 (.007)	.899 (.008)	.359 (.421)	.264 (.492)
Indication of Heroin	.652 (.003)	.858 (.001)	.128 (.586)	.427 (.037)	.062 (.823)	.298 (.212)
Judge						
Time Seeing One Judge	-.001 (.179)	-.001 (.576)	-.001 (.242)	.001 (.446)	.000 (.765)	-.011 (.000)
Number of Judges Seen/100 Days	.019 (.106)	.003 (.843)	.025 (.028)	.017 (.140)	-.073 (.000)	.082 (.000)
Timeframe						
Sample Period (91-95/96-97)	-.063 (.813)	.052 (.866)	-.050 (.858)	-.131 (.590)	.645 (.043)	.345 (.194)
Model Statistics						
Log Likelihood	677.593	537.019	631.013	791.528	493.189	550.981
Goodness of Fit	1.880	10.153	5.360	3.619	8.015	7.586
GF Significance	.984	.254	.718	.890	.432	.475
Chi Square	109.078	74.426	62.358	48.567	34.581	249.426
DF	7	7	7	7	7	7
Significance	.000	.000	.000	.000	.000	.000
N	606	606	606	607	607	607

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Any Rearrest and Rearrest for Drug Charges: When this measure is introduced as an independent variable, no measure of judge exposure enters the model significantly.

Rearrest for Non-Drug Offenses: With controls, the number of judges seen per 100 days was a significant predictor of rearrest for non-drug offenses. The interpretation of this model is that, taking into account the effects of the control variables, the more judges seen by participants per 100 days, the greater their chances of being rearrested for non-drug offenses.

Any Jail Sanctions during Drug Court: Measures of judge exposure did not predict the likelihood that jail sanctions would be imposed during drug court, independent of other factors.

Missing Five or More Treatment Appointments: The number of judges seen per 100 days in the program was a weak but significant predictor of poor treatment attendance: the greater the number of judges per 100 days, the lower the chances that the participant would miss five or more treatment sessions. In addition, the drug court era was significant. Independent of risk and judge exposure, participants who entered the drug court during the 1996-97 period had a greater probability that they would record poor treatment attendance.

Unfavorable Termination from Drug Court: Both measures of judge exposure were significant in modeling unfavorable termination from the drug court. The longer the period participants were supervised by one judge, the lower the probability of unfavorable termination from drug court. The greater the number of judges seen per 100 days, the greater the chances of unfavorable termination, after controlling for the effects of risk and drug court era.

Conclusion

Taking advantage of the special history of the Multnomah County Drug Court regarding its approach to judicial staffing, the analyses in this section have attempted to examine the impact of the single-judge approach promoted by the drug court model as a key ingredient of

success. One of the nation's pioneering drug courts, the Multnomah court adopted different approaches to staffing the drug court over the seven years studied, beginning with strong, single judge supervision of the court, then later shifting to non-judge and multi-judge coverage. The height of multi-judge rotation occurred in 1997 during which 16 judges and two referees presided in drug court. It is certain that this experience with judicial staffing of the drug court is unique in the nation.

Disentangling the mechanism through which the single-judge staffing approach affects participant outcomes was a complex undertaking. In part, our analyses have identified some of the difficult issues of design, interaction, and measurement that confound making simple inferences about the potency of the single-judge assumption of the drug court model. The measurement of judge exposure, as we have termed it, and the interaction of judge exposure with length of time in drug court are two challenging issues. Taking into account the effect of history (the time eras associated with different judicial staffing approaches) is also difficult. The analyses suggest, in fact, that, whether or not judge exposure plays a role in shaping outcomes, it is clearly tied to other factors related to different periods of time. We believe, for example, that along with the shift toward the non-judge referee and the frequent judicial rotation beginning around 1996—or independent of it—the shift in court policies (toward more ready use of automatic termination of participants at early stages of drug court treatment) greatly influenced outcomes.

Despite all the complexities—and putting off their better resolution to future research—we see themes in the findings suggesting that, depending on the type of outcome measure examined, there is a noteworthy effect of the way in which the drug court courtroom is staffed. In fact, of the six drug court outcome measures examined, only the analysis of use of jail

sanctions did not identify a significant judge exposure effect. The significant findings are not necessarily supportive of the primacy of the single-judge approach to drug court (e.g., particularly the finding showing that participants seeing six or more judges had a lower probability of reoffending). When the number of judges was normed to the length of time participants were in drug court (judges per 100 days), the significant but inverse effects found for judge exposure disappeared in the modeling of rearrest (any kind) and rearrest for drug offenses, but appeared as a positive predictor of rearrest for non-drug offenses, when it had not reached significance before. Both measures of judge exposure supported the interpretation that the more judges seen by participants, the greater the chances of poor treatment attendance. This finding may be significant if, in fact, increased retention in treatment (the principal rationale for the judge's hands-on supervision) also increases the chances of better outcomes generally, as the drug treatment literature would suggest. The prospects for unfavorable termination from drug court seem also to be influenced by judge exposure. The longer the time seeing a single judge, the lower the chances of unfavorable termination. The more judges seen per 100 days in drug court, the greater the probability of termination, other factors held constant.

This examination of one of the principal tenets of the drug court model—that a dedicated judge is essential to an effective drug court—is, as a first undertaking of its kind, less conclusive than one might hope. It has, nevertheless, identified important themes and issues that will need to be addressed in more depth in subsequent research. At this stage, and within the limitations of these data and analyses, we find both grounds to support the importance of the single judge approach, depending on the outcome of interest, and grounds to question whether the single judge assumption might really represent other assumptions of the drug court model, such as the need for effective judicial supervision, continuity of monitoring, and consistency in rules and

responses to participant behavior during the drug court process. One could imagine a non-judge approach (which we were unable to evaluate here) or a multiple judge supervision strategy that would incorporate those dimensions and have a positive effect on outcomes—though perhaps not intentionally involving 16 or more judges in one year, as was the case in Multnomah County. Clearly, that experience, which permitted the opportunity for study of the impact of the judicial staffing question, also presented many difficulties for the drug court and its participants during the 1996-97 period.

VII.   The Effect of Acupuncture in Treatment in the Clark County Drug Court

In two focus groups in which Clark County Drug Court participants discussed their reactions to various aspects of the drug court experience, they made the following comments related to the role of acupuncture in treatment (Goldkamp, White et al., 2001b).

. . . I think the needling is cool.

. . . It helps me to the point where, well, it wasn't really helping me 'cause I really didn't feel anything, but when I went in there I saw things happening to other people . . . and I began to think.

. . . The only thing I did notice was that at the very beginning when I started and was still doing drugs that the needles hurt more going in when I was on drugs than when I wasn't.

. . . I feel it's gotta help some 'cause the Chinese people been using it for years.

. . . Like it would be relaxing now. I fell asleep, you know, I fell asleep watching the moving thing. I fell asleep every time.

. . . I didn't get anything out of it. I was smoking cigarettes at the time and it helped me quit smoking. I guess maybe I don't know . . . But I did come in on a Saturday when they have that Chinese lady here cause I have disc problems and she put it in my wrist, in my jaw, in my back . . . Oh, I've for the first time in like three years I did not have back problems.

. . . I hate it.

. . . Feel nothing.

. . . I didn't like the needling 'cause it didn't do any thing for me . . .

. . . I haven't noticed anything with it but the thought of it just . . . I had a fear of needles, so I never did dope with needles or anything. But it got me over the fear of needles which you have to stick in your head for awhile.

. . . I mean you know that kept asking are you having withdrawal, you know, this can help you with withdrawal. I don't agree, you know what I mean . . . I never noticed any as far as detoxification except for the fact that it makes you not want to smoke cigarettes before you come in.

. . . You feel like a voodoo doll.

. . . I haven't noticed anything either.

. . . I think it's a joke . . . I can't believe they even use it.

. . . It gives me an anxiety attack.

... No it doesn't hurt. Just my chest hurts, you know, I get really excited.

... I think it's unconstitutional and cruel and unusual punishment.

Acupuncture and the Drug Court Model

In the history of the development of drug courts in the United States, the Miami Drug Court was the launching pad of what, at the time, was considered a highly unorthodox judicial endeavor. The Miami Court set its stamp on the movement for change in the courts by pioneering an approach to substance abusing criminal defendants that included the basic ingredients of what is now referred to as the "drug court model."[51] By far, one of its most unorthodox elements was the use of acupuncture in its drug treatment regimen. Some of the early reactions to the Miami Drug Court, both locally and nationally, were unflattering, sometimes seizing on the use of acupuncture and the image of criminal drug defendants with long needles in their ears to dismiss the experiment as weird, too far from the mainstream of punitive justice, and involving mysterious and exotic "voodoo" drug treatment techniques. It is an understatement to report that the substance abuse treatment establishment was not notably receptive at first. Drug treatment providers had many problems with the flexible, judge-directed methods employed in the Miami Drug Court and its use of acupuncture was certainly one of them.

The development of the Miami Court is relevant to our discussion of the Multnomah and Clark County Drug Courts, not only because they were both greatly influenced by its example in their respective planning and implementation, but also because both drug courts relied on acupuncture. The introduction of acupuncture by the Miami officials into the first drug court

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[51] For a discussion of the drug court model see Goldkamp (1994); NADCP (1997); Goldkamp (2000); Goldkamp et al. (2000). The early leaders of that effort in Miami—Judges Herbert Klein, Gerald Wetherington and Stanley Goldstein, State Attorney Janet Reno, Public Defender Bennet Brummer and Office of Substance Abuse Control Director Tim Murray—would never had agreed that they intended to launch any kind of "model" for any movement in the courts. They were trying to solve some very difficult problems in the Dade County setting.

treatment regimen had origins that, in hindsight, played an important role in the philosophy or theory of the court experiment. In its initial stages, the fledgling Miami Drug Court sought to draw on the practices and cooperation of local providers. When early arrangements with providers failed to work out because of a conflict between the way providers were used to operating and the way the drug court needed them to operate to be responsive to the treatment needs of the drug court population, officials instead shaped their own approach, which made use of Dade County's public treatment system.

In planning for what was to become the Miami Drug Court strategy, the Honorable Herbert Klein of Florida's 11th Judicial Circuit visited Dr. Michael O. Smith's program treating hard-core heroin addicts in the Lincoln Hospital in New York's South Bronx. Dr. Smith employed a mix of traditional and non-traditional methods in his approach to heroin addiction. His treatment program integrated acupuncture, which he adapted from practices in Hong Kong and China, to assist heroin addicts in the detoxification process and early treatment stages. He found that it helped calm addicts who were going through withdrawal and helped them become more receptive to the treatment process. Respectful of the tradition of oriental medicine from which the practice of acupuncture derived (with a history of more than two thousand years in China alone), Dr. Smith argued that one specific technique, auricular acupuncture (in which only the ears are treated), could be adapted to treating addiction and that it could be applied by competent auricular acupuncturists who did not require the years of extensive training in oriental medicine required of professional ("full body") acupuncturists.[52]

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[52] This was not easily accepted by professionals trained in oriental medicine, who feared that abuses would result if one small acupuncture practice was borrowed from the overall practice of oriental medicine without full and adequate training. Dr. Smith helped found a national organization dedicated to the application of acupuncture to the problems of addiction.

At Dr. Smith's recommendation, acupuncture was included as a tool in the treatment approach to be taken in the Miami Drug Court, supporting the intensive outpatient treatment of the predominantly cocaine and then crack-abusing Miami criminal justice population. Before adopting acupuncture as an adjunct to treatment, the approach was field tested successfully at Dade County's "Stockade" (correctional institution) among sentenced drug offenders. The theory behind the innovative drug court treatment approach, heavily influenced by Dr. Smith's recommendations, was that the combination of the special in-court, hands-on supervision of the judge (and related non-adversarial courtroom procedures), intensive outpatient treatment, and acupuncture as a treatment adjunct amounted to a treatment modality specially adapted to promote effective treatment of drug abusers in Dade County's felony population. The drug court treatment rationale in the nation's first drug court clearly emphasized intensive outpatient treatment and de-emphasized the traditional reliance on residential treatment. This treatment approach, crafted to be the standard operating procedure in the Miami Drug Court, powerfully influenced the drug court model that many other jurisdictions adopted during the 1990s.

As drug courts spread throughout the United States strongly influenced by the original Miami model, many incorporated acupuncture into their treatment regimens—in fact, calling upon Dr. Smith to advise them in setting up appropriate services. Some jurisdictions were unable to incorporate acupuncture into the drug court treatment process because sufficient acupuncture services were simply not available to them. Other jurisdictions, more influenced by traditional substance abuse treatment perspectives (and reliance on residential treatment), rejected acupuncture on principle. These jurisdictions saw acupuncture as relatively untested in drug treatment; some believing that acupuncture was exotic, or an unnecessary frill and perhaps

a sort of affectation of the drug court fad. Nevertheless, by 1997, the use of acupuncture was employed in treatment in an estimated 40 percent of state and local drug courts (Konefal, 1997).

Acupuncture in Treatment in the United States

Although acupuncture was used in drug treatment sporadically in the United States during the 1970s, its formal use in the treatment of substance abuse was initiated at the Lincoln Hospital in New York in 1982 by Dr. Michael O. Smith, director of the hospital's division of substance abuse (Center for Substance Abuse Treatment, 1995). The medical rationale for the use of acupuncture is based on an understanding of the physiology of withdrawal. Under this model, addiction is conceived as involving changes in the central nervous system's activity as a result of chronic drug use. When drug use is halted, the body experiences withdrawal symptoms that vary based on the substance of abuse and the individual's physiology, but typically produce tremors, perspiration, drug craving, nausea, vomiting, insomnia, anxiety, agitation, and possibly delirium or hallucinations (Center for Substance Abuse Treatment, 1995). By affecting "central nervous system activity in those regions of the brain affected by substances of abuse" (Center for Substance Abuse Treatment, 1995: 36), acupuncture appears to reduce the severity of withdrawal symptoms and the physical craving for drugs (Katims, Ng, & Lowinson, 1992). In sessions lasting about 45 minutes and administered on a daily basis for the first few weeks of treatment, acupuncture involves placing needles at strategic body "points" located on the outer ear in auricular acupuncture, or throughout the entire body in full body acupuncture. By 1995, formerly skeptical Federal treatment agencies appeared to accept the practice of acupuncture as a useful adjunct in the treatment of addiction. "Ideally, acupuncture treatment is combined with a comprehensive treatment approach, including counseling, drug testing, and other interventions" (Center for Substance Abuse Treatment, 1995: 36).

Despite initial skepticism among many in the medical and treatment communities, a growing body of research suggests that acupuncture can serve as an effective adjunct to substance abuse treatment. Konefal (1997) noted that a reduced craving among heroin and opiate addicts was reported as early as 1972 in China as a result of acupuncture. In a study of acupuncture and alcoholism, Singer (1992) found that alcoholics who received acupuncture made significant treatment progress when compared to a control group that received "sham" acupuncture (needles put near but not on specified sites). Moreover, alcoholics in the control group expressed stronger desires to abuse alcohol than those receiving acupuncture. In a similarly designed study, Washburn et al. (1993) found that, although dropout rates were high in both the acupuncture and "sham" acupuncture groups, participants in the treatment group stayed in treatment longer and attended more frequently. Bullock et al. (1989: 1,439) concluded, "increased use of acupuncture therapy not only may be an effective adjunct to therapy in current programs for patients with persistent craving for alcohol, but may also allow treatment to be extended to a large group of recidivist alcoholics for whom current therapies are not effective."

In an application of acupuncture to the criminal justice population, Pennell and Melton (1994) examined its use in an outpatient program for parolees with drug problems in San Diego County and found that those receiving acupuncture spent twice as many days in treatment, received more individual and group counseling (and ancillary services), reported less drug use, and recorded fewer subsequent arrests than those not receiving acupuncture. Analyzing retrospective cohort data from Boston, Schwartz et al. (1999) found that, controlling for other factors, patients who attended outpatient programs with acupuncture were less likely to experience relapse following discharge than patients receiving treatment in residential programs.

Margolin et al. (2000) conducted an experiment with 82 dually addicted participants

(addicted to heroin and cocaine), randomly assigning them to auricular acupuncture, "control" acupuncture (needles inserted in parts of the ear thought to have no treatment effect), and relaxation (view video tapes displaying relaxing imagery) groups. After eight weeks in treatment, more than half of the acupuncture group tested negatively for illegal substances during the last week of treatment (54 percent), compared to 24 percent of the control group and nine percent of the relaxation group (Margolin et al., 2000). Moreover, those in the acupuncture group experienced longer periods of abstinence than those in the other two groups (Margolin et al., 2000).

Acupuncture in the Clark County Drug Court: Issues of Study Design

Against this background of relatively widespread use of acupuncture in drug courts and supportive findings in a small number of research literature, few studies have directly examined the role and effectiveness of acupuncture in drug court treatment of offenders. With the special support and cooperation of the Clark County Drug Court officials, the Phase II evaluation took advantage of the opportunity to examine the utility of acupuncture in drug court treatment.[53] The research question, whether acupuncture improved treatment outcomes in drug court, was relatively simple. For a number of reasons, designing a study to answer that question was not.

The Ethical Issue of Denying Treatment

Ideally, in a world free of practical and ethical constraints, one would study the contribution of acupuncture to treatment outcomes by randomly assigning drug court participants to treatment with and without acupuncture. The treatment experiences of participants, under this approach, would differ only in whether they received acupuncture or not. One problem facing

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[53] We must particularly express our gratitude to John Marr, President of Marcon Associates and Director of Choices Unlimited, the principal treatment provider for the Clark County Drug Court. John actively worked with the researchers to organize the study approach and facilitate access to the data. The research examining acupuncture in treatment was also strongly supported by the Honorable Jack Lehman, the drug court judge since 1992.

such an acupuncture experiment is the traditional ethical problem faced in clinical trials of new medical treatments relating to who will receive and who will not receive the new, hopefully effective medicine. This ethical problem relating to the treatment of human subjects is most difficult when the treatment involves possibly life saving, curative drugs, and random assignment could have life and death implications. The ethical issues raised for the study of acupuncture in treatment are not as extreme and do not involve life or death. The effect of acupuncture is hypothesized to be helpful in facilitating treatment amenability but that has not so far been convincingly demonstrated in research. Some drug courts do and some drug courts do not employ acupuncture. Thus, experts would disagree on its salience to effective drug court treatment. The ethical issue of whether an experiment denying "treatment" placed a control group at serious risk, therefore, is more easily resolved in studying acupuncture. In designing our experiment in Clark County, we reasoned that its absence may not be detrimental, and its presence may be helpful. Moreover, acupuncture is viewed as an adjunct to, rather than the principal vehicle for, effective drug court treatment.

Disentangling the Effect of Acupuncture from Primary Treatment Effects

Another challenge to the study of the contribution of acupuncture to treatment outcomes is the need to disentangle the effects of acupuncture from all the other influences on treatment outcomes in the drug court. Its secondary status as a treatment-enhancing practice makes its effects hard to distinguish from the primary treatment effects in most studies.

The Disruptive Impact of an Acupuncture Experiment on the Drug Court Treatment Regimen

Theoretically, the best way to separate and measure the impact of acupuncture in drug court treatment would be through an experimental design in which all conditions except the treatment effect of acupuncture are held constant. Opportunities to construct such an experiment

are rare, however, and the likelihood of achieving the cooperation of a court system to produce the circumstances necessary for an experiment focusing on acupuncture is low or nonexistent. One could imagine that, with careful planning and a research-oriented judiciary, a drug court about to start operation could decide to randomly assign its participants to treatment with and without acupuncture to study its impact. It is more likely that study of acupuncture would have to occur in an ongoing drug court program, if at all. Because of the considerable logistics of the drug court's operation, the practical consequences of implementing an experimental design that would alter or disrupt normal operation of an ongoing drug court treatment program might be too great.

Devising an Appropriate Study of Acupuncture in Clark County

During the evaluation study period (1993-97), the Clark County Drug Court required all participants in the first phase of treatment to attend acupuncture at the clinic locations five days per week. After the first treatment phase, acupuncture was voluntary but was encouraged to lessen depression, anxiety, and insomnia, to reduce or eliminate withdrawal symptoms (i.e., drug craving, nausea, body aches, etc.), and to assist with stress reduction and relapse prevention. In later phases of treatment, the judge would sometimes order a struggling participant to attend acupuncture again, usually in response to a positive urinalysis. At each of those appointments, participants were also required to undergo drug testing. Thus, attendance at sessions provided the opportunity for ongoing monitoring of substance abuse among participants.

Court and treatment leaders in Clark County were supportive of a study of acupuncture and willing to consider, if necessary, the possibility of an experimental design because of the great emphasis placed on the use of acupuncture in the drug court throughout its existence. Researchers and program officials agreed, however, that straightforward random assignment of

participants entering drug court to treatment conditions with and without acupuncture posed a serious practical problem for the program. It would have caused persons assigned to the non-acupuncture condition to have one of their routine activities simply eliminated. Because the program had fixed procedures relating to treatment, the simple experimental approach would have meant a major—and potentially disruptive—change to the treatment process. It would have subtracted a core activity from the control group, leaving a programmatic hole in their daily and weekly treatment regimen, while only preserving an existing treatment condition (acupuncture) in the routine of the experimental group.

If this approach were to be followed, those without acupuncture would be expected to appear for drug testing—and on several days other treatment services (individual and group counseling)—but would have no other experience equivalent to those given acupuncture. On some days, in fact, this would mean that non-acupuncture participants would merely arrive at the clinic to drug test and then leave. Apart from the questions this would raise about the substance of treatment for the control group (and the questions this would raise about keeping "all other conditions equal"), such an approach would almost certainly make those assigned to receive acupuncture feel that they were being asked to meet program conditions unfairly imposed on them and not required of others. The sense that one group was being favored ("getting off easy") while another was being unnecessarily burdened could undermine the morale of the drug court program and cause participants to question its fairness. At the same time, some participants not assigned to the acupuncture condition might sincerely wish to have acupuncture and feel that they were being unfairly and arbitrarily deprived of a helpful treatment resource.

After considering these kinds of issues, the researchers decided that a two-part approach would take best advantage of the opportunity provided by the Clark County Drug Court

evaluation to examine the use and impact of acupuncture in treatment. The two study components included a) a descriptive analysis of the acupuncture participation and its relationship to outcomes among cohorts of drug court participants sampled from 1993 through 1997 (using a quasi-experimental approach employing post-hoc statistical controls); and b) an acupuncture experiment that sought to accommodate the logistical and ethical issues raised above.

Use of Acupuncture and Outcomes among Participants Entering the Clark County Drug Court, 1993-1997

The first way the Phase II evaluation could examine the use and impact of acupuncture was to examine its apparent relationship with treatment outcomes through analysis of the participant cohort data described in the earlier Phase I and current Phase II reports. The difficulty of disentangling the effects of acupuncture from other treatment factors in non-experimental data is illustrated in the following analysis of acupuncture in participant cohorts from 1993-97.

According to treatment records for the combined cohort samples of participants entering the drug court from 1993 to 1997, participants attended, on average, about 16 (median) acupuncture sessions in their first 12 months of drug court.[54] Around this median, however, a small proportion (27 percent) of participants attended ten or fewer sessions and an almost equal proportion (25 percent) attended 30 or more acupuncture sessions during the first 12 months. Because acupuncture was required in the first phase of treatment (a period averaging around 30 days) and was optional thereafter, one would expect to see the number of acupuncture sessions attended peak upon completion of Phase I and then begin dropping thereafter. In addition, we would expect that the number of acupuncture sessions attended by drug court participants would

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[54] Note that the median number of sessions is based on all participants, including those who may have dropped out of the program in its early stages as well as those who attended a minimum of 12 months.

mirror their attendance in treatment and be affected by their program status. (For example, persons with few appointments recorded would be participants who were terminated or fugitive from the drug court at any early stage.)

Acupuncture and Most Advanced Treatment Phase Achieved in 12 Months

The curvilinear relationship between number of acupuncture sessions attended and program status (length of time in the program before either termination or completion by graduation) is illustrated in Figure 54. As one might suppose, persons failing to complete Phase I of treatment showed a low median attendance (ten acupuncture sessions). Those advancing to Phase II but no farther recorded the greatest number of acupuncture appointments (median, 24). Those who completed Phase II recorded nearly as many sessions (median, 21) in 12 months. Those reaching Phase IV and graduation showed relatively low attendance (with medians of 14 and 11 acupuncture sessions). The lower median number of acupuncture sessions attended among participants reaching more advanced phases of treatment within 12 months is explained by the drug court policy of not requiring acupuncture after Phase I. The greatest number of acupuncture sessions would be recorded by those who failed the drug court after only completing Phase I or Phase II in 12 months. Persons taking a long while to complete Phase I would record the largest number of acupuncture sessions. Although some participants would voluntarily continue acupuncture after Phase I, one would expect those advancing to Phases III and IV in 12 months to record lower average (median) numbers of acupuncture appointments because they went "so far so fast," in a sense.

Figure 54 Median Number of Acupuncture Sessions during a One Year Observation Period, among Clark County Drug Court Participants, 1993 - 1997, by Most Advanced Treatment Phase
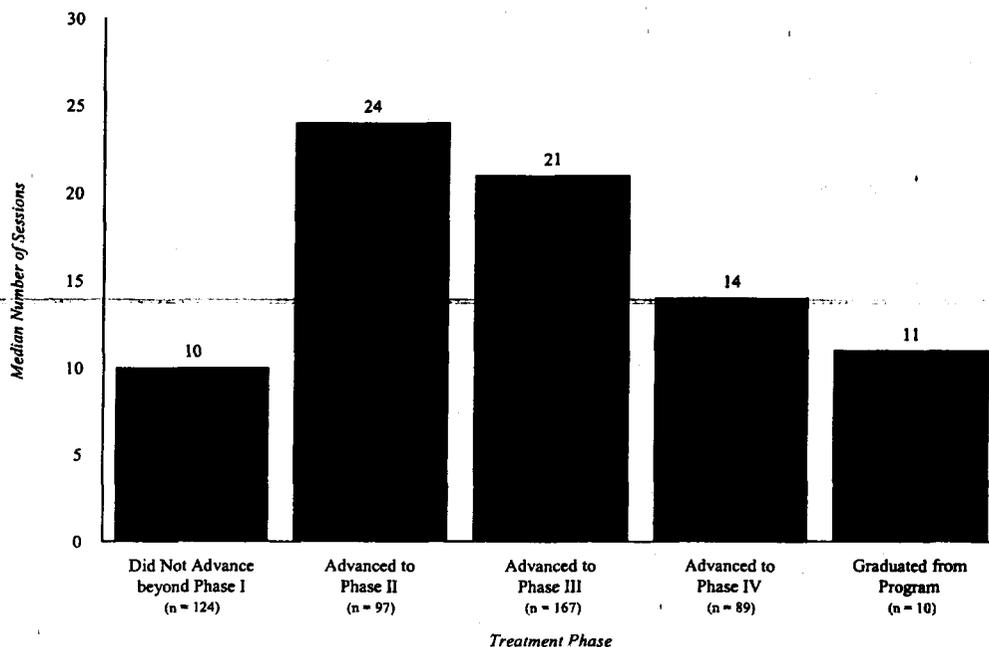
Acupuncture and 12-Month Outcomes

Figure 55 summarizes the relationships between acupuncture attendance, measured as receiving only in Phase I and receiving after Phase I of treatment, and four drug court outcomes (favorable status at one year, graduation within two years, rearrest within one year, and confinement within one year) among the 1993-97 participants combined. When interpreted as reflecting the amount of acupuncture treatment given (in a treatment "dosage" sense), the findings concerning relationships between acupuncture and these outcomes seem, at least at first, to be consistently unfavorable: Persons having acupuncture after Phase I ("more") showed a slightly smaller proportion than those having acupuncture only in Phase I ("less") in a favorable treatment status at the 12-month mark (63 versus 69 percent[55]), and a notably lower proportion graduating in two years (39 percent compared to 53 percent). They also showed a larger

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[55] The difference is not statistically significant at the .05 level.

proportion rearrested within 12 months of drug court entry (52 versus 38 percent) and a greater proportion confined (57 percent versus 35 percent) during the 12-month observation period. Figure 56 replicates these findings using median number of acupuncture sessions. Those with the negative outcomes showed either no notable difference in number of acupuncture sessions attended, or greater average (median) acupuncture attendance. In short, on the surface, these findings appear to support the interpretation that greater exposure to acupuncture was associated with worse treatment and criminal justice outcomes.

Figure 55 Comparison of Treatment and Criminal Justice Outcomes among Clark County Drug Court Participants, 1998 - 1997, by Whether they Received Acupuncture during Late Phases of Treatment
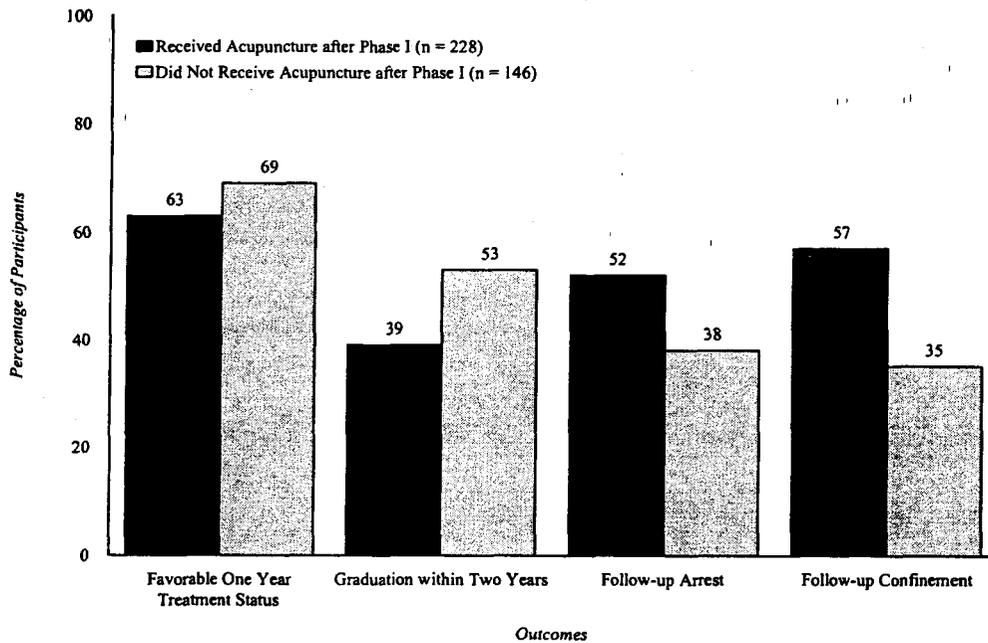
Crime and Justice Research Institute

Figure 56 Comparison of Treatment and Criminal Justice Outcomes among Clark County Drug Court Participants, 1993 - 1997, by Median Number of Acupuncture Sessions
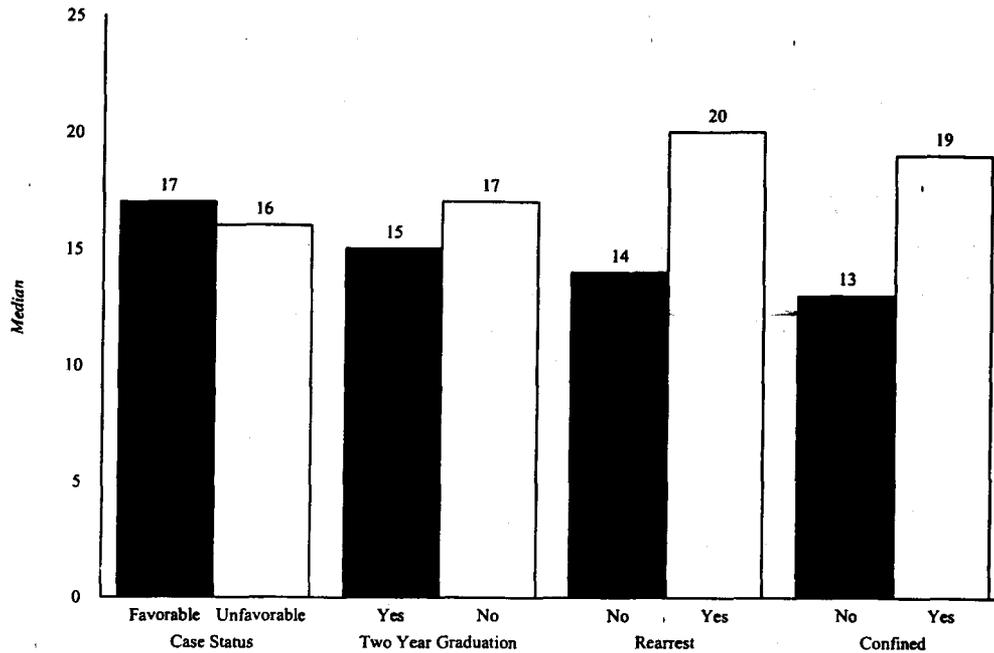
Crime and Justice Research Institute

Interpreting the Apparent Relationship between Exposure to Acupuncture and Outcomes

This interpretation confuses "cause" for "effect." Another interpretation, perhaps more plausible, would understand the acupuncture measures to be the product—not the producer—of participant performance (length of time) in treatment. This alternative reasoning would expect that persons who performed poorly (and were terminated before completing Phase I of treatment) would produce fewer acupuncture sessions. Early termination, therefore, would explain low acupuncture attendance or exposure, not the other way around. However, successful participation in treatment, following this logic, would not necessarily produce a larger number of sessions attended. Program successes would spend the minimum period possible in Phase I and attend the minimum five acupuncture sessions. These would-be successes would not be required to attend acupuncture longer as they progressed through the program. When they graduated, they would still have only the few acupuncture sessions they attended during Phase I

on their record. This explanation—that treatment progress accounts for the number of acupuncture sessions attended and not the other way around—seems to account for the findings that persons attending few sessions a) survived in the drug court for only short periods, or b) turned out to be the long-run successes.

The Role of Drug Court Policy Related to Acupuncture in Explaining Outcomes

The explanation for this seemingly anomalous finding that both early failures and eventual successes have less numbers of acupuncture sessions may be found in the drug court policy that makes acupuncture optional after Phase I. In fact, rather than continue on with acupuncture routinely after Phase I (and its roughly 20 to 25 acupuncture sessions), Clark County Drug Court participants seldom opted to continue to attend acupuncture into the next phases. (This practice is consonant with the drug court's view that acupuncture is most helpful during the detoxification and early stages of treatment.) This standard operating procedure meant that, as a result of treatment success, attendance at acupuncture sessions drops in later program stages. In short, "good" performance too produces low acupuncture attendance. Read the wrong way, though, the data would suggest that low acupuncture attendance was associated with ("caused") greater treatment success.

Because of the normal practice of discontinuing acupuncture sometime shortly after Phase I, we find that persons completing advanced stages of treatment record fewer acupuncture appearances than, for example, those only completing Phase I. Persons who participate in acupuncture after Phase I, therefore, were the exception to normal practices. In fact, their participation at later stages was generally the result of a court sanction that, by order of the drug court judge, required them to "return" to acupuncture for a specified period of time because of poor performance in the program. In other words, many of those recording acupuncture sessions

after Phase I were participants on the verge of (or at greater risk of) failing the program and being terminated from the drug court. Thus, the order back to acupuncture amounted to a prediction of greater difficulty in achieving successful program outcomes. In fact, those receiving such orders subsequently showed poorer outcomes relating to program completion, rearrest, and confinement.

Modeling the Effect of Acupuncture on Outcomes

The analysis of acupuncture treatment based on attendance of drug court participants from 1993-97 illustrated well the difficulty involved in drawing inferences about the impact of acupuncture itself. The apparently negative—or at least oddly curvilinear—bivariate relationships between acupuncture attendance and drug court outcomes were made more understandable when considering acupuncture as a reflection of program status (more like a program attendance reading), rather than as a causative agent. That descriptive analysis based on drug court cohorts could not provide an assessment of the independent (causative) contribution of acupuncture to treatment progress. Moreover, in measuring attendance, the analysis using evaluation data did not pretend to broach the question of acupuncture treatment quality. Certainly, the quality and content of what happened at acupuncture sessions might also have had an effect on treatment progress.

Table 16 Modeling the Effect of Acupuncture on Rearrest (within One Year) and Graduation (within Two Years) among Clark County Drug Court Participants, 1993-1997

Rearrest within One Year

Predictor Variables					
Race (white/non-white)		.710 (.001)	.770 (.001)	.728 (.001)	.739 (.001)
Recent prior arrests (no/yes)	.939 (.000)	1.037 (.000)	.988 (.000)	1.023 (.000)	1.051 (.000)
Time in treatment, one year (no/yes)	-.004 (.012)	-.004 (.000)	-.004 (.000)	-.004 (.000)	-.004 (.000)
Acupuncture after Phase I (no/yes)	.460 (.054)				
Acupuncture: 10 or fewer, 11 or more (no/yes)		.448 (.082)			
Acupuncture: 15 or fewer, 16 or more (no/yes)			.966 (.000)		
Acupuncture: 25 or fewer, 26 or more (no/yes)				.617 (.006)	
Acupuncture: 30 or fewer, 31 or more (no/yes)					.741 (.003)
Constant	.457 (.437)	-.732 (.087)	-.846 (.048)	-.658 (.117)	-.676 (.108)

Model Statistics					
Log likelihood	433.101	540.194	523.488	535.608	534.141
Goodness of fit (H&L)	2.952	9.661	10.339	10.478	11.123
GF significance	.937	.290	.242	.233	.195
Chi square	29.440	59.551	76.258	64.138	65.604
DF	3	4	4	4	4
Significance	.000	.000	.000	.000	.000
N	335	433	433	433	433

Graduation within Two Years

Predictor Variables					
Prior arrests (no/yes)	-.273 (.005)	-.332 (.000)	-.298 (.001)	-.296 (.002)	-.324 (.000)
Time in treatment, one year (no/yes)	.030 (.000)	.029 (.000)	.029 (.000)	.030 (.000)	.030 (.000)
Acupuncture after Phase I (no/yes)	-.663 (.011)				
Acupuncture: 10 or fewer, 11 or more (no/yes)		-.114 (.712)			
Acupuncture: 15 or fewer, 16 or more (no/yes)			-.632 (.011)		
Acupuncture: 25 or fewer, 26 or more (no/yes)				-1.080 (.000)	
Acupuncture: 30 or fewer, 31 or more (no/yes)					-.878 (.002)
Constant	-9.646 (.000)	-9.557 (.000)	-9.577 (.000)	-9.932 (.000)	9.836 (.000)

Model Statistics					
Log likelihood	372.842	402.919	396.468	384.948	392.898
Goodness of fit (H&L)	2.068	3.986	4.058	6.171	5.687
GF significance	.979	.858	.852	.628	.682
Chi square	89.699	157.085	163.536	175.056	167.107
DF	3	3	3	3	3
Significance	.000	.000	.000	.000	.000
N	335	433	433	433	433

The multivariate analyses summarized in Table 16 try to make use of the drug court participant data to test for an effect of acupuncture (measured several ways) on two key drug court outcomes—graduation from drug court and rearrest—by controlling for time in treatment and a priori risk attributes. Five different measures of acupuncture exposure were tested, including receiving acupuncture after Phase I (no, yes) and various dichotomous splits of number of needling sessions attended (10 or fewer, 11 or more; 15 or fewer, 16 or more; 25 or fewer, 26 or more; 30 or fewer, 31 or more). The effect of each of these acupuncture measures was tested while controlling for risk attributes and time in treatment. Like the bivariate findings, these appear to fly in the face of conventional wisdom (and common sense). They suggest that four of the five measures of acupuncture exposure were significantly associated with rearrest within one year, indicating that increased attendance at acupuncture sessions is related to a greater probability of rearrest. Similarly, four of the five measures of acupuncture exposure were negatively (and significantly) associated with graduation at two years (suggesting that increased acupuncture was related to a lower probability of graduation). Both of these findings are accounted for by the sizable group of participants who completed Phase I (but with difficulty and lots of acupuncture) but failed shortly afterwards, or those failing after Phase II. In short, participants who have difficulty in the drug court program in the early stages recorded more acupuncture sessions, were more likely to be rearrested for new offenses, and were less likely to graduate.

Summary: Descriptive Analysis of the Use of Acupuncture in Clark County

The results of the descriptive analyses discussed in this section were not equivocal. There was a significant relationship between acupuncture and later outcomes, such as graduation and rearrest. On the surface, the relationships between acupuncture attendance and participant

outcomes seemed to be opposite of those that would be posited by the drug court model. Apparently, instead of producing better outcomes with increased exposure, the more participants attended acupuncture, the worse their outcomes. However, contrary to this simple interpretation, we found that the use of acupuncture was inextricably related to progress in drug court treatment (most advanced phase completed) and that the simple reading of the findings confused cause and effect. When understanding number of acupuncture sessions as an "effect" rather than a "cause" and recognizing the impact of the policy that treatment acupuncture is voluntary after Phase I, the findings made more sense. Participants who failed in drug court after a long period in Phase I—when they attended a large number of acupuncture sessions—recorded the highest number of sessions.

The Acupuncture Experiment

The drug court officials considering an acupuncture experiment had two main concerns. First, they feared that elimination of the acupuncture requirement from the treatment regimen of a control group would be disruptive in the sense that it dismantled what had been a coherent programmatic approach (with acupuncture appointments serving as a central element in scheduling, for example). In addition, they feared that removal of the acupuncture condition would appear to require less of one group—or unfairly require more of the other—and, as a result, would have a destabilizing or demoralizing effect on the program overall. Thus, the drug court officials felt that to be feasible an experiment would need to provide equivalent services to each group of participants in the study.

Second, officials felt uncomfortable "prohibiting" voluntary participation in acupuncture for the sake of a study from persons who might really feel they needed it. Conceivably, such persons might request acupuncture immediately at the beginning of the process and feel deprived

if they were not placed in the acupuncture group (thus defeating randomization). Others might realize their need for acupuncture later in the process and wish to access those services. Moreover, the court could not agree to discontinue its practice of ordering some noncompliant participants in advanced treatment phases "back" to the Phase I daily acupuncture requirement.

Modified Experimental Design

Based on these concerns, a modified experimental design was devised to address the need for "equivalent" treatment conditions for all participants and to allow for the occasional specific requests made by participants in the control group for acupuncture services. (In other words, services would not be denied if requested. The researchers and program officials estimated that this would not occur frequently.) In addition, persons who entered treatment with partners were kept in the same study group (they were not split up), once assigned, rather than being separated through randomization.

The more difficult question was how to arrange for equivalent treatment experiences for the acupuncture and non-acupuncture groups and to still be able to draw inferences about the specific effect of acupuncture on participant outcomes. The solution, to replace acupuncture in the control group with a relaxation therapy of equivalent duration, was proposed by the treatment provider. The relaxation sessions, which provided clients with educational information and instruction regarding relaxation techniques, were scheduled in the same way acupuncture was for the acupuncture group. Daily attendance was required in Phase I.

In a normal experimental design, the aim is to provide similar conditions for treatment and control groups with the only difference between them accounted for by the introduction of the single treatment effect (acupuncture). This would permit researchers to draw inferences about the effect of the intervention by comparing the outcomes of the group with the intervention

and the group without it. The problem posed by the modified experimental design employed in the acupuncture study was that it compared the effects of two interventions (acupuncture and relaxation) on drug court treatment outcomes without the benefit of a non-intervention control group to serve as a baseline. Thus, the major drawback to this design was that we would not be able to draw inferences about whether either intervention produced results that were better than no intervention (that is, better than no treatment complement or readiness enhancer).

Implications of Possible Experimental Findings

The researchers felt that this approach was nevertheless useful based on the following analytic reasoning. First, if there were no differences in participant outcomes between the randomly assigned acupuncture and relaxation groups, one could infer that other techniques (such as relaxation therapy) were just as likely as acupuncture to be effective in producing treatment and criminal justice outcomes. Second, if the acupuncture group generated outcomes that were notably poorer than those associated with the relaxation group, then one could conclude that other treatment complements, including relaxation, were likely to be more effective than acupuncture as a treatment adjunct. Third, if the acupuncture group fared notably better in participant outcomes than the relaxation group, one could infer that acupuncture was at least better than some alternative approaches (such as relaxation). Note that two of the three possible results—that participants with acupuncture will do a) the same or b) worse than the relaxation group—would provide evidence that would not support the contention that acupuncture made a positive difference in treatment progress and outcomes.

The Conduct of the Experiment (March through August 1999)

According to the agreed upon procedures, participants who entered the Clark County Drug Court from March 8, 1999 through August 13, 1999 and who then made their first

appearance at the treatment center were randomly assigned to acupuncture and relaxation conditions of treatment based on the last digit of their identification number. (Candidates with odd last digits were assigned to relaxation, while those with even last digits were assigned to acupuncture). Random assignment continued relatively efficiently for the five-month period in 1999, resulting in 166 participants in the acupuncture group and 170 participants in the relaxation comparison group. During the study period, 21 participants initially assigned to the relaxation group subsequently requested acupuncture.

As might be expected in a large volume treatment clinic where all services were co-located, there were some problems with maintaining the integrity of the alternative treatment approaches once participants were assigned to the two study groups. Specifically, 85 participants randomly assigned to each treatment group mistakenly participated in at least one session provided to the other treatment group during Phase I. (This amounts to about 25 percent of the cases involved in the study). Of these, 15 were acupuncture group members who received at least one relaxation session and 70 were relaxation participants who received at least one acupuncture session.[56] The error in maintaining the integrity of treatment was not evenly distributed between the two groups and might have exercised a bias in outcomes in the direction of artificially improved relaxation group results over the acupuncture group results (because more relaxation group members benefited from some acupuncture than the other way around).

Participant progress through treatment and re-involvement in criminal justice were observed for a period of six months. The six-month observation period (counted from the date of

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[56] This meant that each group was "contaminated" to some minor degree: nine percent of the acupuncture sample received at least one relaxation session (n=15, median relaxation sessions=1); and 41 percent of the relaxation sample received at least one acupuncture session (n=70, median acupuncture sessions=4). The error in maintaining the integrity of treatment assignment was not equally divided. More persons who started in relaxation experienced some acupuncture than persons in acupuncture who experienced some relaxation. Removing these participants would have reduced the number of cases available for analysis and biased the samples.

entry into drug court) was adopted for two reasons. First, acupuncture is employed in the Clark County Drug Court principally to produce effects in the early stages of treatment (to increase amenability, to treatment and to increase retention), thus making the early treatment period an appropriate observation period. Second, resources for a longer follow-up study were limited.

Similarity of Attributes of Acupuncture and Relaxation Group Members

The aim of randomization is to produce two groups for comparative study that differ only in their exposure to the treatment intervention. Because even random assignment may produce groups that differ in some aspects, a first step in analyzing experimental data is to ensure that two similar groups were in fact produced. This determination is even more important when imperfections in the random assignment are noted. If groups are found to differ on some attribute(s) significantly, then differences in outcomes will need to be examined once controls for the group differences are exercised. The following comparison of attributes of participants in each study group revealed no significant differences, indicating that the random assignment worked reasonably well. Table 17 contrasts the experimental groups on a range of selected attributes. Only one difference, gender, was statistically significant.[57]

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[57] Bivariate analyses did not result in the identification of significant differences in the attributes of study groups at the .05 level of probability. Because slight differences did exist, we employed logit analysis to determine whether, considering 19 demographic, criminal history, and assessment attributes as potential independent variables, we could model (predict) sample as a dependent variable. We were not able to produce a statistically significant predictive model, indicating that the two study groups did not differ meaningfully or statistically.

Table 17 Selected Attributes among Clark County Drug Court Participants Assigned to Acupuncture and Relaxation Groups from March-August 1999

Attributes	Acupuncture (N)	%	Relaxation (N)	%	Significance (p<.05)
Race					
Total	165	100.0	170	100.0	.22
White	97	58.8	88	51.8	
African-American	51	30.9	56	32.9	
Hispanic	12	7.3	22	12.9	
Other	5	3.0	4	2.4	
Gender					
Total	165	100.0	170	100.0	.05
Male	131	79.4	119	70.0	
Female	34	20.6	51	30.0	
Alias					
Total	164	100.0	170	100.0	.40
No	73	44.5	68	40.0	
Yes	91	55.5	102	60.0	
Current Case: Drugs					
Total	162	100.0	169	100.0	.23
None	45	27.8	57	33.7	
Possession	49	30.2	54	32.0	
Sale	6	3.7	10	5.9	
Both	62	38.3	48	28.4	
Current Case: Serious Property/Theft					
Total	161	100.0	168	100.0	.10
No	118	73.3	109	64.9	
Yes	43	26.7	59	35.1	
Pretrial Release					
Total	161	100.0	169	100.0	.61
Immediate release	44	27.3	53	31.4	
Release from detention	115	71.4	115	68.0	
Not released	2	1.2	1	0.6	
Drug Court Entry					
Total	160	100.0	168	100.0	.35
Diversion	22	13.8	23	13.7	
Condition of probation	69	43.1	60	35.7	
Guilty plea	69	43.1	85	50.6	
Recent Prior Arrests					
Total	166	100.0	170	100.0	.38
No	26	15.7	21	12.4	
Yes	140	84.3	149	87.6	
Serious Person Prior Arrests					
Total	166	100.0	170	100.0	.96
No	105	63.3	108	63.5	
Yes	61	36.7	62	36.5	
Drug Prior Arrests					
Total	166	100.0	170	100.0	.89
No	51	30.7	51	30.0	
Yes	115	69.3	119	70.0	
Felony Prior Arrests					
Total	166	100.0	170	100.0	.81
No	31	18.7	30	17.6	
Yes	135	81.3	140	82.4	

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Table 17 Selected Attributes among Clark County Drug Court Participants Assigned to Acupuncture and Relaxation Groups from March-August 1999 (Cont.)

	Acupuncture		Relaxation		Significance (p<.05)
Attributes	(N)	%	(N)	%	
Prior Convictions					
Total	166	100.0	170	100.0	.91
No	82	49.4	85	50.0	
Yes	84	50.6	85	50.0	
Prior FTAs					
Total	164	100.0	170	100.0	.29
No	73	44.5	66	38.8	
Yes	91	55.5	104	61.2	
Positive Test at Entry					
Total	165	100.0	170	100.0	.12
No	86	52.1	74	43.5	
Yes	79	47.9	96	56.5	
Cocaine Use Indicated					
Total	166	100.0	170	100.0	.42
No	120	72.3	116	68.2	
Yes	46	27.7	54	31.8	
Marijuana Use Indicated					
Total	166	100.0	170	100.0	.10
No	82	49.4	99	58.2	
Yes	84	50.6	71	41.8	
Meth. Use Indicated					
Total	166	100.0	170	100.0	.97
No	97	58.4	99	58.2	
Yes	69	41.6	71	41.8	
Education					
Total	164	100.0	163	100.0	.58
Did not graduate high school	57	34.8	55	33.7	
High school graduate	80	48.8	87	53.4	
Some college	27	16.5	21	12.9	
Employment					
Total	166	100.0	168	100.0	.56
Unemployed	80	48.2	95	56.5	
Full-time	67	40.4	59	35.1	
Part-time/other	19	11.4	14	8.4	
Marital Status					
Total	166	100.0	169	100.0	.89
Married/living with significant other	40	24.1	37	21.9	
Divorced/separated	29	17.5	31	18.3	
Never married	97	58.4	101	59.8	

Acupuncture versus Relaxation: Comparative Treatment Outcomes

Figure 57 displays treatment performance measures or outcomes for both acupuncture and relaxation groups recorded in the first six months of the program. The proportions of participants in each group receiving sanctions, recording positive drug tests, and missing at least one appointment were nearly identical. About one-fourth of participants in both the acupuncture and relaxation groups (25 versus 29 percent) received at least one sanction, three-quarters of each group recorded at least one positive drug test (75 versus 79 percent), and 82 percent of both groups missed at least one appointment in the first six months. The measures showing the length of time from enrollment into the drug court to first sanction, first positive drug test, first missed appointment, and mean days confined during the first six months (7 and 10 days respectively) were also very similar. The slight differences between the two study groups were not significant.

Figure 57 Treatment Performance of Acupuncture and Relaxation Treatment Groups in the Clark County Drug Court, March - August 1999
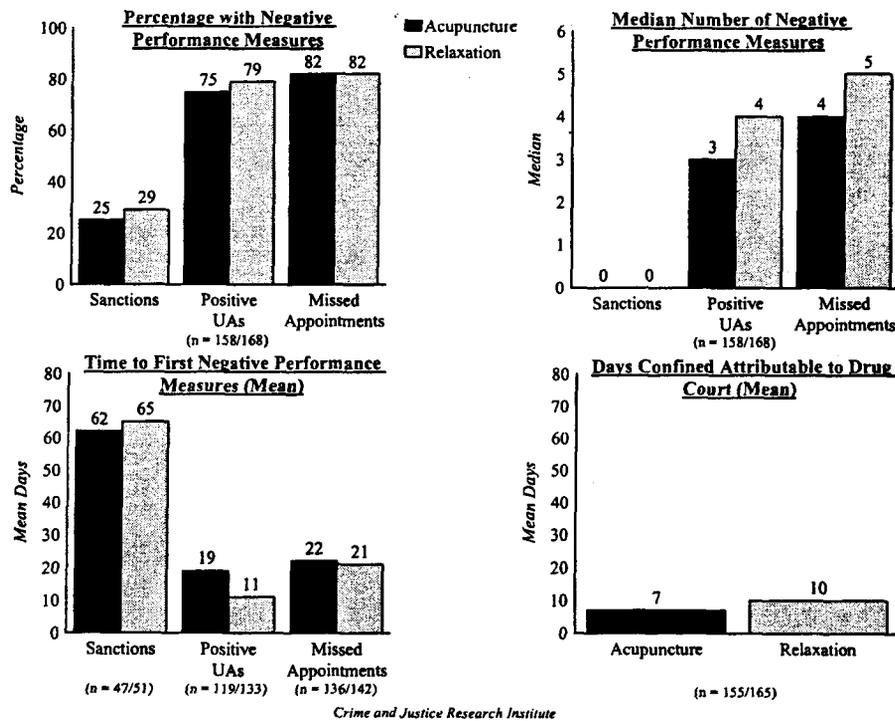
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Figure 58 displays additional measures of treatment progress or outcomes. Acupuncture participants seemed to have advanced farther in treatment: 54 percent of acupuncture group members reached Phase III in six months, compared to 44 percent of the relaxation group members (significant at p<.05). When the median number of days spent by members of each study group in each treatment phase are contrasted, again the groups are closely similar—with the exception that the acupuncture group recorded a greater average number of days in Phase III (with a median of 20 days) than their relaxation counterparts (with a median of 0 days). Moreover, the acupuncture group averaged 10 days longer in treatment (median, 132 days) in the first six months than the relaxation group (122 days). The groups averaged nearly identical numbers of treatment contacts in six months (with medians of 57 and 56 respectively).

Figure 58 Treatment Outcomes of Acupuncture and Relaxation Treatment Groups in the Clark County Drug Court, March - August 1999
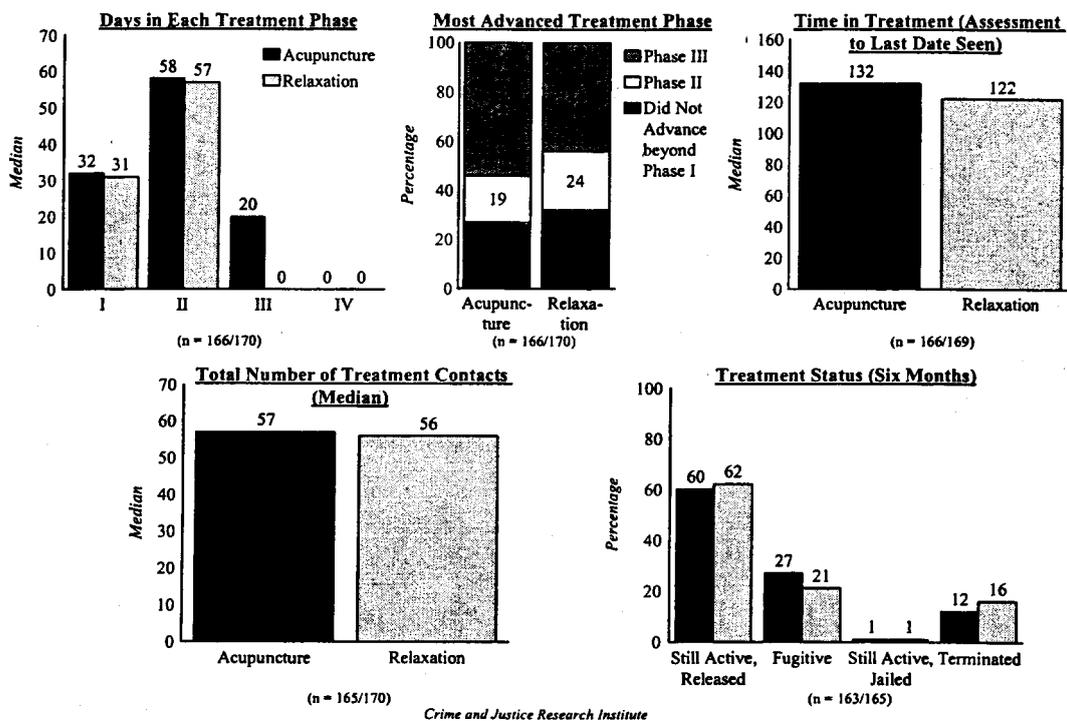
Although these findings suggest that participants in the acupuncture group progressed somewhat farther through the treatment regimen and recorded more days in treatment than their

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relaxation group counterparts, they showed closely similar statuses in the drug court treatment program at the end of the first six months. Most (60 percent of the acupuncture group and 62 percent of the relaxation group) were still active in the program and in good status in the community. Twenty-seven percent of acupuncture group members, compared to 21 percent of the relaxation group members, were fugitives; about one percent of each group was in jail but still in the drug court program. By six months, 12 percent of the acupuncture group and 16 percent of the relaxation group had been terminated from the drug court for non-compliance.

Comparative Criminal Justice Outcomes within Six Months

Closely similar proportions of acupuncture and relaxation group participants (86 and 84 percent respectively) had cases involving convictions by the end of the six-month follow-up period. (Admittedly, the majority of these are explained by the fact that most cases entered drug court after pleading guilty.) The study groups did not differ in the proportions recording failures to appear (as measured by bench warrants) over the six-month follow-up (58 and 55 percent). A slightly smaller percentage of acupuncture participants were confined at least once during the six month observation period (49 compared to 54 percent of the relaxation group members) and were confined for slightly shorter periods of time (a median of 14 versus 18 days). These differences, displayed in Figure 59, were not significant.

Figure 59 Selected Criminal Justice Outcomes (Six Month Follow-up) of Acupuncture and Relaxation Treatment Groups in the Clark County Drug Court and Comparison Group Defendants in 1999

Cases Resulting in Conviction — Acupuncture 86, Relaxation 84 (n = 150/166/170)

Failures to Appear — Acupuncture 58, Relaxation 55 (n = 166/170/150)

Confinements (at Least One) — Acupuncture 49, Relaxation 54 (n = 164/169/150)

Days Confined during Follow-up (Mean) — Acupuncture 14, Relaxation 18 (n = 161/164/150)
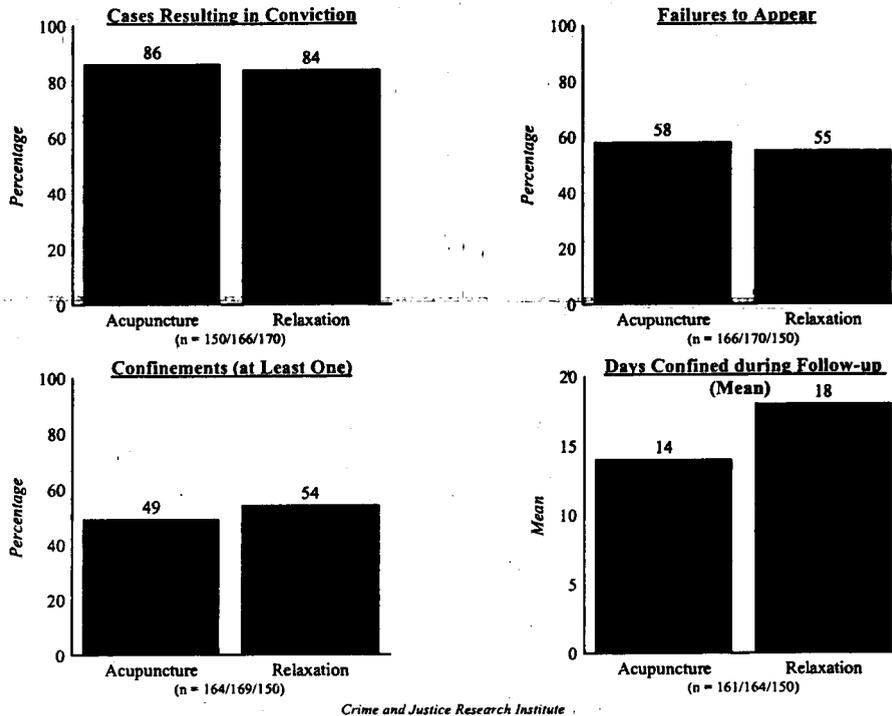
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As shown in Figure 60, participants assigned to the two study groups differed little in the extent to which they became re-involved with the criminal justice system in the first six months of drug court treatment. Nearly identical proportions of each group (45 percent of acupuncture and 46 percent of relaxation) were rearrested for a new offense. Acupuncture participants took slightly longer to be rearrested (with a median of 57 days compared to 49 for relaxation participants). The two groups did not differ significantly in serious person rearrests (6 versus 8 percent), drug rearrests (14 versus 19 percent) or in bench warrants issued within six months of program entry (36 versus 41 percent). The outcomes summarized in Figure 60 were not significant.

Figure 60 Selected Rearrest Outcome (Six Month Follow-up) of Acupuncture, Relaxation, and Mixed Treatment Groups in the 12 Clark County Drug Court and Comparison Group Defendants in 1999
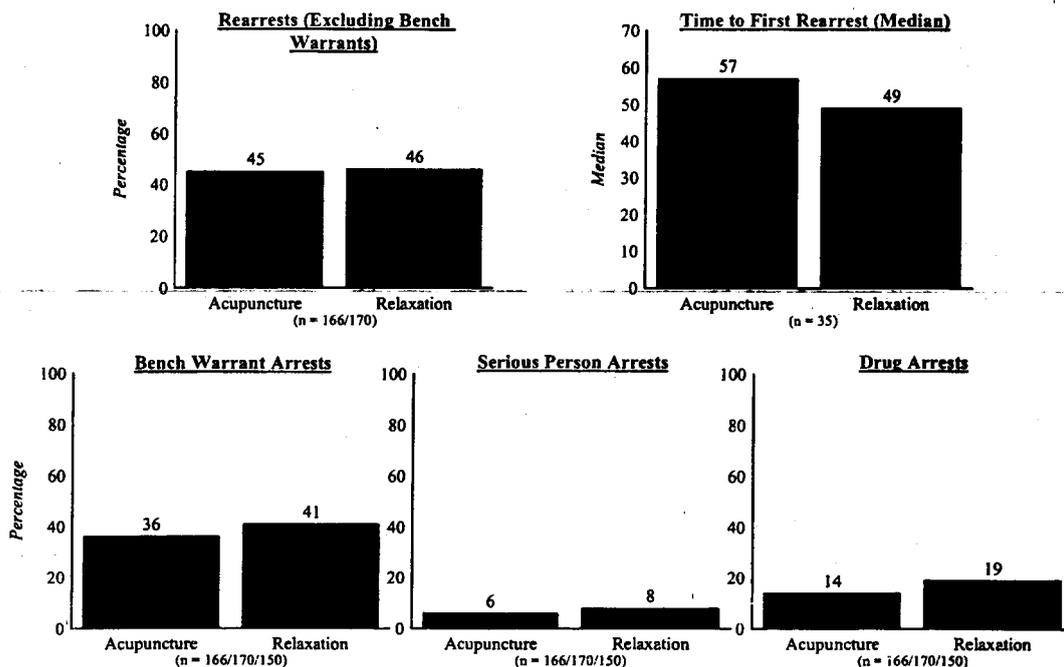
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Implications of Experimental Findings

The modified experimental design examining whether acupuncture contributed positive early effects to drug court treatment in the first six months was reasonably well implemented. Few mistakes in random assignment were detected and the resulting study groups showed few notable, and no significant, differences in composition when a large variety of attributes were considered. Comparison of six-month treatment and criminal justice outcomes revealed slight differences favoring acupuncture over relaxation. The positive (but mostly not statistically significant) findings included: a longer time to first positive drug test, less confinement, advancing farther in treatment by six months (statistically significant), more time in treatment, more treatment contacts, and a longer time to rearrest. These slight differences noted, the experimental findings showed substantially similar results when the outcomes for the two groups were compared.

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The "no difference" finding suggests that acupuncture participants did as well and did no worse than those receiving other treatment enhancement services (and maybe did slightly better), at least as represented by relaxation therapy. We are not able to say that acupuncture contributed to better results in treatment and criminal behavior among participants as measured in the early stages (within six months of entry). Because of a limitation of the design (we were not able to create a drug court group receiving no equivalent treatment enhancement), we are not able to conclude whether both interventions improved treatment retention and success (and so both should be viewed as helpful) or if neither was beneficial.

We are concerned that aspects of the experiment in operation may explain these results or at least may have biased the outcomes in favor of the relaxation group. Specifically, there were some problems with maintaining the integrity of treatment in 85 cases (of 366 total in the study). In these cases, participants assigned to one intervention group received at least one session reserved for the other treatment group. We noted above that the treatment integrity problem was not random, in the sense that 70 involved relaxation assignees partaking in some acupuncture compared to only 15 acupuncture assignees who attended at least one relaxation session (including 21 relaxation members who formally requested acupuncture).

We would argue that these slip-ups (formal requests, court orders, and accidents) not only made a disproportionate impact on the experimental findings because of their number (in favor of improving relaxation results), but also that the treatment lapses were qualitatively much different. Going from relaxation therapy with its classroom or group counseling atmosphere to acupuncture treatments where staff place needles in the ears of participants is a far more dramatic change than going from acupuncture to non-acupuncture treatment. Having

participants rejoin their appropriate treatment paths must have added a second disruptive quality to the overall treatment experience of participants involved.

Our examination of the impact of this slippage in treatment integrity suggests that the slightly positive findings we detected relating to better advancement and retention in treatment among participants undergoing acupuncture might well have been made stronger if the treatment slippage had not occurred. Initially, we created a third mixed treatment group that included the 21 control participants who requested acupuncture and the 64 participants who received at least one session of the "wrong" treatment. However, site officials correctly pointed out that the mixed treatment group was largely composed of relaxation group participants who received acupuncture because they were struggling in treatment and they either requested it or were ordered to receive it by the judge. Thus, by moving these participants out of the relaxation group, the "control" group was left primarily with participants who performed relatively well. The acupuncture group, on the other hand, was not altered and included all participants randomly assigned to it, both those struggling and those doing well. Essentially, by removing the poor performers from the relaxation group, we may have unfairly and artificially "stacked the deck" against the acupuncture group. Thus, participants were placed back in their originally assigned group.

As a result, over 40 percent of the relaxation group received some "dose" of acupuncture because they were struggling in treatment (or by accident). The impact or effect of this acupuncture dose on their subsequent performance remains unknown. More specifically, the important question involves whether the exposure to acupuncture helped those 70 relaxation group participants who were struggling. In other words, did the introduction of acupuncture to

almost half of the 170 relaxation therapy group members improve what would have been poorer results for relaxation?

Though we cannot know for sure the effect of acupuncture, there are some indications that the mixed treatment group experienced improved performance over time, despite their troubles at the start. The mixed treatment group posted the longest median time to first arrest (89 days, versus 54 for acupuncture and 36 for pure relaxation), the longest average time in treatment (137 days, versus 128 for acupuncture and 119 for pure relaxation), and received the most treatment contacts (median of 59, versus 56 for acupuncture and 54 for relaxation). At the end of the six-month follow-up, participants in the mixed group were no more likely than the others to be terminated (14 percent, versus 13 percent for acupuncture and 18 percent for relaxation), were less likely to be fugitive (19 percent, versus 28 percent acupuncture and 24 percent relaxation), and were slightly more likely to remain active and in good standing (66 percent, versus 58 percent for both other groups) We would argue that the struggling relaxation participants would likely have continued to perform poorly (or even performed worse) if they had been denied acupuncture. However, because of ethical and programmatic concerns, they received acupuncture, which for many of them, likely facilitated successful participation in the treatment regimen.

The difficulties in interpretation experienced with the experiment are much like those from the descriptive analysis (e.g., cause and effect). In the earlier descriptive analysis, we understood increased acupuncture exposure as an effect or consequence of poor performance. Similarly, in the experiment, poor performance among the relaxation group often led to acupuncture exposure (either voluntarily or by court order). In both parts of our acupuncture study, the Clark County Drug Court's reliance on acupuncture as a programmatic tool,

particularly for those struggling in treatment, clouded our ability to interpret its relationship with outcomes. Nevertheless, participants who received acupuncture performed slightly better than those who were given relaxation, and there is at least some indication that acupuncture helped many of the relaxation members who struggled early-on to get back on track and be in favorable program status by the six-month mark.

VIII. Participant Fees for Treatment in the Clark County Drug Court: 1993-1997

Paying for Drug Court Treatment Services

The costs of operating drug courts—and their cost effectiveness—is an important topic not examined in this research.[58] However, since the inception of drug courts in the United States in 1989, finding the resources to fund them and, in particular, to pay for treatment services has been one of the most challenging questions facing jurisdictions. The methods for funding and, more particularly, for paying for the treatment services provided to drug court participants are as varied as methods for supplying and paying for treatment services in non-drug court and non-criminal justice settings across the United States. The diverse arrangements have been influenced by Federal, state, and local policies relating to reimbursement of treatment services, the availability and coverage provided by health insurance, the influence of managed care on payment for behavioral care services, treatment availability and capacity, and competition from many other arenas for the same, scarce treatment dollars.

The selection of arrangements for provision of treatment services and of payment for those services is an important and complex part of the history of the development of drug courts—unfortunately beyond the scope of the current research. From the beginning, the approaches specially crafted to provide treatment in drug courts ran afoul of traditional funding policies and mechanisms. It is safe to say that, over time and across geography, there have been wonderful as well as questionable examples of arrangements for treatment services drawing on public and private providers, or some combination of the two. We provide this brief introduction to highlight the magnitude of treatment funding issues for drug courts. These issues constitute an important area for investigation.

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[58] The reader should consult the work of Michael Finigan and his associates for the best and most understandable discussions of cost, cost effectiveness, and cost benefits of drug courts (e.g., Finigan, 1998, 1999).

Having introduced this major area of investigation relating to drug courts and their impact, we readily confess this perspective is mostly missing from (and beyond the scope of) this evaluation—except to the extent that we have described the provision of services and their histories and influences in our Phase I report. The drug courts in both sites employed private treatment providers to manage and deliver treatment services to the drug court population. Yet, both sites were influenced in many ways by public funding sources, policies, and constraints, whether from Federal grants, state managed care payment policies, insurance coverage, or the provision of state funding to pay for treatment services.

Requiring Drug Court Participants to Pay for Treatment

> . . . I could have went to a four-week review. Everything could have been good, but I was short five bucks and he [Judge Lehman] gets all irate, you know.

> . . . It's hard to give him your money, okay. I know the program itself and everything, you gotta pay to be in the program.

> I've lost a dozen jobs, although right now I'm not working. My whole devotion is to just make it here and somehow get the money every week. (Goldkamp, White et al., 2001b)

The extent to which drug court participants are required to pay for services is a relatively small, but not inconsequential, part of the funding mosaic influencing drug courts. Payment for services by participants is important to drug courts for two principal reasons: a) as a matter of drug court treatment philosophy that teaches responsibility and accountability; b) simply as a matter of revenue to pay for treatment.

As a matter of treatment philosophy, some courts take the position that their drug-involved participants need to learn responsibility related to family, education, and work. Just as they must pay rent for their living quarters in the real world, they must be able to pay for other important, basic costs. Thus, requiring payment of fees is seen in these courts as an important lesson in managing the basic responsibilities of every day life.

Other courts choose not to emphasize the payment of fees because they do not believe courts should be in the business of raising revenue from individuals. Those not supporting payment by participants may also feel that it is unreasonable to ask drug addicts finding themselves in the criminal justice system to pay fees; for the same reason, many find cash bail unacceptable—they believe that the practice discriminates against the poorest of the poor who are without financial resources and sets them up for sanctions (including jail) unfairly. Finally, some critics have worried about the criminogenic, or counterproductive, influence of requiring drug addicts with no money to pay fees, believing that they will find non-legitimate means for paying the court fees to avoid sanctions, means almost certainly involving drugs and crime. A related concern is that the handling of fees presents an opportunity for corruption among employees, or between employees accepting the money and participants providing it. (There have been instances, for example, of theft of fees involving court employees in American drug courts.)

Assessment and Payment of Treatment Fees in the Clark County Drug Court

Both drug courts we studied have required some payment from participants in the treatment process as a matter of revenue and as a matter of philosophy. The Clark County Drug Court stands out from other drug courts in its strict requirements regarding payment of treatment fees. Because of this emphasis and the availability of records relating to fees and their payment,[59] this section focuses on a descriptive analysis of assessment and payment of treatment fees in the Clark County Drug Court as an illustration of this aspect of drug court operation.[60]

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[59] Note that these findings are not the result of employing a standard follow-up period. Rather, fee information was examined based on length of participation, for up to three years in some cases.

[60] The emphasis on Clark County is partly, therefore, a matter of data convenience. More in-depth investigation of this topic, including in the Multnomah County Drug Court, was beyond the resources of this research.

In the Clark County Drug Court, defendants who enter the program can have treatment costs paid through county funds[61] ("county-pay") or they can pay their own treatment expenses ("self-pay"). For participants supported through county funds, the judge sets a weekly fee at the first drug court appearance. The weekly fee must be paid without fail to the court at each subsequent appearance. The drug court policy requires that participants make their payments in court or face possible sanctions for falling behind in payments. (The likelihood of sanction is increased if the participant has also missed treatment and/or produced positive drug tests.)

Participants may be required to pay their own costs for a number of reasons. Their cases may involve offenses not meeting the original eligibility criteria; they may be entering the program for a second time and be excluded from support through county funding; the participant may have been in the program for more than one year and still be noncompliant (thus exhausting the presumption for continued public support of treatment). In addition, on occasion, participants may have sufficient income and employment stability to require that they pay their own costs, or may have private insurance that may cover behavioral health care costs. We discuss "county-pay" participants first, followed by participants categorized as "self-pay."

Figure 61 shows that about 83 percent of participants entering the Clark County Drug Court from 1993 through 1997 had treatment services paid for by county-funding. The proportion of participants supported through the "county-pay" approach ranged from 71 to 80 percent from 1993 through 1995 before increasing substantially in 1996 and 1997 when upwards of 90 percent were categorized as county-pay. The implication of this finding is that the large majority of persons treated in drug court were supported by public (county) funds and that this proportion grew to nearly all participants over time. The increase in participants supported

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[61] Each year, the drug court treatment provider negotiates a contract with the county to provide treatment to drug court participants.

through county funds corresponds to the period during which the drug court shifted away from diversion increasingly to accept participants who pled guilty to enter the court (and were often in the drug court as a condition of probation).

Figure 61 Proportion of County- and Self-Payment of Assessed Treatment Fees among Clark County Drug Court Participants, 1993 - 1997
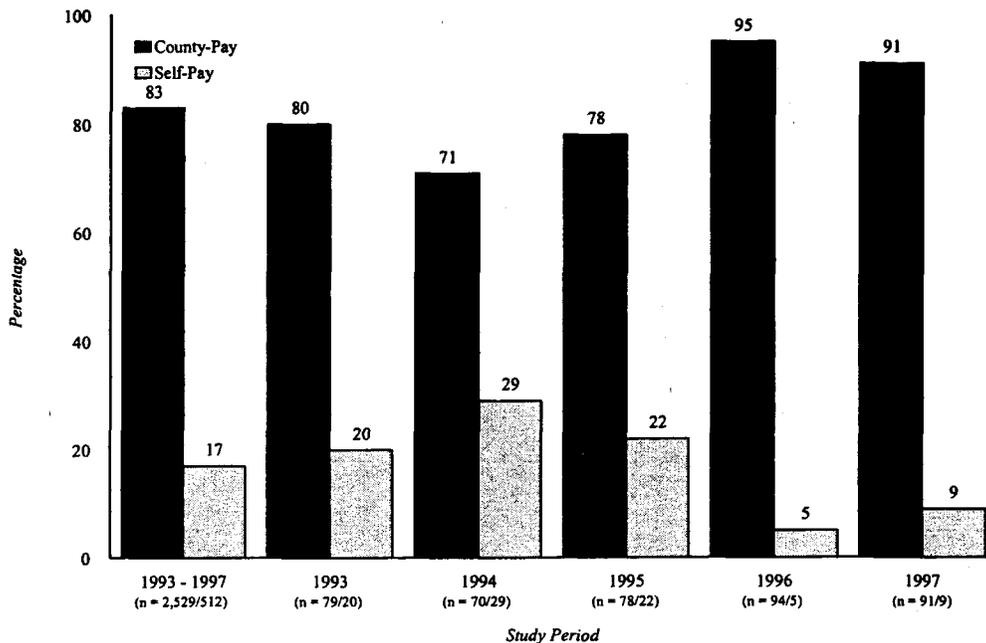
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"County-Pay": Assessment of Fees

The fees assigned to county-pay participants were generally small: the median initial fee was five dollars per week, both for the entire study period (1993-97), as well as for each year separately. The amount a participant was required to pay in court depended on the frequency of court appearances; thus, for example, a person appearing before the judge every week might pay $5 at first, but a person appearing in court on a monthly basis would pay $20. Nineteen percent of participants had their fee amount changed by the judge at some point during their treatment, either an increase (58 percent of fee changes) or decrease (42 percent of fee changes). Nearly half of all fee schedule changes occurred in 1997; 80 percent of these involved an increase in the

amount required. Change in fee schedule could occur for a number of reasons. For example, the judge may assign a higher weekly amount as a sanction for positive drug tests, arguing that "if you have enough money to buy drugs, you have enough money to pay your treatment fees." The judge might also reduce the fee amount as a reward for positive progress. Changes in fee schedule could also result from changes in the participant's employment status, for example, because of losing a job or getting a better-paying one.

Fee Payment by "County-Pay" Participants at Drug Court Appearances

Figure 62 examines payment of fees by county-pay participants from the perspective of court appearances.[62] Overall, drug court participants appeared before the judge about 15 times (median) during their treatment experience. On average, appearances more often (median of eight appearances) resulted in non-payment of the full amount of assessed fees[63] than in full payment (median of six appearances). Among 1993 and 1994 participants, the discrepancy between sessions in which they paid their fees and they did not was large. (On average participants recorded more non-payment sessions than payment sessions.) However, 1995 participants averaged more full payment sessions (median, 9) than non-payment sessions (median, 8) during their drug court experiences. The ratio shifted back in the direction of favoring non-payment (median, 11 appearances) over payment (median, six appearances) among 1996 participants, while the court appearances of the 1997 participants were equally divided among payment and non-payment of fees. These findings suggest that full payment was, more

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[62] Note that the follow-up periods varied depending on the year. We followed 1993 and 1994 participants for three years from entry, 1995 and 1996 participants two years from entry, and 1997 participants for one year from entry. Note therefore that 1993-96 participants almost certainly were followed through to the completion of their drug court experience. Because the minimum period of time for completion is 12 months, all 1997 participants would not have had a chance to complete drug court. (In fact, completions would disproportionately involve persons who were terminated from the program short of satisfying requirements for completion.)

[63] This measure includes instances when participants paid nothing at all and when they paid some part of what was owed. Usually the judge asked, "what can you pay now?" and secured part-payment.

often than not, difficult for participants and that, on average the drug court would receive payment generally below the amount owed for treatment.

Figure 62 Median Number of Court Appearances and Fee Payment among Clark County Drug Court Participants, 1993 - 1997, by Year
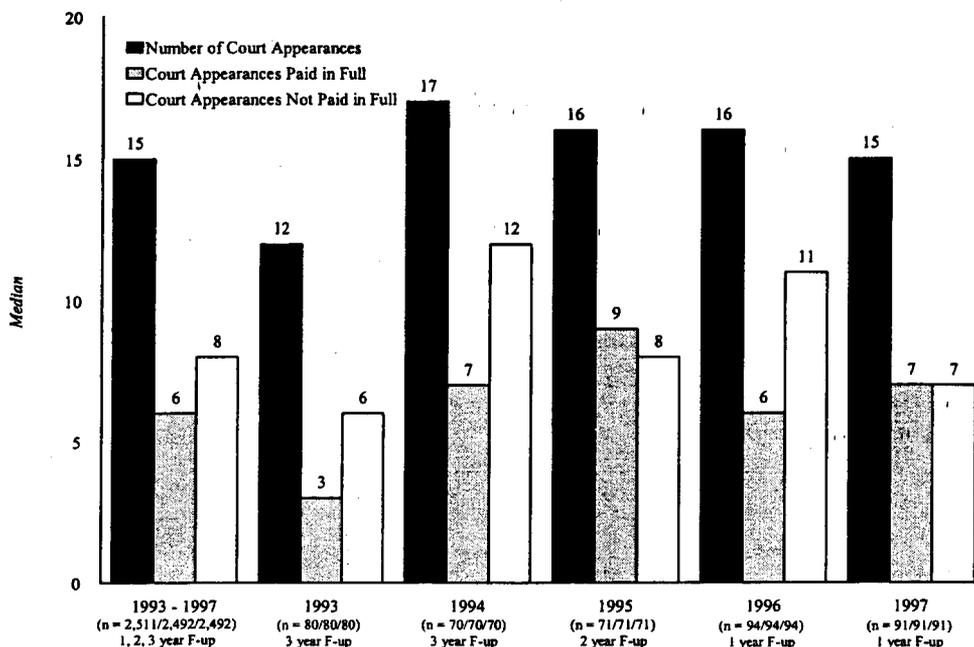
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Estimates of Average Fees Assessed, Paid, and Owed by "County-Pay" Participants

In general, the amount of fees required of individuals was not inordinately large, certainly compared to the actual costs of treatment. Overall, about $260 (median) was required of drug court participants entering the program from 1993 through 1997.[64] Figure 63 shows total fees assessed by the court varied over time, peaking among 1995 participants at about $355. (This may be explained by a longer average time in treatment among 1995 participants. The greater the number of weeks in treatment, the greater the number of weeks during which fees were imposed.)

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[64] The total assessed amount is determined by multiplying the weekly, assessed dollar amount by the number of weeks that the participant was in the program (also taking changes in fee schedule into consideration).

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Figure 63 Total Fees Assessed, Paid, and Owed at Time of Termination among Clark County Drug Court Participants, 1993 - 1997, by Year
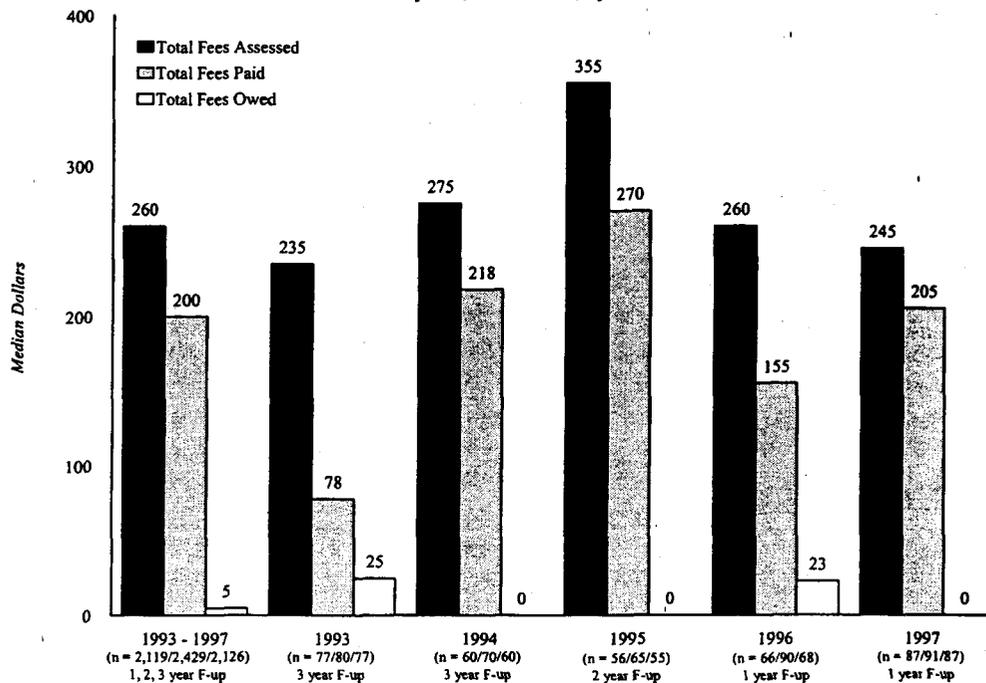
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The greatest difficulty in achieving payment of the fees in the drug court occurred among the 1993 participants (when the drug court was in its early stages of operation) when payment averaged $78 per participant (compared to the $235 owed). A large gap between the average amount owed per participant ($260) and the average amount paid ($155) also was found among the participants entering the drug court in 1996, a point when the drug court population was shifting to post-conviction candidates. The gap narrowed considerably among the 1997 participants. It would follow that the largest "losses" to the revenue of the drug court would have been generated by the first class of participants (1993) and the last cohort studied (1997).

Although these findings suggest that participants as a group frequently did not pay the full, assessed amount by the court by the time of their completion, Figure 63 shows that, in many cases, they did pay a good portion of it. The median total fees owed at time of termination overall was only $5, and 49 percent of participants owed nothing when they left the program. In

1994, 1995, and 1997, the median dollar amount owed by participants was $0. In 1994 and 1997, just over half of participants (52 percent and 53 percent, respectively) had paid the full amount and owed nothing (median, $0). In 1995, 62 percent of participants had made all required payments at the time of termination from the program. In 1993 and 1996, participants were less compliant with the fee schedule, owing on average (medians of) $23 to $25 at the time they left the program.

We were also able to document the actual amount of fees assessed, paid, and owed for drug court participants sampled from 1993 through 1997.[65] From 1993 through 1997, the Clark County Drug Court assessed total fees of approximately $658,682 for 2,113 participants. Of that amount, it collected about $543,281, and was unable to collect about $115,400 in outstanding fees. Thus, the drug court was successful in collecting over 80 percent of the fees it imposed on clients, but failed to collect about 18 percent of the expected, fee-generated revenue.

Payment of Fees and Drug Court Status

The data presented above suggest that the Clark County Drug Court did a remarkable job of securing payment of weekly treatment fees owed by participants.[66] The unrecovered amounts—and even the average court appearances not resulting in full payment of fees—were basically explained by the participants who were performing poorly and dropping out of the program. Participants who would ultimately be terminated from the program would leave poor records of compliance with drug court requirements along the way—including non-payment of fees. Once these persons were terminated from the drug court (and left to face the consequences

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[65] We were able to obtain all three amounts for 345 participants of the 497 sample participants from 1993-97. For an additional 51 participants, we could determine the actual amount paid but not the amount owed (or total assessed). The remainder of the sample of participants were self-paying and therefore not considered in this analysis.

[66] The 82 percent payment rate is outstanding as judged by payment of court fees of other types in most jurisdictions in the United States.

of conviction, confinement, and revoked probation), the fees they owed were no longer recoverable. Even those participants, however, did not leave very large amounts of fees still owed to the drug court.

This explanation of uncollected fees is supported by the data presented in Table 18 showing the relationship between drug court outcomes, fee assessment, and payment of fees (measured in medians). Participants with favorable outcomes (favorable status, graduation, and not being rearrested one year after entry) showed greater payment than those with unfavorable outcomes. For example, those in favorable drug court statuses at the end of the observation period recorded a slightly greater median number of drug court appearances (ten) with full payment than with non-payment (nine). Those with unfavorable statuses recorded far fewer full payment appearances (two) than non-payment sessions (eight). The ratio (in medians) of payment to non-payment among graduates was 11 full-payment court appearances to eight non-full payment appearances, compared to non-graduates (three full payment to nine non-payment appearances). Participants with no rearrests recorded more full payment sessions (eight) to non-payment sessions (seven) compared to those who were rearrested, who averaged four full payment sessions to ten non-payment sessions in court.

The same picture is found in Table 18 when the measure is median dollars assessed, paid and owed by drug court participants.[67] Those with favorable outcomes averaged close to the total amount assessed, while those with unfavorable outcomes averaged far below the amounts assessed. Those with favorable drug court outcomes under each measure owed a median of $0, while those with unfavorable outcomes owed from $25-30. Over 70 percent of participants in favorable one-year status were paid in full (i.e., owed no money) when they left the program. Moreover, eighty-four percent of graduates owed no money when they left the program.

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[67] Note that medians for those paid and owed do not add up to the medians of the total amounts assessed.

Table 18 Fees Assessed, Paid, and Owed by Participants in the Clark County Drug Court, 1993-1997

Fee Measures	Drug Court Status		Graduation (2 Years)		Rearrest (1 Year)	
	Favorable Median (n)	Unfavorable Median (n)	No Median (n)	Yes Median (n)	No Median (n)	Yes Median (n)
Total No. Court Appointments	19 (1,261)	11 (1,250)	13 (1,697)	19 (813)	15 (1,181)	16 (1,329)
Court, Paid in Full	10 (1,261)	2 (1,231)	3 (1,679)	11 (813)	8 (1,175)	4 (1,317)
Court, Not Paid in Full	9 (1,261)	8 (1,231)	9 (1,679)	8 (813)	7 (1,175)	10 (1,317)
Total Fees Assessed	$370 (1,094)	$125 (1,025)	$165 (1,349)	$357 (770)	$282 (1,015)	$229 (1,104)
Total Fees Paid	$295 (1,261)	$45 (1,169)	$70 (1,616)	$330 (813)	$255 (1,169)	$115 (1,261)
Total Fees Owed	$0 (1,088)	$30 (1,037)	$30 (1,355)	$0 (770)	$0 (1,015)	$25 (1,111)

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Self-Paying Drug Court Participants

Approximately 17 percent of participants entering the Clark County Drug Court between 1993 and 1997 were classified as self-paying for various reasons (described above). This meant that they were expected to pay for the full cost of treatment (directly to the treatment provider), rather than paying weekly, court-assessed fees to the judge. The self-paying participants became increasingly rare over the years of the study period to less than ten percent of all participants in 1996 and 1997. Because self-pay participants were responsible for the total amount of treatment costs, the median cost of treatment assessed to them—about $1,225—was much higher than total fees assessed to county-pay participants (about $260) who were responsible in weekly installments for a fraction of the full cost of their treatment. (See Figure 64.) The median assessed cost for self-pay participants varied somewhat from year to year, from a low of $1,001 in 1996 to a high of $1,425 in 1997.[68]

Figure 64 shows that self-paying participants overall paid a large share of fees assessed to them, about $1,040 (median) of the $1,225 assessed. The record of payment among self-paying participants—like county-pay participants—was poorest among those entering in 1993, the drug

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[68] The small n's associated with self-paying participants, particularly in 1996 and 1997, may account for the variation in median treatment fees assessed.

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court's first full year of operation, and participants entering in 1996. At the time of termination from the program, self-paying participants owed the treatment provider a median amount of $270. Just over one-fourth of self-paying participants (27 percent) paid the full cost of the program; three-fourths owed dollar amounts ranging from a low of $180 in 1993 to a high of $425 in 1994 at completion of or termination from the drug court.

Figure 64 Total Fees Assessed, Paid, Owed at Time of Termination among Self-Pay Clark County Drug Court Participants, 1993 - 1997, by Year

Legend:
Self Pay
■ Total Fees Assessed
▨ Total Fees Paid
☐ Total Fees Owed

Y-axis: Median Dollars (0 to 1,600)

Year	Total Fees Assessed	Total Fees Paid	Total Fees Owed
1993 - 1997 (n = 431/394/376) 1,2,3 year F-up	1,225	1,040	270
1993 (n = 12/10/10) 3 year F-up	1,200	738	180
1994 (n = 20/19/19) 3 year F-up	1,263	1,200	425
1995 (n = 23/22/21) 2 year F-up	1,400	1,194	200
1996 (n = 8/7/7) 1 year F-up	1,001	450	210
1997 (n = 8/7/5) 1 year F-up	1,425	1,020	400
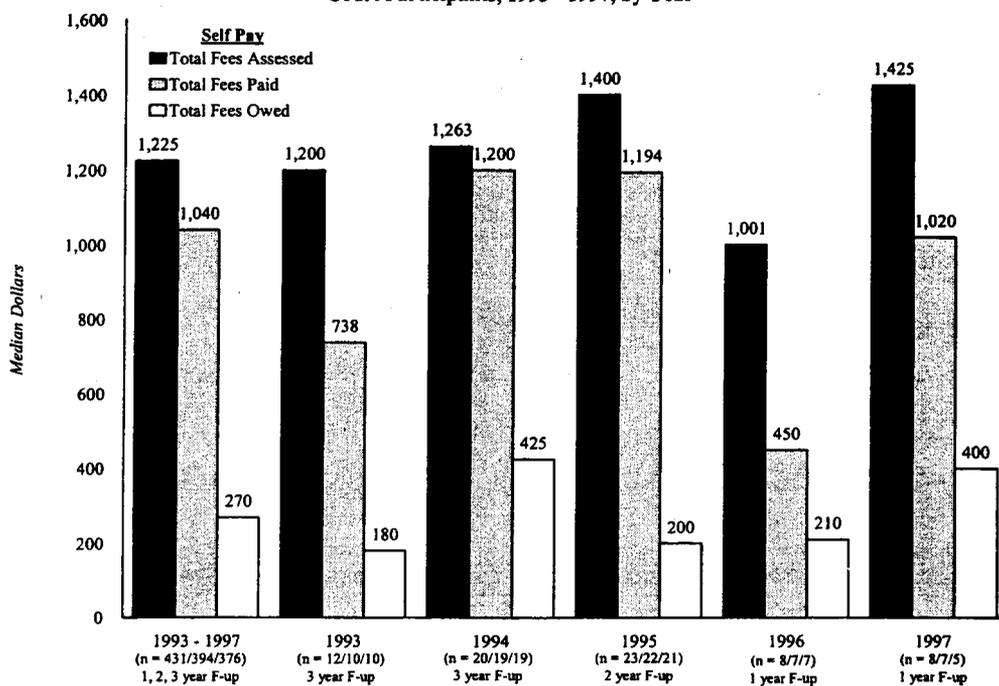
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Although the number of self-paying participants overall is small—and grew very small toward the end of the study period, treatment costs assessed, paid, and owed were sizeable. Overall, self-paying participants were charged $490,448 for treatment, of which $365,379 was recovered and $125,068.59 was outstanding. Approximately 26 percent of the total amount charged for self-pay clients was not recovered before participants completed or were terminated from the program. Because the treatment provider received no supplemental money from the county for self-paying participants, any fees that self-paying clients did not pay contributed to a

financial loss for the provider, as services were rendered without compensation. The difficulties associated with ensuring payment compliance among participants and the financial risk for the treatment provider may help to explain the move away from admitting self-paying clients in the later years of the study period.

Part Three
Drug Courts in Context

IX. Competition for the Drug Court Population in Multnomah County: The Impact of the District Attorney's Expedited Plea Program (X-PLEA)

In Section IV of our Phase I report, we argued that meaningful evaluation should take into consideration the influences exerted on drug courts by the environment within which they were operating. Using time series analysis, we considered the possible effects on the Clark County and Multnomah County Drug Courts of a variety of external factors, including changes in law, criminal justice policies, judicial staffing, leadership, the advent of managed care, and jail overcrowding measures (see also Goldkamp, White et al., 2001a). In this section, we focus on one potentially significant change in the environment within which the Multnomah County Drug Court operated, the introduction of the District Attorney's Expedited Plea (X-PLEA) program in 1997. The aim of the X-PLEA program was to expedite the adjudication of increasing numbers of drug cases entering the court system by encouraging very early guilty pleas; it had the potential of competing directly with the drug court for the cases of felony drug defendants.

We decided to study the effect of the District Attorney's X-PLEA program for two reasons. First, it represented a potentially significant justice system development outside of the drug court that could have had a major impact on its operation (by drawing away the cases targeted by drug court), an impact that might have erroneously been assumed to be the result of a dynamic internal to the drug court. Second, the parallel operation of the X-PLEA program, drawing cases from the same pool as the drug court, raised questions about the relative impact of the two alternatives on normal adjudication, whether they were unnecessarily duplicative, and the extent to which defendants selecting each option returned to the criminal justice system.

Although the drug court and X-PLEA alternatives pursued different aims (treatment versus efficient disposition of cases), they shared in common the objective to slow or eliminate the return of defendants to the system. Reduced reoffending was an implicit rather than explicit

goal of the X-PLEA program, in that little would be achieved by efficient disposition of drug cases if the cases disposed promptly returned to the court system at a higher rate.

The District Attorney's Expedited Plea (X-PLEA) Program

The descriptive analyses presented in the Phase I report documented the steadily increasing volume of felony drug defendants whose cases were handled by their enrollment in the Multnomah County Drug Court. In 1997, the drug court had enrolled more than 700 felony drug defendants, making it—like the Clark County court—one of the highest volume drug courts in the United States, particularly considering the surrounding population base and the percentage of the relevant criminal caseload it enrolled.

Despite the strong growth of the drug court, Oregon's Fourth Judicial District Court in Multnomah County continued to experience dramatic growth in the drug-related criminal caseload throughout the early and mid-1990s. In 1991, the year the drug court first accepted participants, there were 3,837 drug arrests in Multnomah County. By 1997, drug arrests peaked at just over 6,000, an increase of nearly two-thirds (64 percent). This period of peak volume in drug arrests coincided, by accident of timing, with a period of internal change for the drug court. Strong support of the drug court by court leadership wavered during this period and the staffing of the drug court was given a lower priority, as non-judge referees and many judges in rotation sat for brief periods in the drug court.

With broad responsibility for prosecuting this growing volume of cases, the Multnomah County District Attorney established the Expedited Plea Program (X-PLEA) in July 1997. Unfortunately, to a large extent, the X-PLEA program targeted the same felony drug cases already addressed by the drug court.

Basically, the X-PLEA program offered to eligible defendants the incentives of prompt adjudication (within several days of arrest) and a sentence of one year's probation in exchange for an immediate guilty plea. The X-PLEA agreement required 12 months formal probation from the offender, subject to all standard conditions in drug cases, and stipulation to Drug Free Zone exclusion.[69] The eligibility criteria for the X-PLEA program were nearly identical to those for admission to the drug court:

- The defendant had to be charged with felony possession of a controlled substance (PCS I, PSC II), or attempts to commit either offense.

- The defendant had to have no other pending felonies or class A person misdemeanors in the same charging instrument, or pending anywhere in the criminal justice system.

- The state was not seeking a departure from the sentencing guidelines (signaling that the case was unusual for some reason).

- The defendant was not charged with driving under the influence (DUI) in the same charging instrument.

- The crime was a level 1 on the sentencing guidelines grid.

- There were no other aggravating circumstances.

- The defendant had not been given a pretrial offer under this program previously (defendants who left the drug court during the 14-day opt out period could still enter X-PLEA if they pled guilty immediately, prior to the case going to grand jury).

Procedurally, the felony drug defendant was made aware of the X-PLEA Program at the defender orientation, which occurred shortly after arrest (no later than the day after). This was exactly the same stage at which defendants typically learned about the possibility of entering the drug court. Prior to this program, defendants had two basic choices explained to them by defender staff at orientation before making their first court appearance: a) they could have their cases adjudicated in the normal fashion in the felony court; or b) they could decide to enter the

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[69] For a discussion of the drug free zones see the Phase I report and Robinson (2001).

drug court treatment program for a minimum of one year, with the possibility of having the charges dismissed. Defendants entering the drug court had a 14-day period within which they could decide to "opt out" for any reason (e.g., they thought they had a good chance to win the case or they just were not motivated to continue in treatment). Once the X-PLEA program was introduced, felony arrestees were given a third choice: to enter an immediate plea of guilty (within a few days of arrest) and receive automatic probation.

In theory, the District Attorney's early disposition program targeted felony drug cases of defendants who were unlikely to enter the drug court—still a substantial number of cases despite the success of the drug court—making an educated guess that the prompt case disposition option would not draw treatment candidates away from the drug court.

The Potential Impact of an "Easy Out"

The introduction of the X-PLEA program represented a potentially serious threat to the operation of the drug court. The principal fear was that, instead of presenting arrested drug offenders with a hard and informed choice between going to trial (and taking their chances in court) and entering treatment (and possibly avoiding a conviction), the X-PLEA option would give candidates an "easy out," one that was so attractive that it would undermine the viability of the drug court program. A drug conviction and probation, it was feared, would give drug abusers a "hassle-free" option that looked a great deal easier to live with than meeting the demands of the drug court treatment process. Moreover, it was feared that X-PLEA would encourage defendants initially interested in treatment to drop out of the drug court within the two-week window, after they realized that drug court treatment was going to be an intensive, difficult process.

We were interested in examining two issues related to the introduction of X-PLEA: 1) the impact of X-PLEA on the drug court's ability to enroll its target population; and 2) the comparative impact of X-PLEA on public safety and criminal justice outcomes.

Impact of X-PLEA on Drug Court

In the Phase I report, we attempted to identify the impact the introduction of the X-PLEA program might have had on drug court enrollments over time using time series analysis. We found, surprisingly, that the flow of cases to the drug court did not appear to be interrupted or reduced by the creation of the X-PLEA program. In fact, during its introduction, scheduled attendance at the public defender orientation and actual enrollments in the drug court appeared to increase. The impact on scheduled attendance at orientation was abrupt and long-term. Because the defender orientation served as an initial stage of processing for all eligible felony drug defendants (including potential drug court and X-PLEA candidates) and the new program included slightly different, expanded eligibility criteria, it made sense to site officials that the implementation of the X-PLEA option necessarily increased the volume of cases appearing at the public defender orientation.

The impact on actual drug court enrollments was abrupt and temporary, resulting in a one-month increase in the flow of cases into the drug court. In considering the time series results, we identified several possible explanations for the association between the start of the X-PLEA program and the temporary increase in drug court enrollments. First, the relationship may have been spurious, the result of other, unmeasured factors that we failed to identify (i.e., a one-month surge in arrestees seeking substance abuse treatment as a result of particularly effective media advertising involving the dangers of drug abuse). Second, continuing increases in drug arrests and the flow of cases to the public defender orientation may have accounted for the

temporary increase, rather than the expected decrease of enrollments to the drug court. For example, there may have been a high-profile drug-sweep conducted by local authorities that led to a short-lived surge in drug possession arrests, which led to the temporary increase in drug court enrollments.

Or, more likely, perhaps the defender's staff engaged in pre-emptive actions (either consciously or unconsciously) in anticipation of the implementation of the X-PLEA program and made a "harder sell" for the drug court option to offset the expected drop in enrollments. Under this scenario, confirmed by the Defender, the persuasiveness of the defender staff may have resulted in the brief increase in drug court enrollments, an increase that subsided once it appeared that the concerns regarding the X-PLEA option and its possible impact on the drug court were overblown. Possibly, defendants were willing to turn down the X-PLEA option because they wished to avoid a conviction entirely, the possible outcome of successful drug court participation. Regardless of the explanation, time series results show that drug court enrollments did not drop off following the introduction of the X-PLEA program. However, because the time series analysis examined trends in numbers of cases—rather than in proportions of total caseload accounted for by drug court enrollments—it is still conceivable that the X-PLEA program was undermining the potential for enrollment of candidates into the drug court, when the overall increase in volume of drug cases into the court is taken into consideration.

As a first step toward understanding the impact of the X-PLEA option, we sought to reconstruct the flow of eligible felony drug cases into the court process for the six-month period prior to introduction of X-PLEA—the first half of 1997 when defendants either chose drug court or normal adjudication. We then contrasted this with the allocation of drug cases among three

options (drug court, X-PLEA, and normal adjudication) during the second six months of 1997, when the X-PLEA option had been introduced.

Figure 65 shows that, during the first half of 1997 when the X-PLEA option was not available, about 56 percent of all relevant felony drug cases (the target population) were enrolled into drug court, leaving about 44 percent to be adjudicated in the normal fashion. During the second half of the year, the portion of the drug caseload entering drug court was reduced slightly to 52 percent of all felony drug cases, as 19 percent chose X-PLEA and 28 percent were processed in the normal way. Thus, Figure 65 suggests that, during its first six months at least, the X-PLEA option appeared to have only a slight effect on the drug court "share" of the drug caseload (reducing it four percent), but mainly affected the part of the drug caseload composed of defendants who would not have chosen drug court. Thus, X-PLEA did not appear to steal away cases destined for the drug court, but rather reduced the proportion of drug cases that would face trial (or plea bargain) in other criminal courtrooms. In short, the X-PLEA program appeared to make an important contribution to the efficient (and timely) disposition of drug cases.[70]

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[70] One could argue, nevertheless, that some of the cases disposed under the X-PLEA option during its first six-months could have or would have chosen drug court if it had not existed and, therefore, that the X-PLEA program prevented the further growth of the drug court. This argument cannot be refuted from the evidence at hand. Given the increased number of felony drug cases entering the Circuit Court and the fact that the drug court was nevertheless having a peak year in enrollments, the possible loss of a small number of candidates who might have enrolled in drug court seems greatly overshadowed by the impact of the X-PLEA program on cases following the "traditional" route to adjudication.

Figure 65 Change of Processing Options in Drug Court-Eligible Cases Scheduled Appearing at Public Defender Orientation in 1997, Pre- and Post-Introduction the Start of the Expedited Plea Program (X-PLEA)

Total for January 1 - June 30, 1997

■ Comparison Group
☐ Drug Court

n = 249/322
(571)

Total for July 1 - December 31, 1997

■ Comparison Group
☐ Drug Court
☐ X-PLEA

n = 217/406/147
(770)
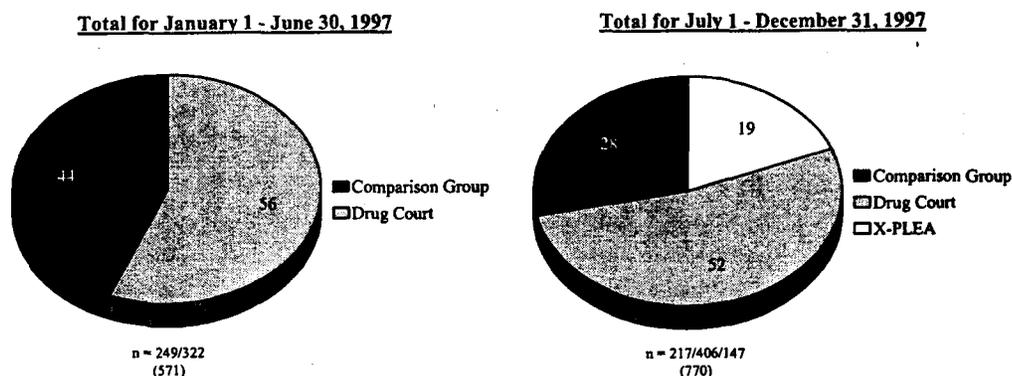
[Note: These figures are estimates based on data from the Metropolitan Public Defender and District Attorney's Office.]

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Modeling the X-PLEA versus Drug Court Choice among Eligible Felony Drug Defendants (July-December 1997)

The finding that the X-PLEA program attracted candidates from the same general pool of drug cases as the drug court but managed, for the most part, to attract defendants who would not have chosen drug court raises the question of how the two populations of (X-PLEA and drug court) defendants differed. At least two opposing hypotheses could explain the different choices made by the generally similar felony drug defendants in the second half of 1997.

One hypothesis is that the two groups of drug defendants differed little in significant (measurable) ways. Instead, the X-PLEA and drug court options met different needs of felony drug defendants (i.e., timely disposition of charges without confinement versus treatment and possible dismissal of charges). Thus, the X-PLEA program added an option to the adjudication-alternatives routing of cases away from normal processing, one that responded to the almost "hydraulic" demand for such alternatives. The X-PLEA option increased "supply" (capacity) by

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opening another, needed exit door from normal processing for defendants who wanted to avoid sentences to confinement. Under this hypothesis, the defendants and their cases may have been similar, but their own objectives differed. Some wanted to "get it over with" as quickly as possible and chose X-PLEA because they did not mind trading a conviction for probation to avoid confinement. Others chose drug court because they were attracted by the prospect of treatment and wished to avoid the conviction itself.

A competing hypothesis, however, is that beyond their surface similarity the two groups of felony drug defendants differed in significant (and measurable) ways. Knowledge of these differences and their relationship to their processing choices would be of practical significance in planning for treatment and dispositional initiatives for drug cases.

To identify differences predictive of the different drug case routes, we compared the attributes of defendants who chose drug court and defendants who chose the X-PLEA option. Detailed demographic, current case, prior criminal history, and criminal justice one-year follow-up data were collected for all defendants (n=100) entering X-PLEA from July 1997 through December 1997 and for a comparably sized random sample of defendants (n=90) entering the drug court during that same period of time.[71]

We compared the drug court and X-PLEA participants across a range of demographic, current case, and prior criminal history measures, and found that the two groups differed significantly in a number of ways, but most obviously in their prior criminal histories. (See Table 19.) X-PLEA participants were more likely than drug court participants to have spent time in pretrial detention on their current case (69 compared to 23 percent), though time detained rarely exceeded three days (only seven percent of X-PLEA participants were detained for longer

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[71] This sample included all Phase I 1997 drug court participants who started the program after July 1, 1997, as well as a supplemental random sample of participants.

than three days). X-PLEA participants more often than drug court participants had recent prior arrests (61 compared to 42 percent), theft/RSP prior arrests (31 versus 11 percent), and prior felony arrests (68 percent versus 43 percent). They were also more likely than drug court participants to have prior convictions for drug offenses (46 versus 26 percent), and recent prior failures to appear (45 versus 18 percent).

Table 19 Selected Bivariate Differences between Multnomah County Drug Court Participants and X-PLEA Defendants, July 1-December 31, 1997

	Total		Drug Court		X-PLEA	
Attributes	N	Percent	N	Percent	N	Percent
Demographic						
Hispanic*	190	100.0	90	100.0	100	100.0
Yes	17	8.9	4	4.4	13	13.0
No	173	91.1	86	95.6	87	87.0
Current Case						
Phone*	179	100.0	81	100.0	98	100.0
Yes	132	73.7	49	60.5	83	84.7
No	47	26.3	32	39.5	15	15.3
Number of Charges*	190	100.0	90	100.0	100	100.0
One	137	72.1	75	83.3	62	62.0
More than one	53	27.9	15	16.7	38	38.0
Any Pretrial Detention*	189	100.0	89	100.0	100	100.0
Yes	89	47.1	20	22.5	69	69.0
No	100	52.9	69	77.5	31	31.0
Time to Program Start						
Total	189	100.0	90	100.0	99	100.0
Median days			3		3	
Criminal History						
Prior Arrest*	190	100.0	90	100.0	100	100.0
Yes	133	70.0	56	62.2	77	77.0
No	57	30.0	34	37.8	23	23.0
Prior Arrest in 3 Years*	190	100.0	90	100.0	100	100.0
Yes	99	52.1	38	42.2	61	61.0
No	91	47.9	52	57.8	39	39.0
Pending Arrest Charge*	190	100.0	90	100.0	100	100.0
Yes	24	12.6	5	5.6	19	19.0
No	166	87.4	85	94.4	81	81.0
Prior Serious Person Arrest*	190	100.0	90	100.0	100	100.0
Yes	45	23.7	14	15.6	31	31.0
No	145	76.3	76	84.4	69	69.0
Prior Serious Property Arrest*	190	100.0	90	100.0	100	100.0
Yes	30	15.8	7	7.8	23	23.0
No	160	84.2	83	92.2	77	77.0
Prior Theft Arrest*	190	100.0	90	100.0	100	100.0
Yes	41	21.6	10	11.1	31	31.0
No	149	78.4	80	88.9	69	69.0

Table 19 Selected Bivariate Differences between Multnomah County Drug Court Participants and X-PLEA Defendants, July 1-December 31, 1997 (Cont.)

Attributes	Total		Drug Court		X-PLEA	
	N	Percent	N	Percent	N	Percent
Prior Drug Arrest*	190	100.0	90	100.0	100	100.0
Yes	79	41.6	27	30.0	52	52.0
No	111	58.4	63	70.0	48	48.0
Prior Drug Possession Arrest*	190	100.0	90	100.0	100	100.0
Yes	75	39.5	24	26.7	51	51.0
No	115	60.5	66	73.3	49	49.0
Prior Felony Arrest*	190	100.0	90	100.0	100	100.0
Yes	107	56.3	39	43.3	68	68.0
No	83	43.7	51	56.7	32	32.0
Conviction in Past 3 Years*	190	100.0	90	100.0	100	100.0
Yes	79	41.6	30	33.3	49	49.0
No	111	58.4	60	66.7	51	51.0
Serious Property Conviction*	190	100.0	90	100.0	100	100.0
Yes	18	9.5	3	3.3	15	15.0
No	172	90.5	87	96.7	85	85.0
Drugs Conviction*	190	100.0	90	100.0	100	100.0
Yes	69	36.3	23	25.6	46	46.0
No	121	63.7	67	74.4	54	54.0
Drug Possession Conviction*	190	100.0	90	100.0	100	100.0
Yes	64	33.7	20	22.2	44	44.0
No	126	66.3	70	77.8	56	56.0
Felony Conviction*	190	100.0	90	100.0	100	100.0
Yes	86	45.3	31	34.4	55	55.0
No	104	54.7	59	65.6	45	45.0
Prior Failures to Appear*	189	100.0	89	100.0	100	100.0
Yes	77	40.7	22	24.7	55	55.0
No	112	59.3	67	75.3	45	45.0
Prior FTAs in 3 Years*	189	100.0	89	100.0	100	100.0
Yes	61	32.3	16	18.0	45	45.0
No	128	67.7	73	82.0	55	55.0

* Indicates statistical significance (p<.05)

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Conceivably, the more extensive criminal histories associated with the felony drug defendants choosing X-PLEA suggested a greater experience with the justice system than defendants choosing drug court. This more extensive experience may reflect different attitudes toward the criminal process and confinement—with the X-PLEA defendants showing less of a concern for another conviction than drug court participants who wished to avoid the conviction and have charges dismissed.

We employed logistic regression to model choice of the X-PLEA path by defendants (combining the two samples). The multivariate analysis (see Table 20) identified participant attributes that, when taken together, predicted the X-PLEA versus drug court choice reasonably well. These mainly included measures of prior involvement with criminal justice, starting with pretrial detention in the instant case (increased the probability of choosing X-PLEA), and including prior felony theft arrests (increased the probability of X-PLEA), and recent prior failures to appear (increased the probability of X-PLEA). Felony drug defendants were more likely to choose X-PLEA rather than the drug court option if they had experienced pretrial detention, had prior felony theft arrests, and recent prior FTAs.[72] In short, using these criminal justice measures, we were able to develop a satisfactory model of program choice that fit the data well.

Table 20 Predicting Group Assignment (X-PLEA or STOP) among Multnomah County Drug Court and X-PLEA Participants, July-December 1997

Risk Variables	Parameter (Sig)
Detained Pretrial: Current Case	1.899 (.000)
Prior Theft Arrest	.931 (.052)
Recent Prior FTAs	.935 (.020)
Constant	-1.179 (.000)
Model Statistics	
Log likelihood	203.936
Goodness of fit	3.771
GF significance	.438
Chi square	55.921
DF	3
Significance	.000
N	188

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The criminal justice-related measures identified in the prediction of the X-PLEA versus drug court choice are reminiscent of those found in the prediction of rearrest in Section III of this

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[72] On the bivariate level, 64 percent of X-PLEA participants have prior convictions, compared to 54 percent of drug court participants. Nevertheless, in our predictive model, having prior convictions is negatively associated with choosing X-PLEA, indicating that having prior convictions is associated with choosing drug court. Given the bivariate results, we believe there is an interaction effect that is complicating the relationship between group membership and prior convictions.

report, suggesting that the two groups of felony drug defendants differ mostly in the general likelihood that they will reoffend. To illustrate this apparent difference in "risk" attributes between the two groups of defendants, we modeled rearrest (measured within one year) among the combined samples and constructed a simple risk classification derived from modeling rearrest.[73] We dichotomized the predicted values into lowest- and highest-risk (of rearrest) categories. Figure 66 contrasts the risk attributes of each defendant group using this risk classification. Basically, a notably greater proportion of drug court participants were classified as posing lowest rearrest risk (79 percent) than X-PLEA defendants (only 50 percent), and a far larger proportion of X-PLEA defendants (50 percent) were ranked as highest rearrest risk than drug court participants (21 percent). From this analysis of differences between the two groups of Multnomah County defendants, we would expect the early plea group to pose a greater likelihood of return to the criminal justice system.

Figure 66 Risk of Rearrest during a One-Year Observation Period among Multnomah County Drug Court Participants and X-PLEA Defendants, July-December 1997, by Risk Level
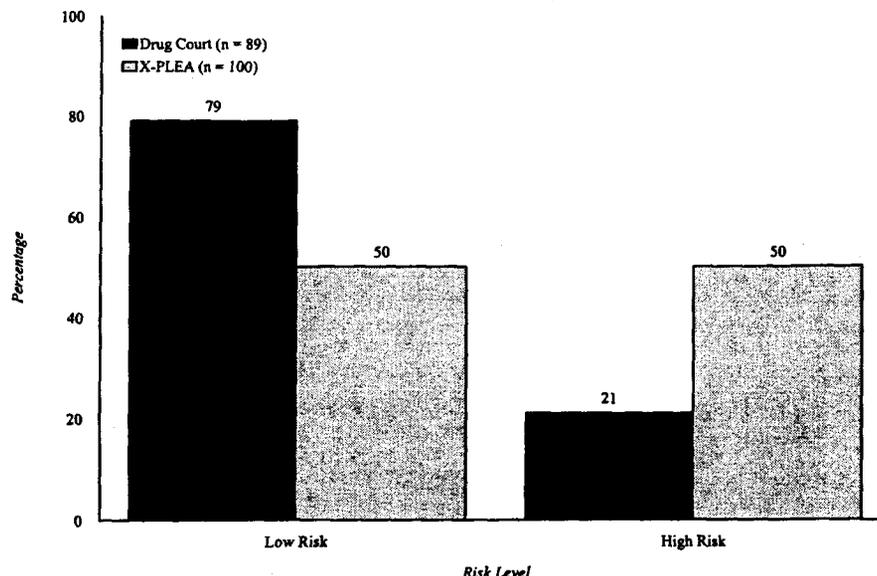
[Note: Predictors of rearrest include being African American (+), having prior serious person convictions (+), and having recent prior FTAs (+). The rates of rearrest are 29 percent for the low risk group and 78 percent for the high risk group.]

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[73] The formula derived from the rearrest model is: -1.006 + (.952 × Race) + (1.835 × Recent Prior FTAs) + (1.550 × Prior Serious Person Convictions).

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Public Safety Implications of the Drug Court versus Early Plea Option: Reinvolvement in Criminal Justice within One Year

The analysis of the introduction of the X-PLEA program to deal with Multnomah County's felony drug cases in July 1997 has shown that a) the X-PLEA program did not appear to involve the same defendants as would be enrolled by the drug court, and b) the X-PLEA defendants differed from drug court enrollees principally in the higher risk attributes. Figure 67 shows that X-PLEA participants differed greatly also in their rates of rearrest and return to the criminal justice system within a one-year period, measured from shortly after their initial arrests. More than half (57 percent) of 1997 X-PLEA defendants were rearrested within a year (for any type of offense), compared to 36 percent of their drug court counterparts. The difference was slight when rearrest for drug offenses are considered: 27 percent of X-PLEA and 20 percent of drug court participants.[74] The difference between the two groups was greater when rearrests for non-drug offenses are considered: nearly half (46 percent) of X-PLEA compared to under one-third (30 percent) of drug court participants were rearrested within a year for these offenses. Figure 67 also shows that, of those rearrested within one year, drug court participants appeared to be rearrested sooner (in a median of 35 days or about one month from first court date) than X-PLEA defendants (in a median of 77 days or more than two months). The X-PLEA defendants also experienced more days in confinement during the follow-up year (with a median of 18 days in jail) than drug court participants (with a median of three days in jail), mostly as a consequence of their higher rate of rearrest.

The marked difference in rearrest rates between the two groups of felony drug defendants could be explained by the different constraints of their respective programs or by their *a priori* risk attributes independent from the two dispositional paths. If the explanation lies in the method

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[74] This difference was not significant at the p<.05 level.

of supervision, one might conclude that drug court produces better results because participants are more closely monitored; they are required to attend treatment daily, are tested for drugs weekly, and attend court usually twice per month. When drug court participants fail, they are likely to do so early in the process. Conversely, among X-PLEA defendants the higher rearrest rates may have been a consequence of the less intensive monitoring by probation, particularly in the first few months after their pleas were entered.

Figure 67 Selected Criminal Justice Outcomes among Multnomah County Drug Court and X-PLEA Participants, July 1 - December 31, 1997, during a One-Year Observation Period
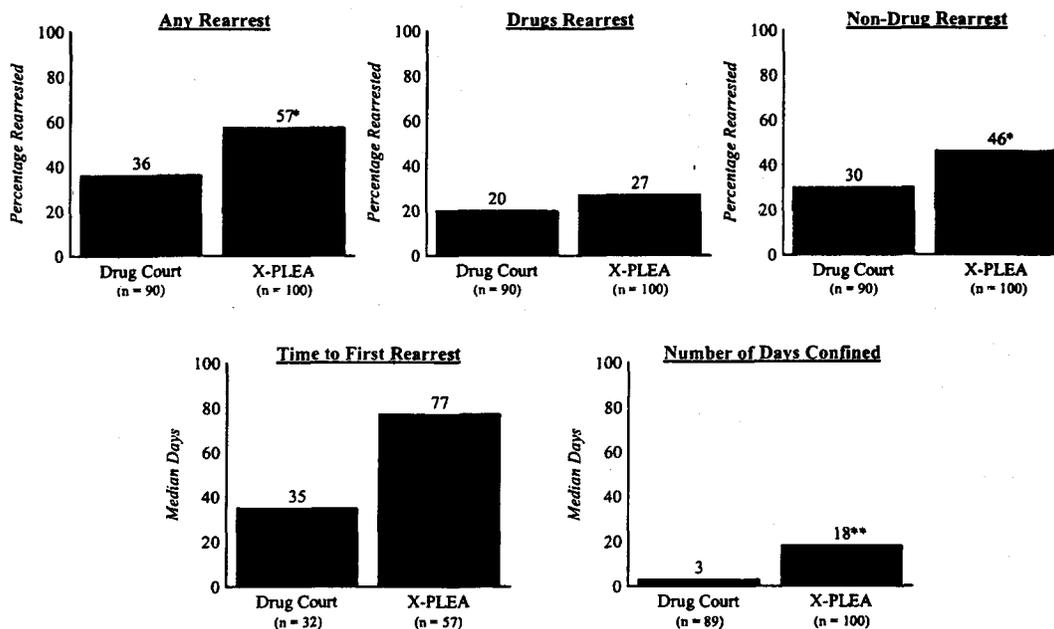
*Difference significant at p < .05 using Kendall's tau-b.
**T-Test of group means is significantly different at p < .05.

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The findings from logit modeling of rearrest in Table 21 suggest that X-PLEA participants did worse during follow-up because the X-PLEA option disproportionately attracted higher risk felony drug defendants. The non-significance of indicator of defendant group (drug court versus X-PLEA) and the significance of risk attributes in the three analyses of rearrest suggest that the risk attributes of the defendants accounted for the difference in reoffending. Having been screened selectively from the pool of felony drug cases entering Circuit Court in

Multnomah County, the higher risk X-PLEA defendants then, on the whole, proceeded to perform as their risk attributes would have predicted: notably worse.

Table 21 Predicting Rearrest within One Year among Multnomah County Drug Court Participants and X-PLEA Defendants, July-December 1997, Controlling for Group Differences and Risk Attributes

Risk Attributes	Rearrest Parameter (Sig)	Drugs Rearrest Parameter (Sig)	Drug Free Rearrest Parameter (Sig)
Detained Pretrial: Current Case	.346 (.367)	.423 (.309)	.309 (.421)
Race (African-American)	.992 (.032)	.972 (.020)	.624 (.147)
Prior Serious Person Conviction	1.424 (.040)	.496 (.340)	1.280 (.029)
Recent Prior FTAs	1.708 (.000)	.583 (.141)	1.521 (.000)
Group (X-PLEA or STOP)	.264 (.495)	-.053 (.902)	.058 (.883)
Constant	-1.265 (.000)	-1.889 (.000)	-1.455 (.000)
Model Statistics			
Log likelihood	207.739	189.305	209.459
Goodness of fit	4.731	11.814	2.849
GF significance	.693	.066	.899
Chi square	52.118	15.282	40.771
DF	5	5	5
Significance	.000	.009	.000
N	188	188	188

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Summary: The Effect of Introducing the X-PLEA Option into the Drug Court Target Population

We examined the introduction of the Multnomah County District Attorney's X-PLEA option for felony drug defendants during the second half of 1997 to determine whether it undermined the drug court's ability to enroll participants from the same target population. The Multnomah County Drug Court had served as the principal alternative to adjudication for these kinds of cases since late 1991. The aggregate level analysis of the flow of eligible felony drug cases entering Circuit Court suggested that the X-PLEA program did not drain potential candidates away from the drug court, but rather appeared to attract a sizeable portion of the non-drug court-bound drug cases to the immediate plea and probation option. We concluded that the X-PLEA program appeared to be successful in realizing its case processing goals because it

moved a distinct share of the felony drug caseload efficiently to prompt disposition—without having an adverse effect on the drug court.

Our analyses also found, however, that defendants choosing X-PLEA were different from those choosing drug court: they were generally higher risk. In processing higher risk defendants by means of early pleas (several days from arrest), the X-PLEA program placed those most likely to reoffend in the community with the minimal supervisory constraints of probation in lieu of treatment through the drug court. These defendants accepted a conviction in exchange for the prospect of remaining in the community, even if under the terms of one-year's probation. The high rate of rearrest among X-PLEA participants (and consequent rate of violation of probation) led to their more frequent return to the court system with the result that they would more frequently be re-processed sooner and would spend roughly six times the number of days in confinement. These findings suggest that the short-term processing gains associated with the X-PLEA program may be tempered by the longer term results. Finally, the X-PLEA program did not affect the drug court's enrollments in the negative way that its supporters had feared. One might argue instead that, from the perspective of public safety (rearrest and return to the system), the X-PLEA path offered a favorable comparison in support of the drug court record.[75]

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[75] When compared to the two comparison (non-drug court) groups tracked in the larger evaluation, X-PLEA participants performed better than Comparison Group A (those never attending drug court) but worse than Comparison Group B (those attending but not entering drug court).

X.   The Importance of Community Context for "Downtown" Drug Courts

The evaluation research described in this and the Phase I report has emphasized the importance of the context or larger environment within which the drug courts have been operating in assessing their impact. We explored the potential influence of contextual or external factors, for example in the time series analyses of the effects of laws, policies, administrative changes, judicial staffing, and competing programs in the court system (e.g., X-PLEA) on the drug courts in the two sites (see also Goldkamp, White et al., 2001a). In this section, we expand this theme by considering drug courts and their participants in their community contexts in the cities of Las Vegas and Portland. Although this topic requires more in-depth investigation than provided in this report, our purpose in this section is to consider a critical feature of drug courts that has implications for understanding and strengthening their impact.

The preliminary investigation of the community contexts of the Clark County and Multnomah County drug courts addressed two themes: a) the effect of drug courts on the neighborhood (the "downtown" drug court as a community justice innovation); b) the effect of community context on drug court impact (affecting the participant's chances of success).

Drug Court as a Community Justice Innovation

The first theme is that, de facto, the "downtown" drug courts serve a relatively small number of principal neighborhoods in their respective urban areas. (They do not deal with drug offenders from all neighborhoods in equal portions.) This simple and perhaps obvious fact—that the drug courts are mostly working with residents of certain areas (and that their crimes take place in fairly specific commercial and residential sections)—makes the community contexts of the drug courts a potentially important element in their ultimate impact. From their locations

downtown, these drug courts serve implicitly, like other forms of community justice, as significant links between the justice system and specific neighborhoods or commercial districts.

Figure 68 portrays this first theme simply by depicting the connection between drug courts and neighborhoods as one in which the drug court affects community safety (and civility) in the neighborhood where participants reside by improving their behavior (reduced drug use, reduced criminal behavior, better family ties, employment, etc.).

Figure 68 The Effect of Drug Courts on Neighborhoods

```
┌──────────────┐        ┌──────────────┐        ┌──────────────┐
│              │        │     Drug     │        │              │
│  Drug Court  │───────▶│Offender/     │───────▶│  Community   │
│  Treatment   │        │Resident      │        │    Safety    │
│              │        │  Behavior    │        │              │
└──────────────┘        └──────────────┘        └──────────────┘
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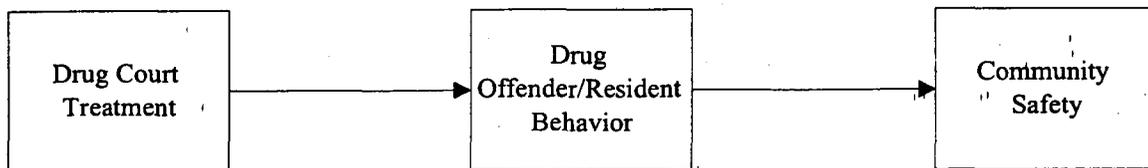
[Drug court affects community safety through treating behavior of drug-involved residents.]

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Recognition of this first community context theme, that drug courts serve mainly a number of sections of the city and therefore have an implicit link with these principal neighborhoods, makes it possible to consider strategies to enhance the effectiveness of drug court services that build on these links. Such strategies may take into consideration the specific community settings involved, build on community resources already in place, and recognize difficulties experienced by residents in treatment when resources do not exist in those settings.

Community Context as a Factor in Participant Performance in Drug Court

The second theme is that, depending on the nature of the different communities in which drug court participants reside, community contexts may influence the prospects for success in positive and negative ways. What is happening away from the drug courts, at home, in the neighborhood or in the workplace plays a part in shaping the obstacles (or providing the

resources) facing the drug court participant in treatment.[76] Participants' probability of success (or, more negatively, "risk" of failure) is affected not only by their individual attributes, responsibility, and volition, but also by the environment in which they live and work. Neighborhood contexts differ considerably among drug court participants within Las Vegas and Portland.

This theme is illustrated in the simple conceptual model shown in Figure 69. According to this model drug court impact is delivered both as a direct effect on offender behavior and indirectly as mediated through individual attributes (e.g., *a priori* risk). However, the offender-resident's behavior (drug- or crime-related) is also affected by neighborhood influences (e.g., a nearby drug market) directly and indirectly as mediated by individual attributes.

Figure 69 Community Context as a Determinant of Drug Court Participant Performance
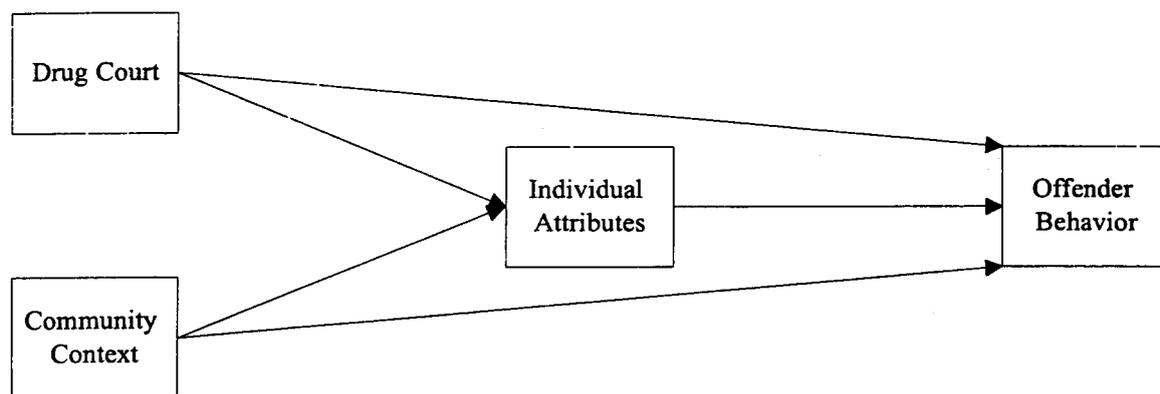
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[76] This point is not at all original. Consider the rationale behind the development of community corrections, community policing, community probation, community prosecution, community courts, etc.

Drugs and Crime in the Neighborhood

The importance of community or neighborhood contexts emerged in powerful form in the focus groups we conducted with drug court participants in each site. Las Vegas drug court participants, who were diverse in racial and ethnic background, included longtime residents as well as recent arrivals from locations as far flung as Mississippi, California, Seattle, and Michigan. A few drug court participants stated that they did not see pronounced drug and crime problems in the areas where they lived (that they and others purchased and used drugs away from where they lived). Most others in the focus groups, however, commonly saw a great deal of drug activity and serious crime in their neighborhoods—"drugs, violence, gangs . . . you name it"— and were able to describe the kinds of drug and crime activities associated with locations in various parts of town.

> . . . In mine a lot of dealing dope, meth and a lot of ganking other people sh.. for no reason—you know everybody gets all whacked out and starts stealing everybody's sh... Me personally I just get high and do my own thing, sleep around the house you know.

> . . . Well, all the crime boil down to drugs because I used to try to sell drugs to support my drug habit and then I got caught, so then I changed over and then a lot of my friends that lives in the neighborhood that were drug addicts, they taught me how to become a professional booster.

Most Las Vegas focus group participants saw drugs as both a major problem in their neighborhoods and as the core of much of the neighborhood crime. This drug related crime included gang activity, and gang-related crime and violence in particular neighborhoods. The neighborhood crime also involved less violent forms of crime, such as prostitution and theft.

> . . . Well it's like gang infested, drugs infested like most of it PCP, marijuana, crack cocaine that's what I see every day.

> . . . I would say, um, crack cocaine . . . Well, people do things so they can buy another rock, you know, from prostitution to gripping people up, robbing them . . .

> . . . A lot of drugs. I mean just the selling of them.

. . . One of the things I don't like about Vegas, just my opinion, is when you're walking down the street and they think you're a prostitute, that's the worst one here I hate . . . It doesn't matter how big or ugly you are or how you are dressed . . . For me, that's my biggest problem . . .

Las Vegas participants believed gun violence to be gang-related. They also mentioned theft, car break-ins, aggressive panhandling, vandalism, and car thefts as being commonly observed.

. . . I work downtown everyday, so I see aggressive panhandling that involves street people, a lot of pinching activity going on, a lot of people drinking and a lot of car burglaries . . . Out where I live, you see more homeless, a lot of people drinking and a lot of car burglaries.

. . . I seen shootings, like in the summertime you are sitting outside and I saw a few shootings.

. . . In my neighborhood there is a lot of domestic violence openly on the street. It is directly related to drugs and alcohol. They can hardly talk.

. . . There is a lot of territorial crime too, over drugs. There's supposed to be one part of the place where these people are supposed to be selling and somebody done came in and so they rivaling and he's jealous . . .

. . . I guess it was on the next block, I don't think it was on my block . . . I heard this loud banging on my door and you know, I looked out the window and there was just somebody covered in blood. I guess he was stabbed . . . It was drug-related.

Participants in the Multnomah County Drug Court focus group resided in distinctly different parts of Portland, with a few living outside of the city. Most participants reported that drugs were a problem in their respective neighborhoods, but acknowledged that drugs were more visible in some parts of Portland than in others.

. . . I live in North Portland and there's a lot of methamphetamine, a lot of crack cocaine, a lot of weed.

. . . I live in North Portland also and there's not so much sales going on as where I use to live. I use to live on Mississippi and Skidmore, which is right down the middle of everything. But now what I see is syringes at the bus stop, I see truck drivers making deals also cocaine and heroin on the train.

. . . Okay, when we lived on Mississippi and Skidmore, there was not one car that had a radio antenna on it in the whole neighborhood, they had all been broken off and made into crack pipes.

. . . We lived on Skidmore and Mississippi. We'd walk half a block and get crack cocaine any time of the day or night in any quantity.

. . . I live in an upper class working neighborhood just this side of Gresham and I would probably say I rarely had to go out of my area to get my drugs. I would say basically alcohol and methamphetamines.

. . . I live in Hilltop. I saw a lot of people using cocaine and marijuana.

. . . I live in Beaverton and we have like nothing out there. I found when I lived in Gresham there was an overabundance of cocaine, marijuana and heroin everywhere, every apartment complex.

. . . I live in the Southeast end, you know, a fourplex, and in any direction I want to go, there's something there. Mostly amphetamines.

. . . Well, I live in Summerlin so there isn't much crime up there, but I've been to the West Side, you know what I mean, and I don't know, I think it has to do a lot like with gangs and just protecting your territory.

Drug Court Neighborhoods and the Location of Drug Courts and Treatment Providers in Clark and Multnomah Counties

Identifying the "Drug Court Neighborhoods"

Las Vegas is generally divided into three unequal sectors by the intersection of the two major highways that offer the principal means of vehicle access within the city. Figure 70, a map of Las Vegas (Clark County), shows the locations of the downtown drug court, the treatment center, and the principal residential areas for drug court participants. In Las Vegas, the courthouse is located in the "old" downtown in the northern section of the city, while the treatment provider's main location (changed since this study) is situated several miles to the southwest, slightly east of the famous Las Vegas "strip" where the large casinos are located.

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**Figure 70 Clusters of Residences of Drug Court Participants Relative to Drug Court and
Treatment Locations in Las Vegas (1993-1997)**
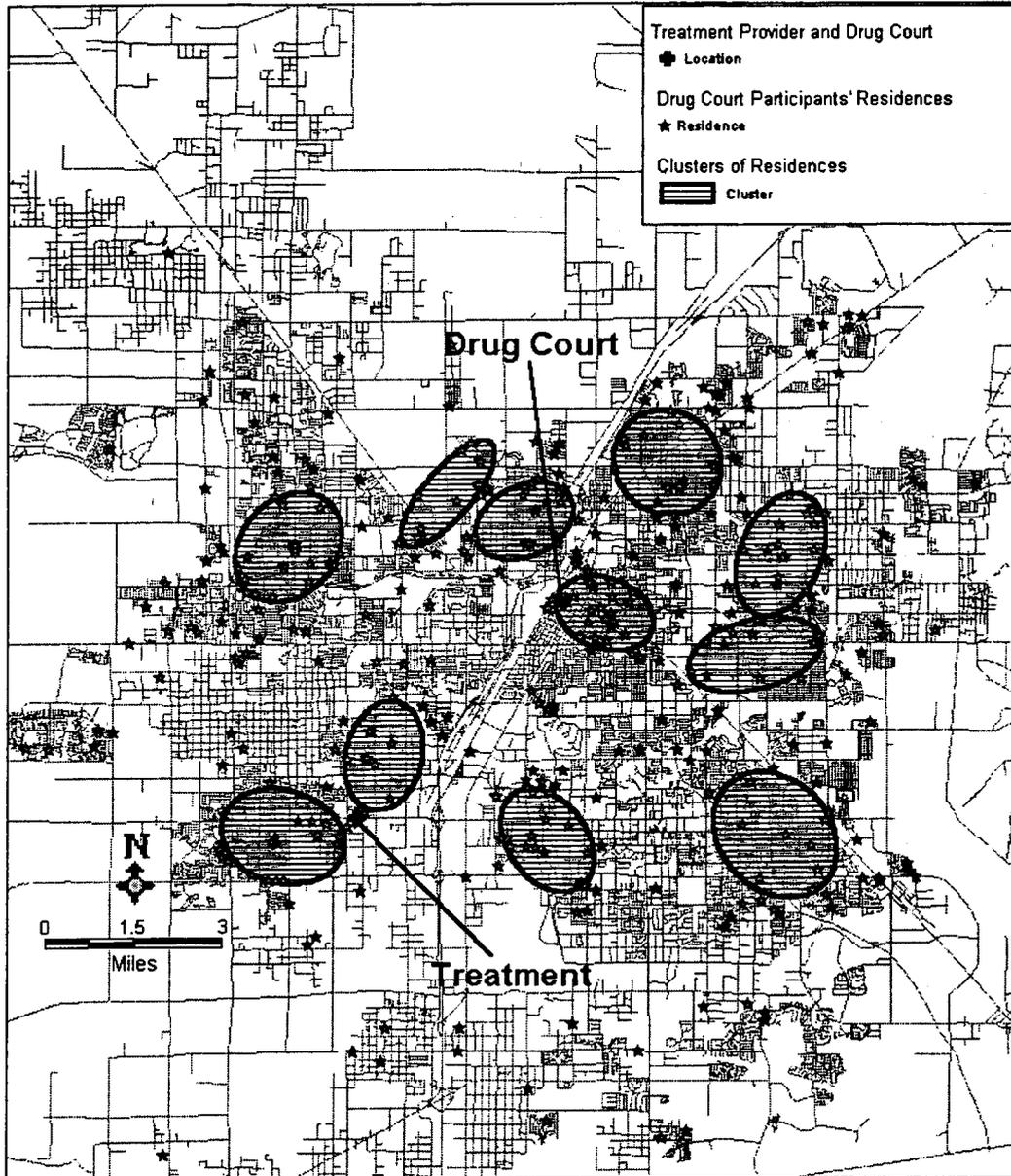
The principal residential areas or clusters[77] of drug court participants, indicated by the encircled areas on the map shown in Figure 70, were not distributed evenly throughout all sections of the city. Many of the drug court participants lived in the old downtown area of the city, near Fremont Street, a well known street of gambling establishments, residential hotels, restaurants, and drinking establishments. The old downtown area of Las Vegas is home to the original casinos and hotels of the city, and is easily accessed by all the major highways and transportation routes, which all meet in the same area, proximate to the old downtown. The drug court is only a few blocks away from Fremont Street, therefore within easy walking distance of the residential hotels and the casinos and bars. As the distance from the old downtown increases, the density of offender residence decreases, especially to the west.

African-American drug court participants lived predominately in the north of the city, northwest of the old downtown. (See Figure 71.) This area of the city (North) is the farthest away from the treatment provider (also visible on the map), located on East Flamingo Road, towards the southwest of Las Vegas. Residences of white participants were more widely spread

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[77] CrimeStat (Ned Levine & Associates, 1999) was used to calculate the clusters of drug sales crime. CrimeStat offers three different ways to determine clusters of points (or hot spots as they are sometimes called). See Block (1979); Green (1995; 1996); Nasar and Fisher (1993); Ratcliffe and McCullagh (1998); Sherman (1997); Sherman, Gartin, and Buerger (1989); Weisburd and Green (1995). This research uses the Nearest Neighbor Hierarchical Spatial Clustering (NNH) to find clusters in arrest and residences locations. NNH is not as subject to user definition as are K-means, and because this research relies on points of data for analysis, not zones, the Local Moran statistic is not appropriate. A strength of NNH for this research, however, is the ability to identify clusters of points in small environments (Ned Levine & Associates, 1999). A disadvantage associated with this technique is the inability of NNH to help explain why the hot spots cluster where they do. NNH groups points together on the basis of spatial proximity (Ned Levine & Associates, 1999). The researcher can define both the threshold distance where pairs of points that are farther apart than the threshold are not included in the cluster, and the minimum number of points per cluster (Ned Levine & Associates, 1999). To locate clusters of drug offender residences, for example, the threshold distance between residences should be long enough to allow a whole neighborhood to be included, but not so long so as to "cover-up" and obscure smaller concentrations.

In order to attain the appropriate distance between residence and arrest for drug possession locations using NNH, a very low likelihood value (p value) of the clusters being obtained by chance was used (at least $p<.05$). NNH also requires the user to select a minimum number of events (in this case arrests) that will be used to define a cluster. While there is little previous research to guide this decision, this analysis selected a minimum of 25 residences or arrests to qualify as a significant cluster. The lower confidence interval for the random expected nearest neighbor is the criteria that is used for the clustering of points in NNH (Ned Levine & Associates, 1999). The equation for the calculation of the mean random distance and the confidence interval that surrounds is shown in Levine et al. (1999: 168).

throughout Las Vegas; they were more predominant than any other racial group of drug court participants in the western part of the city, which was closest to the treatment provider for the drug court. Except for a slight concentration of residences in the old downtown section of the city, Hispanic drug court participants did not seem to be so residentially clustered, but were living in areas throughout Las Vegas. Participants living near the Fremont Street area were racially/ethnically diverse.

Multnomah County and Portland itself are split by the Willamette River, with the main business district and the downtown located on the western side of the river. (See Figure 72.) The Multnomah County drug court is located downtown in an historic courthouse. The treatment provider is also located downtown, about ten blocks away from the courthouse. Several large residential areas are located to the east and northeast of the river. In addition, a relatively new and large commercial center (the Lloyd District) is also located on the east side of the Willamette River, directly across from the central business district. A comprehensive bus system fans out from the downtown throughout the city, making the downtown fairly accessible to all residents of Portland.

In Multnomah County, residences of drug court participants clustered in the northeast area of the city, the eastern section and the western section near the downtown. African-American, Hispanic, and white drug court participants lived in neighborhoods relatively homogeneous in race/ethnicity. African-American residences have been historically concentrated in the northeastern sections of the city since the 1940s. These same areas of the city are the most economically depressed with the highest rates of high school dropouts. (See Figure 73.)

Figure 71 Clusters of Residences of Drug Court Participants Relative to Drug Court and Treatment Locations in Las Vegas (1993-1997), by Race/Ethnicity of Participants
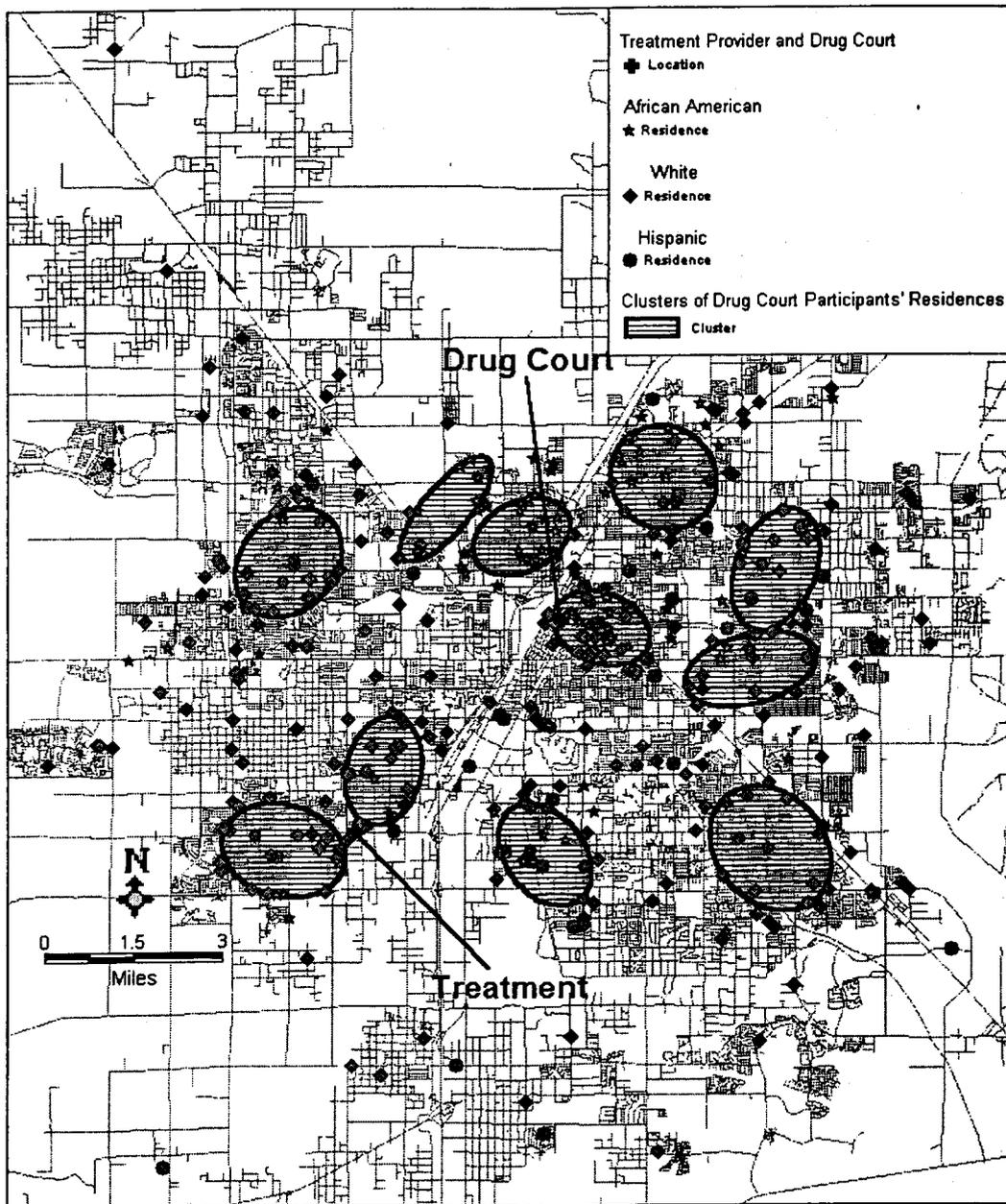
Figure 72 Clusters of Residences of Drug Court Participants Relative to Drug Court and Treatment Locations in Multnomah County (1991-1997)
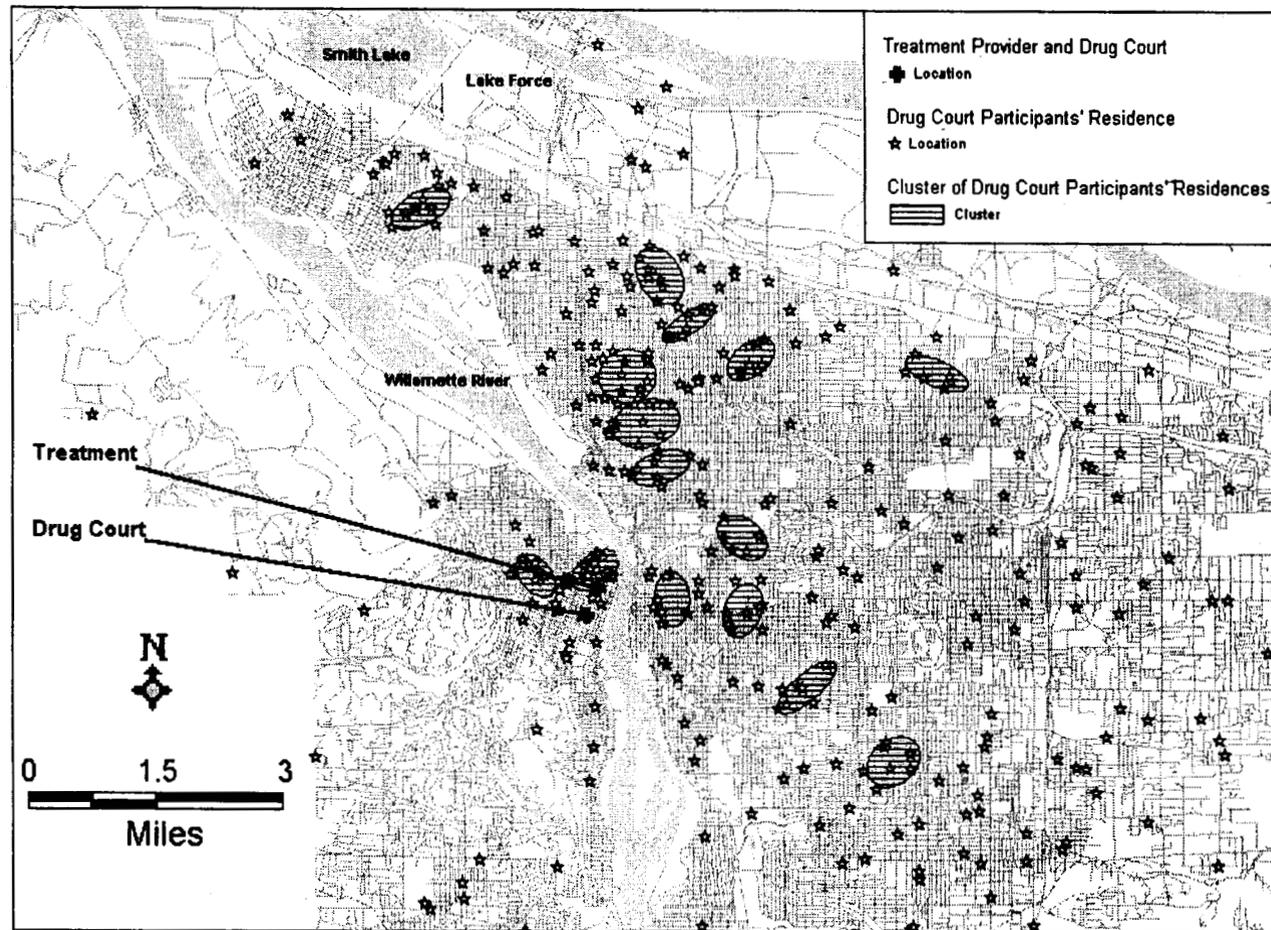
Figure 73 Clusters of Residences of Drug Court Participants Relative to Drug Court and Treatment Locations in Multnomah County (1991-1997), by Race/Ethnicity of Participants
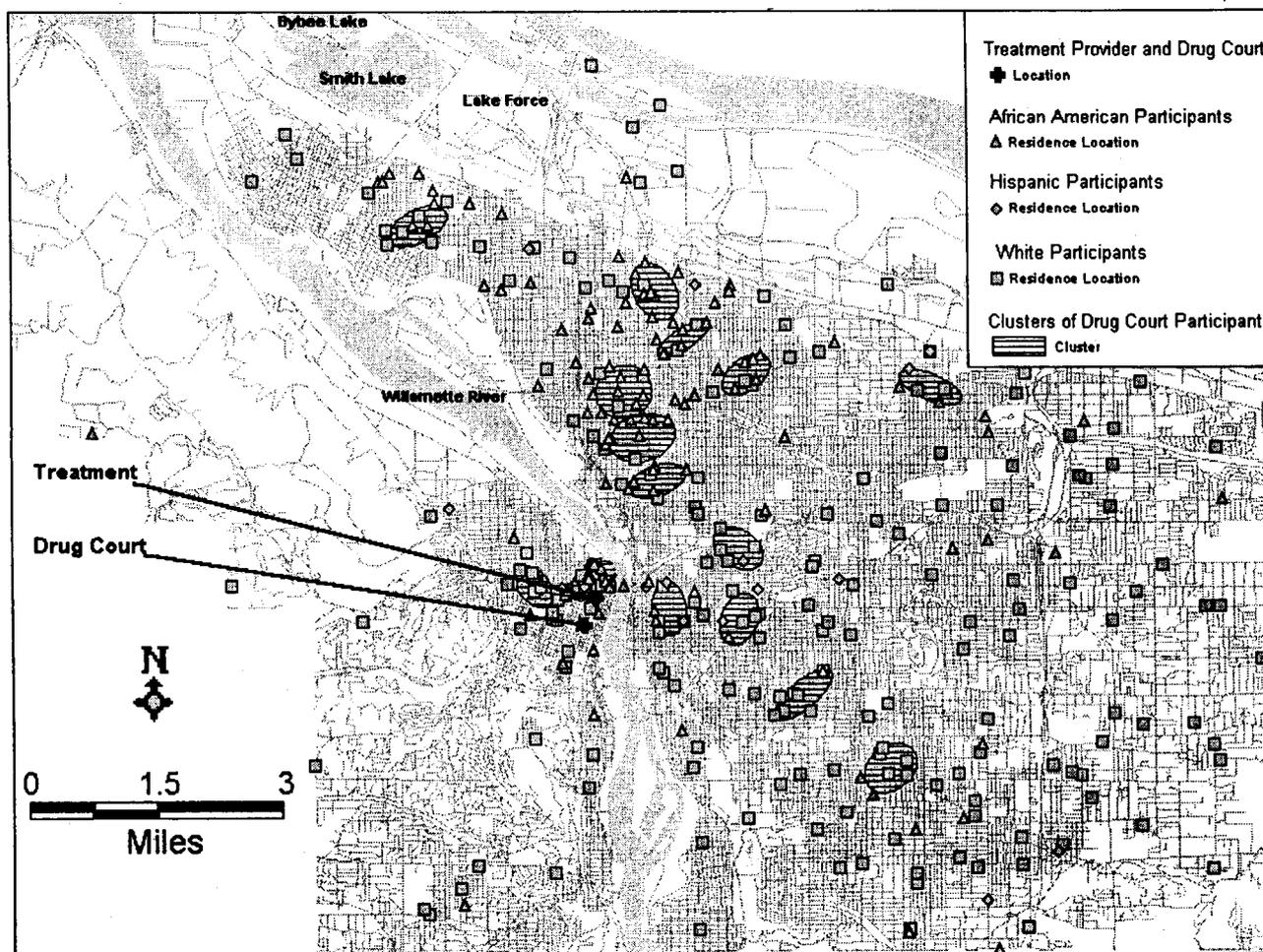
In both jurisdictions, drug court neighborhoods differed considerably in their proximity to the downtown drug court and to the treatment center. Thus, for some, depending on available transportation, traveling to the court or the treatment provider might be fairly convenient. However, for many others in both cities, especially Las Vegas, the distance from neighborhood of residence to court or treatment could be substantial.

Residential Neighborhoods and Crime Location

From the perspective of drug court participants, as reflected in the focus group discussions held in each location, an important dimension of their neighborhoods ("community contexts") involved the type and prevalence of crime and drug use. Communities within each of the cities differ in their proximity to principal drug markets or areas known for high rates of drug crime. For drug offenders (substance abusers), the level and proximity of drug crime—including purchase, sale, and property crimes to purchase drugs—certainly represent an environmental influence contributing to or impeding a participant's chances of success in the drug court. (A participant living in a neighborhood or housing tenement with gang activity, open drug dealing, and peers who are addicted would have a more difficult time maintaining abstinence, for example, than a participant living in a quiet neighborhood, where crime is absent or hidden, drugs are scarce, etc., and most residents are employed.)

For the purposes of illustration (and perhaps argument), we employ the locations of the arrests of drug court participants as indicators of geographic centers of drug crime, drug sources, drug use, or active crime areas. Figure 74 identifies 11 clusters of arrest locations (where drug court participants were arrested) in Las Vegas. These centers of arrest/crime activity are not spread evenly throughout Las Vegas and they are also characterized by racial/ethnicity patterns (not shown here). Figure 75 juxtaposes the principal clusters of drug court participant residences

with the principal clusters of drug arrest locations. The degree of overlap between residence clusters and drug arrest clusters indicates the proximity of centers of drug crime activity (or drug markets) to residential neighborhoods. In some instances, arrest concentrations overlap heavily with clusters of residences as, for example, in the predominantly African-American areas near the old downtown, the drug court, and the treatment provider. In other instances, arrests cluster in a non-residential area, such as near the airport, along the highway, and slightly south of the "strip." Arguably, drug crime, crime by drug offenders, and drug sales may more or less affect living areas depending on the proximity of drug markets and/or the travel paths offenders employ to reach their sources of drugs.

Similarly, Figure 76 identifies the principal arrest locations (clusters) of the drug court participants in the Multnomah County study, which appear fairly straightforward: they were located mainly in the west and in the downtown district of the city. In short, they are far from diffuse throughout Portland or Multnomah County. When these arrest location clusters are juxtaposed in Figure 77 to the clusters of drug court participants' residences, the proximity of centers of drug crime to principal drug court neighborhoods varies remarkably—and shows a strikingly different pattern from that found in Las Vegas. Several residence clusters in the west and downtown area are close to or overlap with the two clusters of arrests. All other principal residential areas of drug court participants are located away from the arrest locations, sometimes very far away. One potential explanation for this is that the transportation system in Portland permits easy access to the downtown area where much of the drug crime occurs. Thus, in contrast to Las Vegas, there is little overlap between residence clusters and arrest clusters, suggesting that drug offenders generally traveled away from their neighborhoods to purchase their drugs (and to be arrested).

**Figure 74 Clusters of Initial Arrest Locations of Clark County Drug Court Participants
(1993-1997)**
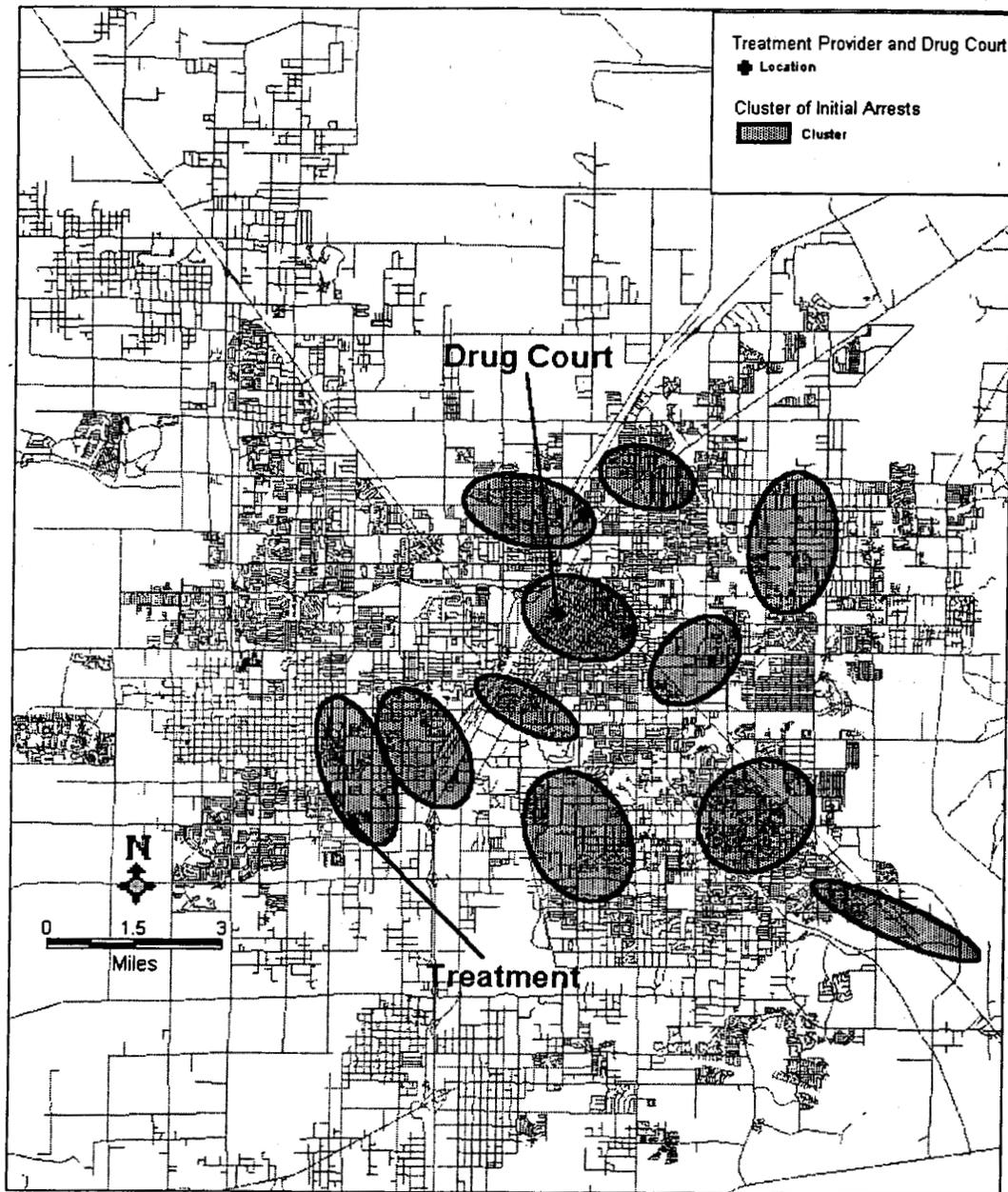
Figure 75 Overlap of Drug Court Participant Residences and Initial Arrest Locations among Clark County Drug Court Participants (1993-1997)
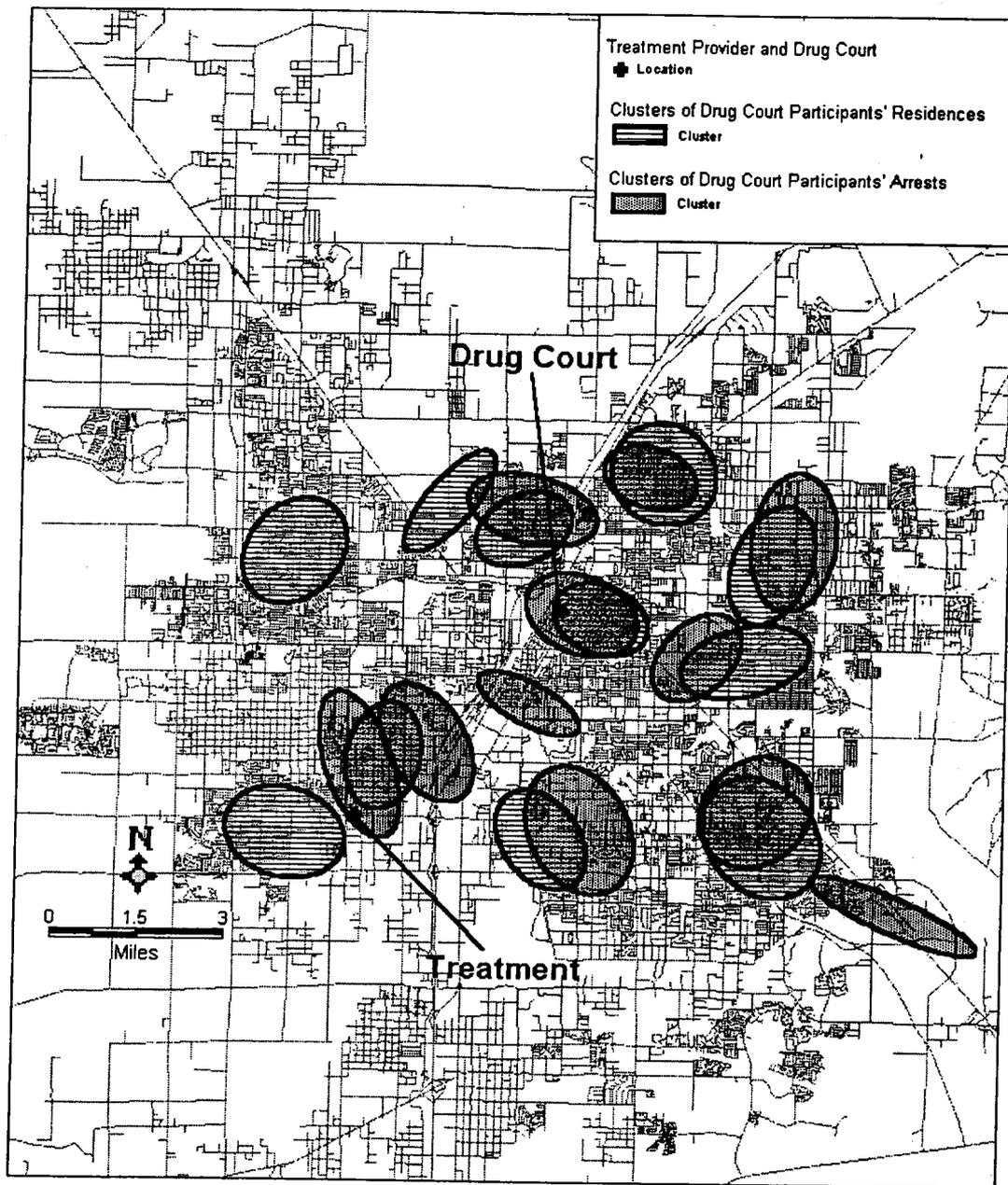
Figure 76 Cluster of Initial Arrest Locations of Multnomah County Drug Court Participants (1991-1997)
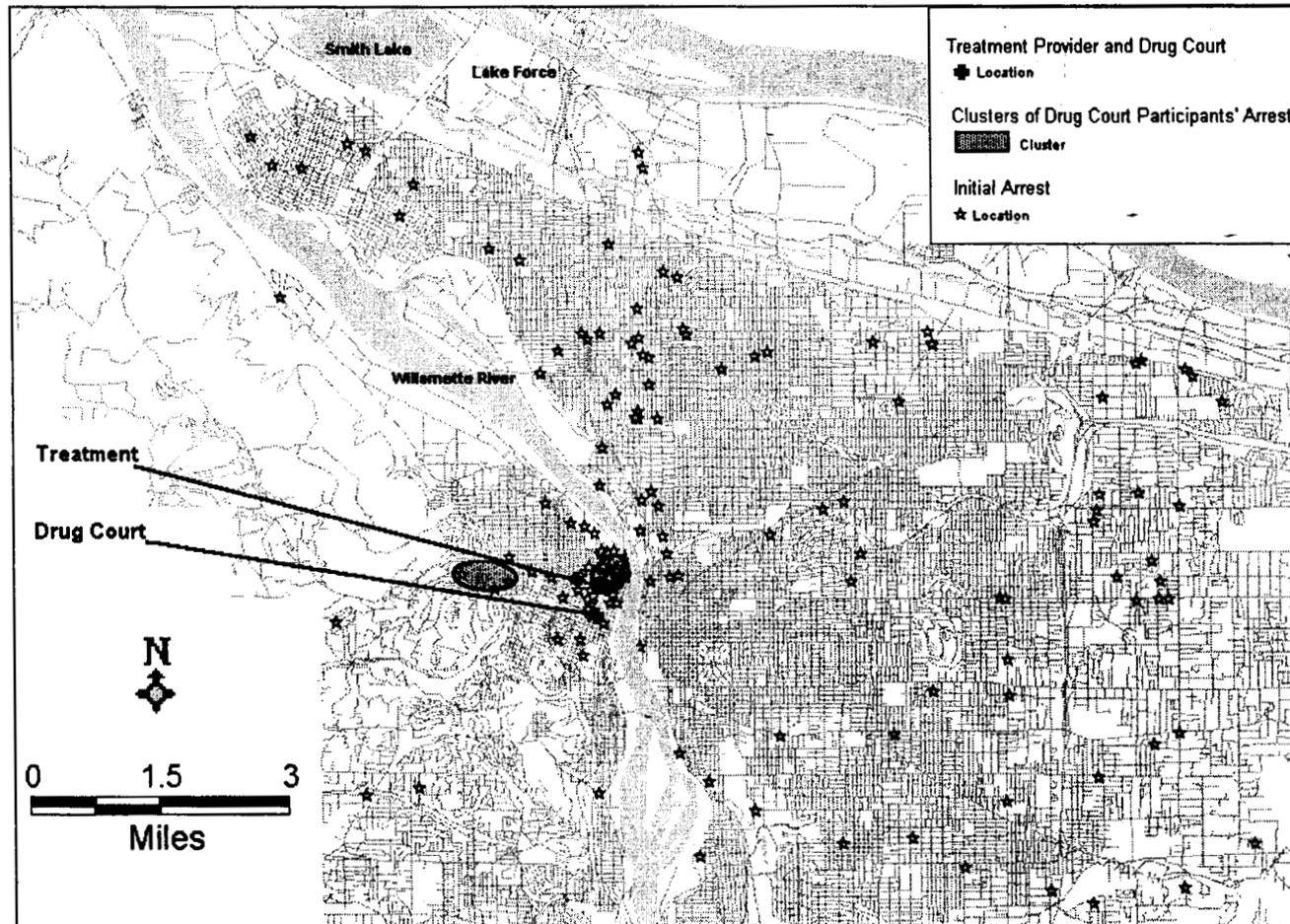
Figure 77 Overlap of Drug Court Participant Residences and Initial Arrest Locations among Multnomah County Drug Court Participants (1993-1997)
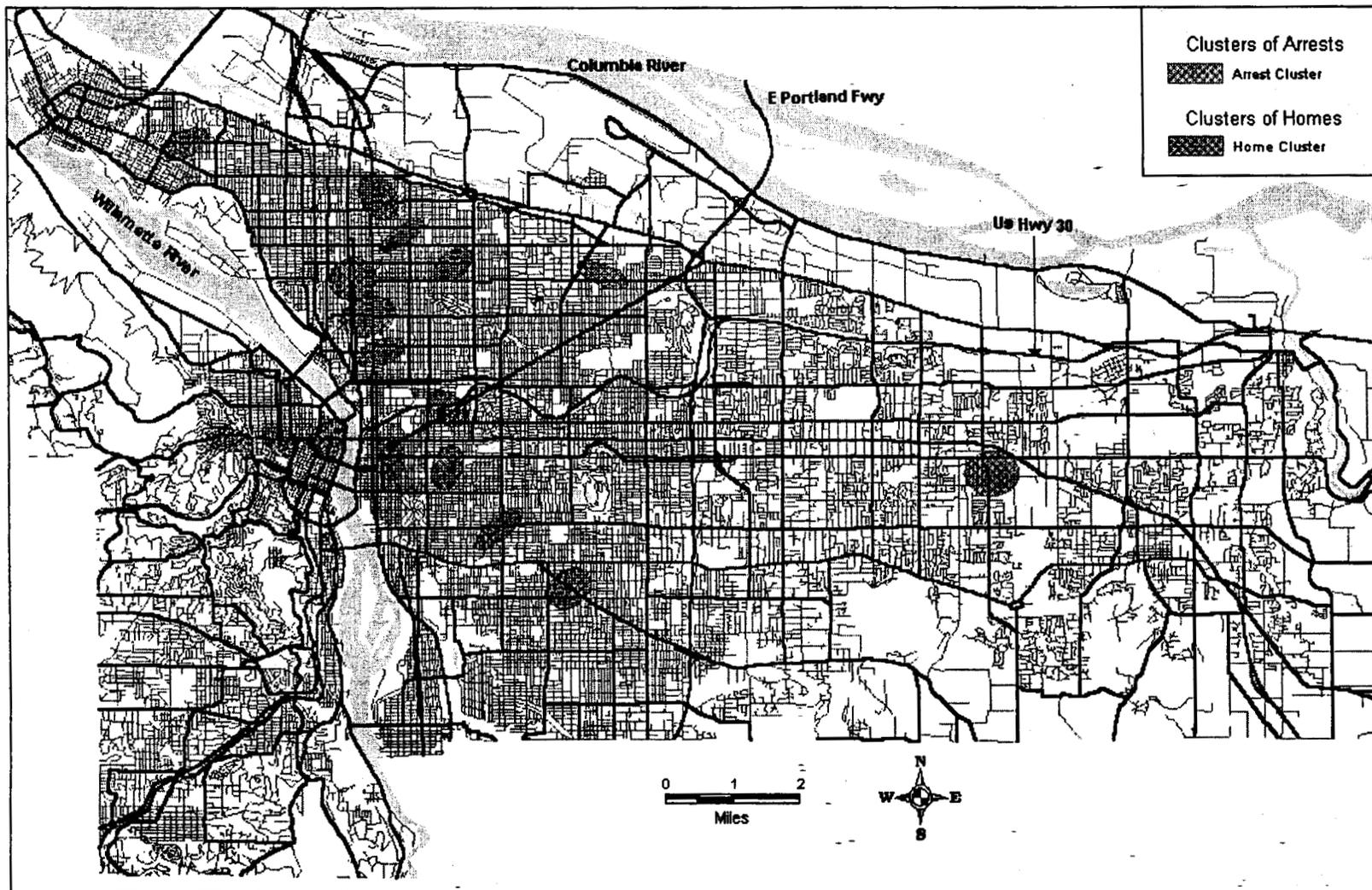
Summary: Drug Court Neighborhoods

The relative location of drug offender residences and arrests (centers of drug crime) illustrate the first theme concerning community context and the two downtown drug courts. The felony drug defendants enrolled in the drug court reside disproportionately in a number of principal neighborhood locations within the two cities. These principal residential locations differ in important ways, including in convenient access to the drug courts and treatment centers, in the racial/ethnic make-up (offenders lived in areas that are fairly homogeneous), and in their proximity to centers of drug crime (as measured roughly by the locations of the participants' felony drug possession arrests). As different as they may be, they are the areas mostly served by the drugs courts; they are implicitly the "drug court neighborhoods." The question raised by this geographic illustration of the relationship of downtown drug courts to particular city neighborhoods is how the implicit linkage could be made explicit, how the drug courts could connect to local resources to strengthen their effectiveness and assist participants in progressing forward through treatment while recognizing the challenges that they may face at home.

The Effect of Community Context on Participant Performance in Drug Court

One could speculate that a wide variety of features of the neighborhoods in which drug court participants resided may influence their prospects for success in the drug court treatment process. These could include housing, family structure, social cohesion, economic status of residents, employment, etc. There is a large literature on the influence of community contexts that provides ample evidence relating to factors in the larger environment that are associated with crime (see, e.g., Taylor, 2001). Our purpose in this section of the evaluation research is not to reinvent the criminological research dealing with these questions outside of drug courts. Rather, the aim of this section is to examine the possible relationships between neighborhood attributes

and the performance of participants in drug court in a selective and exploratory way, beginning with consideration of neighborhood location.[78]

Geographic Location of Drug Court Neighborhoods and Outcomes

In addition to differing in a variety of potentially crime-relevant attributes, drug court neighborhoods differed in their location within the two cities (and counties) studied. As a way of testing the premise that contextual factors play a part in determining the likelihood of success in drug court, we chose to examine the potential significance of three "distance" measures. The measures—distance to drug court, distance to treatment, and distance to site of original arrest— reflected the relative proximity of the residences of drug participants to the drug court (downtown), the treatment provider, and the original arrest location in predicting drug court outcomes. These measures had the advantage that they could be calculated similarly for each drug court site.

Two of the measures, distance to the drug court and distance to the provider, were intended as measures of accessibility. In other words, given the different neighborhoods of residence and their locations within the cities, the analysis sought to determine whether the downtown drug courts and their treatment providers were equally or sufficiently accessible to all participants, or whether, because of neighborhood of residence, some suffered disadvantages that translated into lower probabilities of success. Accessibility can be affected by a number of factors, such as access to and location of public transportation (and the routes traveled), the location of highways, access to autos, the ability to pay for transportation, etc.

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[78] Given the exploratory purposes of this analysis, we set aside for now consideration of Multnomah County's special geographically designed enforcement strategy, the drug free zones (see the Phase I report for a full description). However, these zones that exclude drug offenders from reentering specific sections of the City of Portland, are examples of a potentially important influence of a contextual or environmental variable on the behavior of the drug offenders who were in the drug court. For an in-depth investigation of the impact of drug free zones in Portland on drug crime, see Robinson (2001).

The third measure, distance from a drug court participant's address to the location of the original arrest (that led to drug court), was intended to reflect the participant's proximity to the location of crime activity. We are assuming, for the purposes of illustration, that the locations of arrests (in these predominantly felony drug possession cases) are surrogate measures of criminogenic locations, such as drug markets. Thus, the distance from residence to arrest site can serve a) as a rough measure of the crime exposure of the neighborhoods, or b) as an indication of the travel paths drug offenders took to purchase their drugs. One might suppose then that, when the location of drug crime is very close to residences, the chances (opportunity) for repeating the drug offenses (and drug use) increase, particularly in relation to the more distant locations of the drug court and the treatment center. Participants who find the court and provider fairly accessible but access to criminogenic areas more difficult (they are farther away and harder to get to), in contrast, might have better chances of success.

Construction of the Distance Measures: A Note on the Data

To construct the three distance measures just described, we collected and geocoded location data for participant's address, the location of their arrests, and used the fixed addresses of the treatment provider and drug court. With these data we calculated distance measures from the address of participants' residence. In both cities, addresses of drug court participants' homes were located in the treatment providers' files. The addresses of arrest were located in police reports, copies of which were most often placed in the district attorney's case files.

The location data suffered from some missing information in each location. Of the 499 drug court participants in the Las Vegas sample, 308 valid distances could be calculated between their home and arrest locations; 436 distances could be calculated from the participants' residences to the drug court and the treatment provider. In Portland, the problem of missing

address data was more extensive. Of the 792 potential drug court individuals included in the analysis, only 231 had both a correct home and arrest address, and therefore could have a distance calculated for their home to arrest location. For 513 of the drug court participants, a distance could be calculated between their home and the drug court. The effect of the missing data was examined and a correction (for the resulting selection bias) was introduced when appropriate in the multivariate analyses.[79] A selection bias correction—"predicted missing" variables for both home to arrest[80] distance and home to court[81] distance—was included in multivariate models when appropriate.

Bivariate Analysis: Distance Measures and Drug Court Outcomes

Each of the three distance measures—residence to court, residence to treatment provider, residence to arrest—was first calculated from the address of the participants' residences in miles.

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[79] The number of drug court participants in both cities that could be included in the distance analysis was reduced in size from the original samples due to missing address data, either for residence or for arrest location. Although it is unusual for this type of information to be absent in the agency files at least at some stage of criminal justice processing, there are valid reasons for why this type of individual information could be missing or unusable for research purposes. The explanation for missing home addresses is usually straightforward; drug court participants are sometimes homeless or do not have a permanent address, so they do not have a home address to give to the treatment provider or any other criminal justice official upon entry to the drug court program.

It is the responsibility of the arresting police officer to record the address of arrest. Common practice of police officers is to record the closest street corner to the arrest, or to allocate the arrest an address rounded to the nearest "100 block." While this practice is suitable for the needs of the police, and is the only option for types of arrests that occur along a street with no exact address, it does not necessarily permit accurate geocoding of the data. Spatial data like addresses are more labor intensive and detailed to record than other types of information, and as a result, are associated with more recorded errors. Simple numeric or spelling errors, for example, can render an address unusable.

Because the number of cases missing some data was not inconsequential, analyses were performed to determine the extent of the problematic nature posed by the missing data. In Las Vegas, the missing address data could not be predicted using a large number of individual-level variables; we therefore assumed that the missing data were randomly distributed throughout the sample and did not present a selection bias.

In Portland, however, the missing address data (for both missing arrest and home addresses) could be modeled successfully and were not assumed to be randomly distributed in the sample. The significant predictors of missing home addresses in Portland included not having prior convictions in the three years before the current case arrest; the drug court participant is of Hispanic origin; the drug court participant is non-white; and if the drug court participant did not start drug court in 1991 or 1992. The significant predictors of cases missing a home/arrest distance included having an alias and starting drug court in the years 1991, 1992, 1993, or 1994.

[80] Based on the logistic regression model predicting missing home to arrest distance, the equation to compute this control variable is ardiscl = -.310 + (.524 × alias) + (.793 × syr9192) + (.660 × syr9394).

[81] Based on the logistic regression model predicting missing home address, the equation to compute this control variable is hmdiscl = -.122 + (-.717 × prcv3ab) + (1.269 × hispanic) + (-.737 × racedi) + (-.574 × syr9192).

Three versions of each distance measure were considered in bivariate and multivariate analysis: an interval level measure (in miles) and two ordinal measures (an eight-category measure and a three-category measure) collapsed from the interval measure. The three-category measure could be roughly interpreted as indicating relatively short, middle, and longer distances from residence (and is used primarily in the analysis we present here). Table 22 summarizes the distribution of cases and mean values associated with each measure for the drug court participants in Clark County and Multnomah County.

Table 22 Distances from Residence to Initial Arrest Site, Drug Court, and Treatment Provider Locations among Clark County (1993-1997) and Multnomah County (1991-1997) Drug Court Participants: Frequency Distributions for All Participants by Race/Ethnicity

[Note: Distances are calculated in miles.]

	Clark County							
	All Participants		**African-American**		**White**		**Hispanic**	
Distance Measure	n	Percent	n	Percent	n	Percent	n	Percent
Residence to Arrest								
Interval	(310)	(5.26)	(67)	(4.12)	(207)	(5.68)	(36)	(4.98)
3-Part								
Total	(310)	100.0	(67)	10010	(207)	100.0	(36)	100.0
<2.7 miles	(94)	30.3	(25)	37.3	(57)	27.5	(12)	33.3
2.7 to 7.0 miles	(116)	37.4	(27)	40.3	(74)	35.7	(15)	41.7
>7.0 miles	(100)	32.3	(15)	22.4	(70).	36.7	(9)	25.0
Residence to Court								
Interval	(440)	(4.68)	(99)	(291)	(297)	(5.34)	(44)	(4.20)
3-Part								
Total	(440)	100.0	(99)	100.0	(297)	100.0	(44)	100.0
<3.14 miles	(145)	100.0	(99)	100.0	(297)	100.0	(44)	100.0
3.14 to 5.01 miles	(145)	33.0	(61)	61.6	(67)	22.6	(17)	38.6
>5.01 miles	(150)	34.1	(12)	12.1	(125)	42.1	(13)	29.5
Residence to Treatment								
Interval	(440)	(6.17)	99)	(5.96)	(297)	(6.28)	(44)	(5.94)
3-Part								
Total	(440)	100.0	(99)	100.0	(297)	100.0	(44)	100.0
<4.75 miles	(145)	33.0	(17)	17.2	(113)	38.0	(15)	34.1
4.75 to 6.97 miles	(146)	33.2	(55)	55.6	(77)	25.9	(14)	31.8
>6.97 miles	(149)	33.9	(27)	27.3	(107)	36.0	(15)	34.1

Table 22 Distances from Residence to Initial Arrest Site, Drug Court, and Treatment
Provider Locations among Clark County (1993-1997) and Multnomah County (1991-1997)
Drug Court Participants: Frequency Distributions for All Participants by Race/Ethnicity
(Cont.)

| | *Multnomah County* | | | | | |
| | All Participants | | White | | Non-White | |
Distance Measure	n	Percent	n	Percent	n	Percent
Residence to Arrest						
Interval	(231)		(83)	(3.64)	(148)	(4.44)
3-Part						
Total	(231)	100.0	(83)	100.0	(148)	100.0
<1.76 miles	(77)	29.7	(33)	39.8	(44)	29.7
1.76 to 4.57 miles	(77)	33.8	(27)	32.5	(50)	33.8
>4.57 miles	(77)	36.5	(23)	27.7	(54)	36.5
Residence to Court						
Interval	(513)	(4.15)	(195)	(3.81)	(318)	(4.58)
3-Part						
Total	(513)	100.0	(195)	100.0	(318)	100.0
<1.84 miles	(117)	22.8	(45)	23.1	(45)	23.1
1.84 to 4.66 miles	(209)	40.7	(98)	50.3	(98)	50.3
>4.66 miles	(187)	36.5	(52)	26.7	(52)	26.7

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For the purposes of this analysis, three dependent variables were selected to represent drug court outcomes: whether a participant was rearrested within one year of entering drug court, whether the participant was terminated (unfavorably) from drug court within one year, and whether the participant missed five or more required treatment appointments. These dependent measures included one public safety outcome (rearrest) and two drug court treatment (termination, missed appointments) outcomes. The bivariate relationships between each version of the three distance measures and the three drug court outcomes were examined for drug court participants in each site. To reflect the diversity of neighborhoods and their locations in the respective cities (because location is related to distance from the reference points in the cities), we also examined bivariate relationships by race/ethnicity of participants and by region of each city.[82] This analysis produced six significant relationships among Clark County participants and

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[82] In Clark County, the Las Vegas area was divided into four quadrants (North, South, East, West). In Multnomah County, Portland was divided into the downtown area, North, West/Southwest, Southwest, Inner Southeast, Outer Southeast, East, and Northeast.

three significant relationships among Multnomah County participants at the bivariate level. (See Table 23.)

Table 23 Significant Bivariate Relationships[83] between Distance Measures[84] and Drug Court Outcomes[85] among Drug Court Participants in Clark County (1993-1997) and Multnomah County (1991-1997)

Distance from Residence to:	Drug Court Outcome	Sample	Interpretation
Clark County			
Arrest	Rearrest (-)	All	Shorter distance, higher probability
Arrest	Rearrest (-)	Whites	Shorter distance, higher probability
Arrest	Termination (-)	All	Greater distance, lower probability
Drug Court	Missed Treatment (+)	African-Americans	Greater distance, higher probability
Treatment	Missed Treatment (+)	All	Greater distance, higher probability
Treatment	Missed Treatment (+)	North	Greater distance, higher probability
Multnomah County			
Arrest	Rearrest (-)	African-Americans	Shorter distance, higher probability
Drug Court	Termination (-)	All	Shorter distance, higher probability
Drug Court	Termination (-)	Whites	Shorter distance, higher probability

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Clark County

The distance from the Clark County participants' residences to their original arrest locations was significantly related to subsequent rearrest and termination from drug court. When all drug court participants are considered, the shorter the distance from residence to arrest site, the higher the probability of rearrest within one year. However, the longer the distance from residence to initial arrest site, the lower the probability of rearrest. Among white participants alone, the shorter the distance from residence to initial arrest site, the greater the chances of later rearrest.

The distance from residence to the drug court was significantly related to poor treatment attendance (missing five or more appointments) among African-American participants. The

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[83] Chi square significant at p=.05 or less.

[84] Each of three distance measures (residence to initial arrest site, residence to drug court, and residence to treatment) was examined in three forms (interval level, 3-part ordinal, 8-part ordinal). Distance was measured in miles.

[85] Drug court outcomes were dichotomous: rearrested in 1 year (no/yes), terminated in 1 year (no/yes), missed 5 or more appointments in 1 year (no/yes).

longer the distance from their residences to the drug court, the greater the chances of poor treatment attendance.

The distance from residence to treatment center was related to poor treatment attendance for participants overall as well as when participants in the North were examined alone. In both relationships, the longer the distance to the treatment location, the greater the likelihood of poor performance.

Multnomah County

Three distance measures were significantly related to drug court outcomes among Multnomah County participants at the bivariate level. The distance from residence to the drug court downtown was related to termination from drug court within one year for all participants examined and for white participants when examined alone. The closer participants lived to the drug court (the downtown district on the west side of the Willamette River), the greater the chances of unfavorable termination in one year. Distance from residence to initial arrest site was related to rearrest in one year when African-American participants were considered alone.

Relationships between Distance Measures and Drug Court Outcomes Controlling for Participant *A Priori* Risk

Clark County

Each of the significant bivariate relationships between distance measures and drug court outcomes was examined in multivariate analysis (logistic regression) controlling for *a priori* risk attributes identified as predictive of subsequent rearrest in earlier analyses. Table 24 displays the results of these analyses for each of the outcomes associated with Clark County Drug Court participants. When these outcomes are modeled using risk attributes as controls, distance measures remain significant predictors in two instances: a) the distance from residence to arrest adds significantly to prediction of rearrest within one year (longer distances are associated with a

lower probability of rearrest); and b) the distance from residence to treatment center adds significantly to prediction of poor treatment performance (longer distances to treatment are associated with a greater probability of missing more than five appointments, controlling for risk).

Table 24 Significance of Distance Measures in Multivariate Models of Drug Court Outcomes among Clark County Drug Court participants (1993-1997), Controlling for Participant Risk

Predictors	Rearrest	Termination	Missed Appointments
Model 1: Home to Arrest			
Prior Arrests, 3 Years	.897 (.002)	.479 (.146)	.237 (.428)
Prior Drug Arrests	.682 (.019)	.219 (.464)	.055 (.850)
Prior FTAs	.126 (.660)	.527 (.073)	-.392 (.169)
To Arrest	(.047)	(.054)	NS (.172)
<2.6 miles	(reference)	(reference)	(reference)
2.6-6.8 miles	-.746 (.014)	.399 (.193)	.801 (.930)
>6.8 miles	-.489 (.119)	-.359 (.289)	.449 (.146)
Constant	-.279 (.324)	-1.55 (.000)	.449 (.105)
Log Likelihood	385.109	356.852	399.11
Goodness of Fit	6.526	4.17	7.12
GF Significance	.730	.76	.523
Chi Square	42.459	19.731	5.56
DF	5	5	5
Significance	.000	.001	.351
N	308	305	307
Model 2: Home to Court			
Prior Arrests, 3 Years	.844 (.000)	.266 (.362)	.253 (.328)
Prior Drug Arrests	.739 (.001)	.389 (.161)	-.103 (.687)
Prior FTAs	.238 (.298)	.176 (.516)	-.157 (.528)
To Court			
<3.1 miles	(reference)	(reference)	(reference)
3.1-5.0 miles	-.212 (.401)	.162 (.581)	.109 (.670)
>5.0	-.247 (.324)	.201 (.485)	.319 (.212)
Constant			
Log Likelihood	501.160	447.499	535.633
Goodness of Fit	11.787	9.768	6.338
GF Significance	.161	.282	.609
Chi Square	101.199	70.450	29.781
DF	8	8	8
Significance	.000	.000	.000
N	436	432	435

Table 24 Significance of Distance Measures in Multivariate Models of Drug Court Outcomes among Clark County Drug Court participants (1993-1997), Controlling for Participant Risk (Cont.)

Predictors	Rearrest	Termination	Missed Appointments
Model 3: Home to Treatment			
Prior Arrests, 3 Years	.759 (.001)	.389 (.148)	.281 (.253)
Prior Drug Arrests	.705 (.003)	.377 (.137)	-.025 (.918)
Prior FTAs	.306 (.195)	.199 (.419)	-.128 (.592)
To Treatment	NS	NS (.237)	(.048)
<4.7 miles	(reference)	(reference)	(reference)
4.6-6.9 miles	.069 (.784)	.316 (.240)	-.012 (.959)
>6.9 miles	.069 (.781)	.447 (.097)	.538 (.033)
Constant	-.739 (.001)	1.673 (.188)	.317 (.140)
Log Likelihood	555.88	507.13	562.764
Goodness of Fit	6.387	9.29	3.796
GF Significance	.604	.232	.803
Chi Square	51.037	14.66	7.669
DF	5	5	5
Significance	.000	.012	.175
N	439	435	438

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For white participants, the relationship between distance from residence to arrest site and rearrest within one year survives controls for risk. When black participants are considered separately, the bivariate relationship between distance from residence to drug court becomes non-significant when controls for risk are entered. When the relationship between the residence to treatment center measure for white participants is considered with controls for risk, it becomes non-significant.

Multnomah County

Using multivariate analysis and controlling for participant risk attributes, Table 25 examines bivariate relationships between distance measures and drug court outcomes among Multnomah County Drug Court participants. When controls for risk of reoffending are entered in the multivariate models of rearrest, termination from drug court, and poor treatment attendance, the residence to arrest measure is not significant when all drug court participants are examined. The distance from residence to drug court remained a significant predictor of termination from drug court (with participants living closer to drug court having a greater

probability of termination than those living farther away). The residence to drug court measure remained a significant predictor of drug court termination only for whites, when *a priori* risk is taken into account. Among African-American participants, the distance from residence to initial arrest location remained a significant predictor of rearrest within one year from drug court admission (those living close to the sites of their initial arrests had a higher probability of being rearrested).

Table 25 Significance of Distance Measures in Multivariate Models of Drug Court Outcomes among Multnomah County Drug Court Participants (1991-1997), Controlling for Participant Risk

Predictors	Rearrest, 1 Year	Termination, 1 Year	Missed Appointments
Model 1: Home to Arrest			
Race (White/Non-White)	.401 (.192)	.318 (.325)	.252 (.501)
Alias	-1.169 (.000)	1.295 (.001)	.531 (.182)
Prior Pending Arrests	.905 (.081)	.886 (.101)	.403 (.559)
Prior Drug Arrests	.631 (.140)	.262 (.579)	.052 (.920)
Prior Convictions for Drug Possession	-.619 (.210)	-.923 (.099)	.146 (.807)
Control for Missing*	-.145 (.726)	-2.944 (.000)	-.232 (.650)
To Arrest			
<1.83 miles	.023 (.950)	.052 (.890)	.572 (.183)
1.83-4.66 miles	-.043 (.907)	-.566 (.142)	.193 (.634)
>4.66 miles	(reference)	(reference)	(reference)
Log Likelihood	276.151	253.306	213.709
Goodness of Fit	8.292	12.970	9.673
GF Significance	.405	.113	.289
Chi Square	33.188	53.589	4.578
DF	8	8	8
Significance	.000	.000	.802
N	229	229	205
Model 2: Home to Court			
Race (White/Non-White)	.303 (.183)	.021 (.922)	.334 (.287)
Alias	-1.056 (.000)	.202 (.265)	.057 (.814)
Prior Pending Arrests	.817 (.018)	.363 (.248)	.252 (.606)
Prior Drug Arrests	.627 (.025)	.800 (.003)	.246 (.502)
Prior Convictions for Drug Possession	-.282 (.375)	-.618 (.041)	.461 (.285)
Control for Missing	-.436 (.025)	.043 (.815)	.359 (.194)
To Court			
<1.765 miles	.184 (.487)	.493 (.045)	-.182 (.595)
1.765-4.5729 miles	.119 (.607)	.368 (.083)	-.251 (.377)
>4.5729 miles	(reference)	(reference)	(reference)
Log Likelihood	599.608	676.449	404.295
Goodness of Fit	5.953	12.872	11.285
GF Significance	.653	.116	.186
Chi Square	84.597	17.830	5.640
DF	8	8	8
Significance	.000	.023	.688
N	503	503	392

*Missing address information was controlled for by using a predicted value of missing for each case included in the analysis.

Summary: Community Context as a Predictor of Drug Court Outcomes

To examine the premise that where drug court participants lived—relative to their initial arrest locations (a.k.a., crime activity locations) and to the drug court and treatment location—was related to participant performance in the two drug courts, we developed distance measures for bivariate and multivariate analysis. We found that in Clark County and in Multnomah County, net of controls for risk, some versions of distance measures contributed to the prediction of rearrest, termination from drug court, and poor treatment attendance. In Clark County, at least one of the distance measures was found to be a significant predictor of each of the drug court outcomes considered. In Multnomah County, some form of two of the measures, distance from residence to initial arrest location and distance from residence to drug court, added significantly to the prediction of subsequent rearrest and termination from the drug court.

At this stage of the research, our purpose is to offer an, albeit exploratory, test of the notion that aspects of community contexts may exert some influence on the chances of success in the respective drug courts. Future analyses and research will explore the nature of these relationships between neighborhood attributes and drug court outcomes in more depth. We are aware that in each of our sites, interpretation of the findings is complex and requires further investigation and explication. For example, the interpretation of linear measures of distances from residence to other locations is not straightforward. Drug court participants do tend to move from one location to another "as the crow flies." In fact, between some residences and destinations, man-made or natural obstacles (e.g., the Willamette River in Multnomah County and the major expressways in Clark County) lie in the path of straight point-to-point travel and may have an important role in shaping routes that offenders might travel to drugs, crime, court, or treatment. A dramatic example of this is the concentration of crime around the downtown

district in Portland shaped by the public transportation system or the high drug arrest concentration near the airport in Clark County. In addition, distance measures and other attributes of neighborhoods interact with race and ethnicity, given the tendency of the drug offenders we studied to come from relatively homogeneous residential settings.

These aspects of the findings raise a variety of issues for further investigation. However, in their current form as findings from this preliminary and exploratory analysis, they provide evidence supporting both the notions that implicitly, drug courts serve principal neighborhoods and therefore could benefit from consideration of these contexts and linkages, and that these contexts influence the prospects for success of participants in the drug court.

XI. Drug Courts as Catalysts for Change: Rural and Juvenile Drug Court Innovation in Clark County

At the end of the 1980s, many local jurisdictions were being overwhelmed by the strains placed on their justice systems by the drug caseload generated by the War Against Drugs. When the Miami officials crafted the nation's first drug court as a "homemade" strategy to deal with extreme system strain (and severely overcrowded correctional facilities), they were not thinking about setting an agenda for court innovation in the United States (Goldkamp, 1999a, 2000). Instead, they were trying to address caseload problems in a new way. Given the pressures building for major change in the justice system, the timing of the Miami Drug Court was, in an historical sense, just right. It introduced a new perspective, a new role for the judiciary, and alternative methods of disposition that focused on the problems of citizens who found themselves in the criminal caseload.

The Miami Drug Court "broke the mold" of the traditional criminal court apparatus, extending far beyond the caseflow management reforms underway in the 1980s and 1990s. The ripple effect for change in American courts set in motion by the drug court model reverberated widely and was irrevocable (Goldkamp, 2000). The footprints on the path to change could not be erased or retraced; the ideas and methods simply could not be called back. The ripple effect not only stimulated the development of drug courts across the nation (and later in many settings abroad), but also unleashed a creative movement for change that extended beyond just drug courts. The drug court response piloted in Miami not only contributed to related "problem-solving" court innovations, such as community courts, domestic violence courts, mental health courts, but also changed the landscape of criminal courts and notions of "doing justice" more broadly.

In Multnomah County and Clark County, the drug courts not only brought about change in their specific targeted areas, i.e. the felony drug caseload, they were also catalysts for other judicially focused change efforts. In Multnomah County, the development of the drug court was part of a larger change effort that included the creation of the nation's first community prosecution program (the Multnomah County District Attorney's Neighborhood DA) (Boland, 1998; Goldkamp, Irons-Guynn, & Weiland, 2001). In turn, the establishment of the drug court contributed to further change in the Multnomah County judicial system—as the emphasis on substance abuse and on community safety and livability merged—in the development of community courts in two Portland neighborhoods and paved the way for the design of a soon-to-be implemented mental health court. In Clark County, the adult drug court stimulated the development of a first-appearance drug court in Municipal Court (with a focus on misdemeanor cases), both a juvenile drug court and a dependency drug court in family court, and a rural drug court initiative. Although the drug courts in both jurisdictions represented important forces for change in the judicial system, in this section we briefly illustrate this "impact" of the drug court innovation by describing two related or "spin-off" innovations in Clark County, the rural drug court and the juvenile drug court initiatives.

The Rural Drug Court Initiative in Clark County

Since its inception in 1992, the Clark County Drug Court has handled a large volume of felony drug defendants, most of whom resided in the Las Vegas area. However, the District Court serves all of Clark County. With the principal population in Las Vegas, Clark County covers a very large geographic area, most of which is desert, rural, sparsely populated, and marked by great distances between towns. In its early years, the adult drug court discovered that a minority of cases were from the rural areas of Clark County and that, when defendants from the

rural areas chose to participate in the Las Vegas-centered drug court, they encountered challenging obstacles of distance and transportation. Moreover, they seemed to be involved in different forms of substance abuse, more often involving alcohol, the drug of choice in Nevada's rural parts. The idea behind the establishment of Clark County's rural drug court initiative was to develop a working relationship with the outlying, "feeder" Municipal Courts to extend a drug court approach to the rural felony drug court participants that would eliminate the need for them to travel up to 50 miles per day each way to meet the Las Vegas-oriented program requirements. The challenge was to bring treatment services and drug court-like accountability to the targeted rural locations, where the population was scattered and resources for treatment were largely absent.

The Rural Drug Court Program was initiated by the District Court, the Clark County Public Defender, the Clark County District Attorney, and the director of Choices Unlimited, the treatment provider for the adult and family drug courts. The initiative was based on the premise that no one rural location had enough resources or large enough case volume to support its own, self-sufficient drug court. Instead, the rural approach would be conceived as a network or a "circuit" drug court to make the drug court mechanism and treatment resources available in key rural satellite locations. The Mesquite Valley area (including the towns of Moapa and Mesquite) and Laughlin, Nevada, were selected as target locations. Laughlin, located about 90 miles south of Las Vegas, is a small casino border town near the Davis Dam and Lake Mohave, across the Colorado River from Bullhead City, Arizona, and not far from the California border in a spectacularly remote desert location in southern Nevada. The Mesquite Valley lies about 80 miles to the northeast of Las Vegas and is in an area known for its magnificent landscapes and archeological sites.

Once in operation, beginning in 1998, a district attorney, a public defender, and representatives of Choices Unlimited, traveled to Laughlin and the Mesquite Valley (rotating weeks between Moapa and Mesquite) to staff drug court calendars on alternating weeks before local Municipal Court judges, who served as the drug court judges in special sessions. These judges had to be given special authority to serve as District Court (felony-level) judges to have jurisdiction over the felony defendants and probationers in the drug court. The treatment provider rented offices in Laughlin and the Mesquite Valley (trying to rotate service locations between Moapa and Mesquite) to provide services, including drug testing, group and individual counseling, and acupuncture to the rural drug court participants on a daily or weekly basis. The rural drug court programs in Laughlin and the Mesquite Valley continued operation for approximately two years, until funding and resources ran out. During the period of the initiative, however, the Las Vegas-based drug court team piloted an approach that sought to translate the drug court model to the rural justice context and to meet the challenges of geography and scarce resources. Without additional funding, it was difficult to sustain the treatment services in those jurisdictions.

Descriptive Study of the (Rural) Laughlin Drug Court

For the purposes of descriptive analysis—and to take advantage of the opportunity to observe a pilot effort to translate the basically urban drug court model to a rural justice setting— we collected detailed demographic, criminal justice, and treatment information for a random sample of 100 participants in the Laughlin Drug Court from 1998 and 1999.[86] This descriptive analysis of the Laughlin Drug Court is included as an illustration of the Clark County "spin-off"

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[86] We contrast the attributes of Laughlin Drug Court participants with those of the Las Vegas participants to highlight their differences, not for the purposes of comparing treatment performance and criminal justice outcomes. As we have argued in earlier discussions of our drug court typology, the Laughlin Drug Court differed considerably from the urban Las Vegas-based court.

effort to bring drug treatment to the rural court population in southern Nevada. The study is not intended to assess outcomes—no comparison or control group was sampled—but rather sought to characterize the initial operation of this rural drug court experiment.

Demographic Attributes

In contrast with their urban counterparts, nearly all of the Laughlin Drug Court participants were white (93 percent). (See Figure 78.) Three-quarters of Laughlin participants were male, about half had a known alias, and two-thirds spent some time in pretrial detention before entering the drug court. Ninety-two percent of participants had a drug charge in the case that put them in the rural program, the vast majority involving either possession only (67 percent) or sale and possession charges (21 percent). During the period that the Laughlin court was beginning operation, the Clark County Drug Court was increasingly enrolling participants who were convicted of charges other than drug offenses. (Non-drug cases accounted for one-third of the Las Vegas cases by 1997.) Like the Clark County Drug Court, however, most Laughlin participants were convicted offenders sentenced to the drug court as a condition of probation or as part of a guilty plea; only 14 percent were admitted as part of diversion.

Figure 78 Selected Demographic and Current Case Attributes among Laughlin Drug Court Participants, 1998 - 1999

Race (n = 100): White 93, African-American 2, Hispanic 5

Gender (n = 100): Male 77, Female 23

Alias (n = 100): Yes 49, No 51

Drug Charges in Current Case (n = 100): No 8, Possession Only 67, Sale Only 4, Sale and Possession 21

Pretrial Release (n = 100): Not Released Pretrial 0, Released at Bail Hearing 34, Released from Detention 66

Drug Court Entry (n = 100): Diversion 14, Condition of Probation 18, Pled Guilty 68

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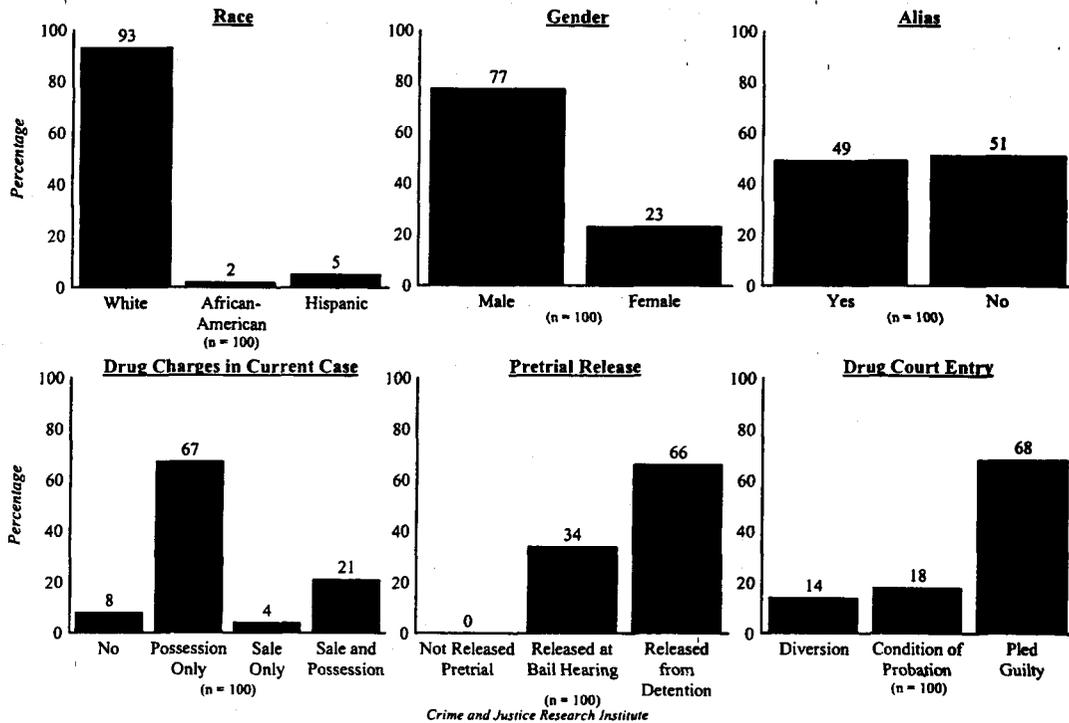
Prior Criminal History

In their prior criminal histories, the Laughlin Drug Court participants were nearly as experienced in the criminal justice system as their Las Vegas counterparts. Figure 79 shows that two-thirds of Laughlin participants had prior arrests and 59 percent had arrests within three years of their participation in the program. Only eight percent have prior arrests for serious person offenses (compared to 27 percent for the Clark County court), and 12 percent had prior arrests for serious property offenses. Again, like the Clark County Drug Court participants, nearly half had prior arrests for drug charges and more than half had at least one prior felony arrest. In contrast to their fairly extensive history of prior arrests, only 15 percent of the Laughlin Drug Court participants had a prior conviction of any sort. (This compared to about 50 percent of the Las Vegas participants.) Like other drug offenders, they had extensive records of failing to appear in court (40 percent).

Figure 79 Selected Prior Criminal History Attributes among Laughlin Drug Court Participants, 1998 - 1999

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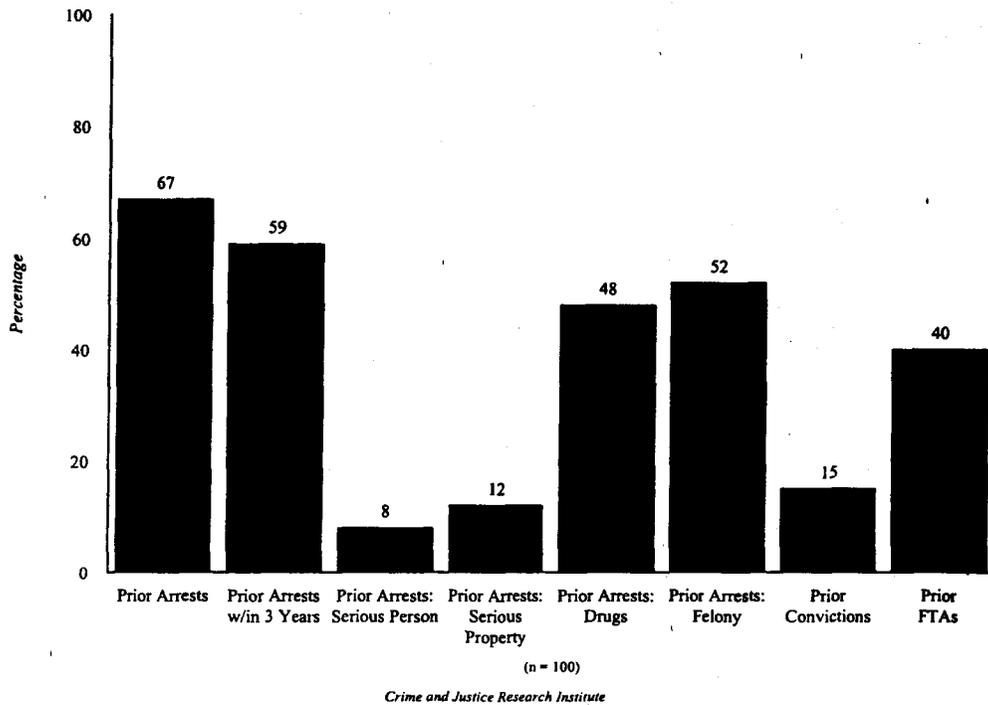
Assessment Information

Nearly two-thirds of participants in the rural drug court program were not residents of the state of Nevada. (See Figure 80.) The fact that most (58 percent) came from Arizona is not surprising given that Bullhead City is separated from Laughlin only by a river and that many Arizona residents come to Laughlin to work in casinos and related businesses. Most of the Laughlin participants had graduated from high school (63 percent) and were gainfully employed at the time of their assessment (54 percent full-time, 11 percent part-time) for the drug court.

Marijuana and methamphetamines were the preferred drugs of choice indicated by the drug court participants at the treatment assessment stage, often in combination. Use of cocaine or crack cocaine was rarely mentioned and there was no self-reporting of heroin use. Our findings from the Clark County Drug Court showed that the type of substance abused by participants differed by race/ethnicity, with methamphetamine and marijuana use more common

among the white participants. Laughlin participants, mostly white, seemed to share those preferences. Less than half of the Laughlin participants tested positively for drugs at assessment. This is not surprising in a population that is primarily at the probation or post-conviction stage (with arrest occurring weeks or months earlier).

Figure 80 Selected Assessment Attributes among Laughlin Drug Court Participants, 1998 - 1999
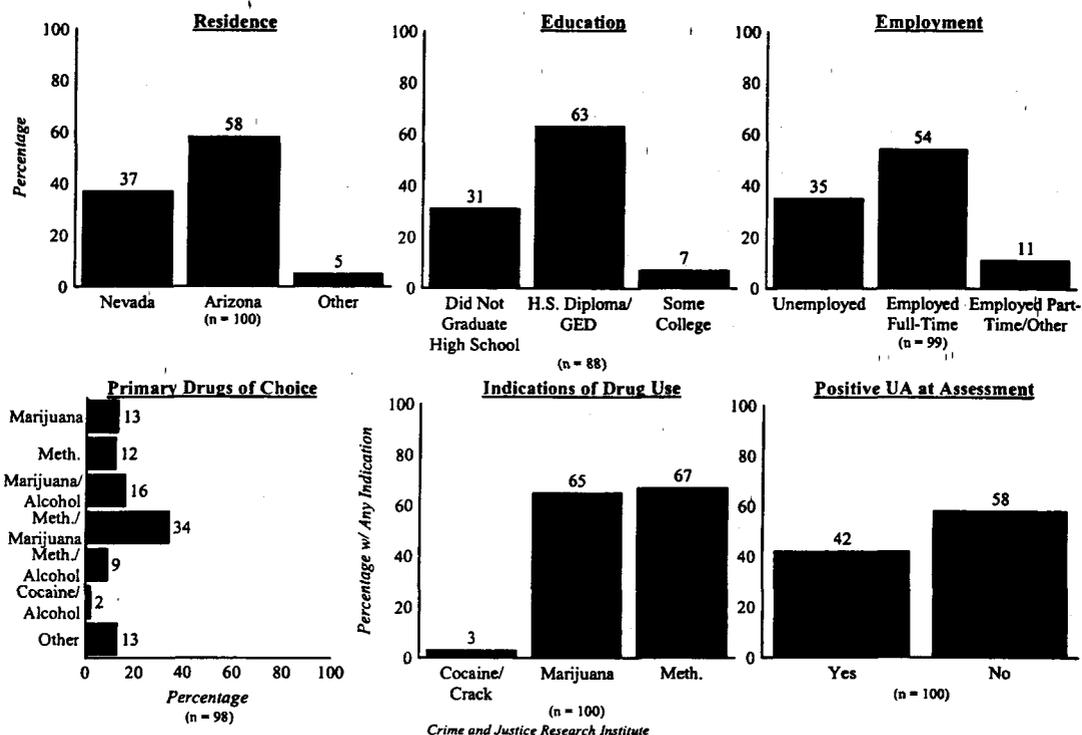
Participant Performance and Early Treatment Outcomes

Figure 81 summarizes selected treatment performance and outcome measures one year after entry into drug court. (Like the Clark County court, the Laughlin Drug Court required a minimum of 12 months in the program in good standing before permitting graduation.) More than three-quarters of participants recorded at least one positive drug test (the median number of positive tests was four) while in the drug court. Nearly all missed at least one treatment appointment. However, many missed quite a few treatment sessions (with a median of 19

missed appointments). Roughly one-third of the Laughlin participants received at least one sanction by the drug court judge.

Non-compliance among the Laughlin Drug Court participants occurred fairly early when it did occur. They recorded their first positive drug test in about a (median) day or two from orientation and on average (median) recorded the first missed appointment in just over a week. The median time to first sanction by the drug court judge, however, was 153 days. These findings demonstrate tolerance on the part of the rural drug court judge, as participants clearly struggled through the early part of the treatment regimen.

Figure 81 Selected Treatment Performance and Outcome Measures among Laughlin Drug Court Participants, 1998 - 1999, during a One-Year Observation Period
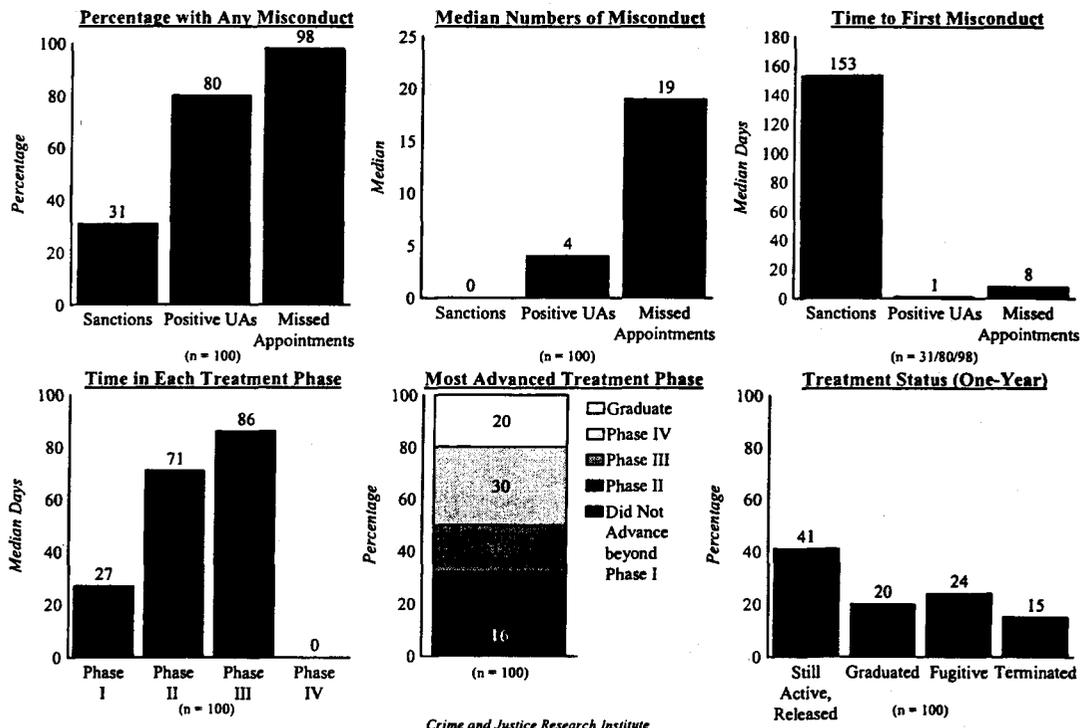
The Laughlin Drug Court participants spent, on average, just under one month in Phase I of the treatment program, more than two months in Phase II, and nearly three months in Phase III. Less than half of the participants advanced to Phase IV (47 percent) within the first 12

months. By the 12-month mark, about one-third of participants did not advance into later phases of treatment (III or IV), 30 percent were in Phase IV, and 20 percent graduated.[87] At one year, 41 percent of the rural participants were still active and in good standing, about one-fourth were fugitives, and 15 percent had been terminated from the program.

Rearrest within Six Months

We were able to employ only a six-month follow-up period from the time of admission to drug court to determine the extent to which Laughlin participants found themselves rearrested on new charges.[88] (See Figure 82.) Slightly more than one-fourth (26 percent of participants) were rearrested for some criminal offense (excluding bench warrants) within the first six-months. Twelve percent of participants were rearrested for drug offenses; few (only 4 percent or less) involved serious person, serious property, felony theft, or weapons offenses. About 12 percent of the Laughlin participants were rearrested on drug court bench warrants in the first six months.

In the first six months, nearly half of the Laughlin participants had failed to appear in court at least once, and one-third was confined at least once during the follow-up period. Participants who were rearrested took, on average, 102 days to their first new offense, or slightly longer than 3 months, with a median of 69 days to first failure to appear in drug court and a median of 100 days to first jailing after entry into the drug court.

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[87] Differences between median times in each treatment phase and the most advanced treatment phase, particularly with regard to Phase IV and graduation, are a result of some participants graduating directly from Phase III.
[88] Because of resource and time constraints, we were not able to extend the criminal justice follow-up beyond six months.

Figure 82 Selected Criminal Justice Outcomes among Laughlin Drug Court Participants, 1998 - 1999, during a Six-Month Observation Period

Percentage with Misconduct

Bar chart (Percentage):
- Arrest (Excluding BWs): 26
- FTAs: 47
- Confinements: 31

(n = 100)

Types of Follow-up Arrest

Bar chart (Percentage):
- Bench Warrant: 12
- Serious Person: 4
- Serious Property: 1
- Theft/RSP: 0
- Drugs: 12
- Weapons: 2

(n = 100)

Times to First Misconduct

Bar chart (Median Days):
- First Arrest (Non-BW): 102
- First FTA: 69
- First Confinement: 100

(n = 26/47/31)

Days Confined

Bar chart (Median Days):
- Days Confined (All Participants): 0
- Days Confined (Only Participants w/ Confinements): 7

(n = 100/31)

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Summary: The Rural Drug Court Initiative in Laughlin

The drug court team from the pioneering Clark County (Las Vegas) Drug Court planned and implemented an effort to translate the basically urban drug court concept to geographically far-flung rural jurisdictions within Clark County. The Moapa and Mesquite rural drug courts operated from March 1998 through January 2000, when they were discontinued due to lack of resources to support treatment. The Laughlin Drug Court, located in a larger population center, operated for about two years, discontinuing its services in June 2000.   The Laughlin description focused on a new court in the early stages of operation.

Relative to its population base, the Laughlin Drug Court was successful in enrolling a large number of felony defendants and convicted offenders who had serious substance abuse problems, mostly with methamphetamines and marijuana, and fairly extensive arrest histories.

In its brief history, our random sample of 100 study participants missed a large number of treatment appointments—apparently starting shortly after entering the program and a substantial number recorded positive drug tests. About one-third were sanctioned, with sanctions coming a good while after the non-compliant episodes. At year's end, about one-fourth of the initial participants were fugitives from the drug court and about 15 percent had been terminated for non-compliance with the program requirements. In the first six months, one-fourth of participants were rearrested for new criminal offenses, mostly drug offenses with few involving serious (felony-level) crimes against the person or against property. These preliminary and early stage results suggest that the Laughlin Drug Court had indeed enrolled challenging substance-abusing offenders who had a need for close supervision and effective treatment.

The Clark County Juvenile Drug Court[89]

By 1995, it had become clear to Clark County officials that the number of cases being filed in the Juvenile Division of the Family Court of the Eighth Judicial District was increasing notably, and that an increasing percentage of those youth were drug-involved. Also clear was the absence of a mechanism to guarantee substance abuse treatment for adjudicated delinquents seeking such services. The Clark County Juvenile Drug Court officially began operation in March 1995 as a spin-off of the pioneering adult Drug Court, making it one of the first such specialized courts for juveniles in the nation. The main rationale for developing the Juvenile Drug Court was to devote special attention to a core group of juvenile offenders for whom substance abuse is a key part of their involvement in delinquency. The focus on juveniles and their families led Clark County officials to develop a dependency drug court as well, to deal with matters of custody and support.

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[89] We are particularly grateful to Chuck Short, Court Administrator for the Eighth Judicial District of Nevada, Kendis Stake, Drug Court Manager for Clark County, and Judge Robert Gaston for their support and assistance in our descriptive research studying the Clark County Juvenile Drug Court.

Although the main focus of our evaluation research in Clark County was the adult drug court in Las Vegas, we observed Juvenile Drug Court sessions as it operated before changes in January 1999 and conducted a preliminary, descriptive study of the Juvenile Drug Court during that year as the newly appointed presiding judge of the juvenile court sought to re-examine and revamp its approach in some depth.

Clark County's Juvenile Drug Court: Preliminary Observations

The description of the Juvenile Drug Court covered the period, Fall 1999 and is intended as a summary of preliminary observations carried out in advance of its planned modification. These observations were provided to the presiding judge for his consideration in the planning process.[90] We emphasize both the "informal" and "preliminary" nature of these observations.

Our comments are based on interviews and discussions with court officials, in-person observation of juvenile court hearings, and review of three tapes of approximately three days worth of hearings for each of the three masters. We organize our discussion into a description of the drug court model as applied to the juvenile court setting, summary of key features of the juvenile drug court as we see it (at least based on our preliminary observations), and critical review of some of the features of the Court when considered in light of the tenets of the drug court model.

Adapting the Drug Court Model to Juvenile Court

The diffusion of the drug court model to many adult court systems around the country rests on a variety of assumptions, including the following:

- A large part of the (recurring) criminal caseload of the courts is substance-abuse involved and, for that part, substance abuse plays a major role in explaining involvement in the criminal justice system and crime.

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[90] We provided these observations to the Honorable Robert Gaston at his request.

- The traditional "refer-out" relationship between the criminal courts and treatment providers (via diversion, probation, parole) has been ineffective in reducing substance abuse and related criminality within the criminal justice population.
- Drug courts are based on a new (but not exactly equal) working relationship between the courts and treatment providers that brings treatment more centrally into the court process under "hands-on" judicial supervision, giving a new role to the judge, other courtroom actors, and the courtroom itself.
- Judicially supervised treatment, when combined with ancillary services, will provide accountability that increases the effectiveness of treatment, enhances the productivity of the lives of participants as citizens, and reduces drug-related crime.

Other assumptions of the drug court model have to do with the power of the role of the judge in a treatment court setting, the importance of accountability, including the selective use of incentives and sanctions (Janet Reno's "carrot and stick"), and the importance of the drug court "team" (including defense, prosecution, probation, pretrial services, treatment providers, health, various courtroom staff, jail, etc.).

Application of this model to the juvenile court is not straightforward and raises several fundamental issues in devising a "juvenile drug court model." To oversimplify somewhat, they include:

- how the tenets of the adult drug court model apply to the special philosophy and purpose of the juvenile court, which, at least at its origin, was based on *parens patriae* and making decisions "in the best interests" of the child;
- how the treatment approach from the adult model can be adapted to address the special problems of youths involved with drugs (including families and schools in particular); and
- how the judge, the courtroom and the drug court team can be adapted to carry out the aims of the Juvenile Drug Court (assuming the prior issues are resolved) most effectively.

The Drug Court Model and Juvenile Court Mission: This first question, really asking how a "juvenile drug court" differs in concept from a "juvenile court," has had two kinds of responses in court systems planning for juvenile drug courts around the country. The first response says that the juvenile court has now changed so much from its original mission—that it increasingly resembles an adult court, or at least serves as a feeder court to the adult system—

that a juvenile drug court can serve as a means for restoring some of the original values to the juvenile system based on treatment and assistance, rather than punishment. The second response finds that juvenile court, because of its different philosophy, serves as a better vehicle for the treatment-oriented drug court model than the adult court does. This argument finds the values and practices of juvenile court to be much more compatible with the operating assumptions of the treatment court model.

Adapting the Treatment Approach to Address the Problems of Juveniles: Once the conceptual questions about applying (translating) the drug court concept to juvenile court have been addressed, the next set of questions relate to the nature of the services that would be provided to juveniles in the drug court setting. The nature of services to be provided logically would be determined by an analysis of the problems associated with juvenile substance abusers in the justice system. Thus, in differentiating the juvenile drug court approach from the adult model, courts dealing with these planning issues have emphasized the following:

- The different nature of substance abuse among youths (including alcohol, inhalants, other drug use)
- The importance of family (the role of parents and siblings) and the home
- The role of peers (positive and negative)
- The importance of the school and of linkage with the school system
- The importance of linkage with other social services dealing with children and families (human services, welfare, health)

Beyond providing these kinds of services, adaptation of the drug court model to the juvenile setting would also require some thinking about coordination and presentation of these services, and how the equivalent of the "new working relationship" described under the adult model above would be integrated into the operation of the juvenile drug court courtroom.

The Drug Court Courtroom "Team": Adult drug courts have changed the courtroom setting by eliminating (or greatly reducing) formal, adversarial procedures and, in some of the

best sites, making use of the setting and the courtroom actors in a way that maximizes the impact of treatment. (Some judges have seen drug courts as an example of "therapeutic jurisprudence.") Thus, the questions for the juvenile drug court in this area are, a) "Who makes up the courtroom team?" and, b) "How should their roles differ from normal juvenile court proceedings?" In short, the questions would center on how the juvenile courtroom and the roles of the juvenile court officials would be adapted to serve the special purposes of the Juvenile Drug Court and enhance the treatment process.

This summary of some of the tenets of the adult drug court model and the questions raised by the model when translated to the juvenile court setting is provided to illustrate how we would begin to look at the Juvenile Drug Court, both preliminarily as we do here, and in more depth in a more formal evaluation at later stages of development.

Description of the Court

As we suggest in our introduction, we do not attempt to provide a full description and history of the Clark County Juvenile Drug Court in this report. Nevertheless, to ground our discussion of preliminary observations, it is useful to highlight (as a frame of reference) what we believe were some of the most salient operational elements of the Court prior to 1999:

- The Juvenile Drug Court then operated in three sessions each month; each session supervised by an individual master. The cases were assigned to each master alphabetically, with caseloads averaging about 30 juveniles each.
- Juveniles were identified at the (pre-) disposition stage, after having been adjudicated delinquent (i.e., this is not a pre-adjudication diversion-type option). They were on probation while in the Drug Court.
- Participation was voluntary on the part of the candidate juveniles, once juveniles had been assessed (to be in need of substance abuse treatment by the provider, and not to be a danger by probation), were found to have three referrals for drug-related matters (including the current referral, not including drug sales), and parents agreed to participation.
- Juveniles (with parental consent) were provisionally admitted for three to four weeks until formally admitted at a Drug Court session.
- Juveniles could not repeat the Drug Court experience (they were permitted one chance).

- Juveniles entering the court may or may not have been facing the likelihood of secure confinement as a disposition, but the Drug Court operated in a setting that had limited local capacity for secure detention.
- The four-phase treatment program was designed for a 12-month period, with some earlier graduation in successful cases. This included two to three group sessions per week, supplemented by individual sessions. Acupuncture was mandatory during the first phase (detoxification). Urinalysis was required three times per week during Phases I and II, two times per week thereafter.
- The juvenile attended a monthly Drug Court session, accompanied by a parent.

Application of the Drug Court Model to the Juvenile Court in Clark County: The Target Population Rationale

We have not discussed the origins of the Juvenile Drug Court in Clark County with local officials in sufficient depth to feel confident about our observations concerning the rationale for its separate existence. We would like to begin even preliminary assessment of the Juvenile Drug Court by asking, "Why do you need a drug court for juveniles?" and "What is it that the drug court would do that juvenile court cannot do itself?" Depending on the answers to those questions, we would know how to assess the development and operation of the Drug Court in light of its special mission.

The Juvenile Drug Court "handbook" did not appear to address the special mission of the Drug Court beyond stating that "The Juvenile Drug Court is a twelve-month program aimed at intervening in drug-using and criminal behavior through intense supervision and participation in recovery services." It is our impression from interviews we conducted that the main rationale for the Juvenile Drug Court was that the Court wished to devote special attention to a core group of juvenile offenders for whom substance abuse appeared to play a key part of their involvement in delinquency. In our discussions, officials emphasized the increasingly serious role that substance abuse appeared to play in the behaviors of youths processed in juvenile court. Thus, at least the implicit rationale for the Juvenile Drug Court was one based on the need to deal with a

significant target population differently. Hence, the need for a special court devoted to substance-involved youths.

Access to that significant target population was narrowed by the structure of the Juvenile Drug Court because it focused only on adjudicated youths who reached the disposition stage of the process. Although there may be many practical reasons for that focus (such as the issues and rights associated with juveniles at the pre-adjudication stages of processing), the Court's target was made more restrictive than the available target population by including only those reaching the disposition stage. In addition, provision of treatment and the intensive supervision provided by the Juvenile Drug Court was delayed until the disposition stage, making the impact of the Court less "immediate" than its adult counterparts in Las Vegas and elsewhere where they focused on diversion at the post-arrest stage.

Adapting the Drug Court Treatment Approach to the Problems of Juveniles

In the area of translating the adult treatment model to a juvenile court setting, we can identify questions worth investigating in greater depth as the court continues to develop and grow.

Dealing with Different Substance Abuse Patterns and Treatment Needs: One of the implications of translating the drug court model from the adult to the juvenile setting is that the problems and needs for services associated with juveniles will be quite different from those dealt with in adult court. Although some juvenile substance abusers have "habits" as serious as adults, many have different sorts of abuse problems, perhaps focusing more on alcohol, inhalants of various types, or precursor drugs that suggest more serious problems ahead. A question we are not able to answer at this point is how the treatment approach employed by the Clark County Juvenile Drug Court addressed the sometimes special and different nature of substance abuse

among the young. (The manual describes the phases and requirements of outpatient treatment, but does not explicitly address the special issues that might be presented by juvenile drug use.)

Difficulty in Addressing the Role of Parents in Changing the Behavior of Youths: The Juvenile Drug Court and the treatment program have recognized the central role of the parents in dealing with substance abuse and delinquency problems. Hours of observation of the Drug Court video-recorded sessions revealed that each master emphasized the role of parents, routinely speaking with them about the youth's progress at home during court status reviews. The treatment program gave incentives for participation of parents and even held parent groups to address the special problems parents may face. Interviews with the treatment provider and at least one of the masters indicated that encouraging active participation on the part of parents represented one of the greatest challenges of the Juvenile Drug Court process.

Absence of a Central Role for the School System: The treatment program incorporated a role for school attendance in a juvenile's progress through treatment. However, preliminarily at least, it appeared that meaningful involvement of the school system in the work of the Juvenile Drug Court had been absent. Development of a partnership with the school system was a major element that was subsequently added by Judge Gaston—a former school principal—to the Court to enhance the effectiveness of its treatment approach.

Addressing the Role of Peers: We are not able to identify specific ways in which the Juvenile Drug Court had sought to deal with the positive and negative influences of peers on juveniles who were involved in drugs and delinquency. This may be because we were simply unaware of the Court's approaches in this area. However, the role of peers is likely to be important in a drug court approach adapted to handle the behaviors of juveniles.

The Role of the Judge, the Courtroom and the Drug Court Team

The Use of the Drug Court Courtroom: Two of the three hearing masters whose sessions we observed proceeded on a case by case basis with one juvenile (and parent) at a time being ushered into the courtroom to appear before the judge. This approach more resembled traditional juvenile court proceedings in which the full attention of the judge (and use of the courtroom) is focused on the matter of the juvenile before him or her. The advantage of this approach is the individual attention given to each juvenile's case. In the Drug Court setting, it represented a rather private hearing and, often, personal conversation among the court actors and between the judge, the juvenile, and his/her parent(s).

This single-case-in-the-courtroom-at-a-time approach in the Juvenile Drug Court did not resemble the method usually taken by adult drug courts. Rather, on the theory that the courtroom and its actors were to be employed to maximum "therapeutic effect," most adult drug courts fill the courtroom with the day's participants before beginning to address each individual's progress and status. This approach has been taken because of the belief that participants gain important insights observing court proceedings as other cases are dealt with. In short, under this adult drug court model, the courtroom has been viewed as an important tool for educating individuals about the treatment process—in fact, some courts organize courtroom proceedings in a certain order to obtain maximum educational impact. So, for example, new participants might go last, so that they can observe all the other kinds of situations in which drug court participants might be found. Persons about to be terminated or being held on bench warrants might go first, as part of an object lesson about how failure to follow the requirements of the program is dealt with. Next, a particular judge might hold status or progress-review hearings in which the individual progress of each enrolled participant is discussed. The positive and negative developments involving

other individuals as they progress through treatment and the responses of the judge and other actors in the courtroom can serve as important information for the new participant about what to expect in the program.

In contrast, one of the three hearing masters did gather all of the day's participants and parents into the courtroom before the beginning of proceedings. All watched as juvenile participants had their appointment before the judge: some graduated and were commended, some were involved in long and difficult discussions about their progress in the program, and some were sent into temporary secure detention or terminated from the program and sent to other facilities. This approach had two effects: a) it treated the courtroom as a classroom where all were observing and, hopefully, learning; and b) it dealt—at least indirectly—with the role of peers. When appearing before this hearing master, each juvenile had his or her business dealt with in front of peers and family members. Thus, this hearing master used the courtroom to great advantage in "spreading the word" about Drug Court to a large number of people, providing dramatic examples of its expectations and consequences.

The Drug Court Team: From our observation and review of the tapes of hearings of the three masters, the Juvenile Drug Court team included the judge, a probation officer (sometimes alternating in different cases), a prosecutor, a representative of the treatment provider, a clerk, and a bailiff (court officer). The three hearing masters differed in their approaches with individual cases (i.e., they differed in their "routines"). Nevertheless, they shared in common the central role they gave to the probation officer. The probation officer usually started off each case by summarizing the progress of the juvenile in treatment to date, including a statement about the positive achievements or the problems associated with each case. The probation officer usually concluded with a recommendation either advancing the juvenile in the program or calling for

certain action by the judge, including termination and, sometimes, confinement. The prosecutor was infrequently consulted; however, when he was consulted, it usually had to do with a new arrest or a request to terminate a non-compliant participant. The treatment provider representative was called upon differently by different masters, playing a more central role (as the up-to-date information provider on treatment progress and attitude) for one master and a more marginal role for the others.

The custom of opening the court with the probation officer's report seemed "normal" from some perspectives. First, this role is compatible with the traditional and special role of the probation officer in juvenile court proceedings. Second, because the Clark County Juvenile Drug Court involves juveniles who are also placed on probation, it follows that the Juvenile Drug Court emphasizes probation, and seems, at least in this respect, to resemble a juvenile "probation" court. Thus, a real difference in the roles between the adult drug court model and the juvenile drug court is that the probation officer has become the spokesperson for the treatment experience and the progress of the youth. This version of the "new working relationship" between the judiciary and the drug treatment that shaped the original adult drug courts appeared to place the probation officer at the center of the process and leave a more marginal, informational role for the representative of the treatment provider. In fact, that relationship remained fairly close to the traditional "referred out" arrangement between the court, probation, and treatment.

Other Observations

Our review of the tapes of each of the hearing master's sessions raises a variety of questions that may be worth considering as the Juvenile Drug Court continues to develop and change. We highlight these briefly here.

Multiple Judges (Hearing Masters): A number of drug courts in the country have thought about whether it is possible to create a drug court caseload that is distributed over several judges on a part-time basis to be worked into their other overall responsibilities. In some settings, this approach has some real benefits, including sharing of the workload, resource efficiency, and the availability of back-up judges to cover when necessary. For the overall drug court program to be coherent, however, this model presumes a great deal of mutual consultation and coordination among the different judges as well as between the team of judges and the other courtroom actors. Perhaps the most important disadvantage associated with the multiple judge approach is inconsistency in program presentation (participants in the different courts may feel that they are in different drug court programs) and lack of close coordination between the several judges and the agencies that serve the drug court.

The tapes of the different masters showed different styles, as one would expect, but each master appeared committed, interested in the youths, and genuinely engaged in the treatment process and in discussions with the youths and their parents. The masters had slightly different ways of proceeding. (An important exception, as we noted above, was in their use of the courtroom, with one master bringing all participants in for the whole session.) They had different ways of preparing for each individual hearing, they differed in how they relied on the courtroom actors, and employed different responses to positive and negative developments in particular cases. It appeared from the cases we were able to observe that the masters differed as well in their use of confinement.

Given the relatively small drug court caseloads supervised by each master, a question for the future development of the court is whether program consistency could be improved and resources better coordinated with a single caseload to be supervised under a single judge. This

approach might enhance the prospects of developing useful relationships with the school system and other important service organizations as well. Our discussions with participants in adult drug courts (including in Las Vegas) suggest that the single-judge approach may prove more effective and help hold participants fully accountable for their behaviors. Earlier in this report, we examined empirically the effect of judicial staffing changes on drug court outcome—and found them to be significant.

Targeting and Caseload: We were simply unaware of the rationale for the focus on the population targeted by the Juvenile Drug Court, consisting of drug-involved youths with two prior involvements who were at the disposition stage in a current case. Our observations and interviews raised two questions that may, nevertheless, be worth exploring in the future: Are there other target populations (including other categories of youths at other stages of processing) that could be addressed by the Juvenile Drug Court? If not, is the court fully reaching and "enrolling" the current population? In our discussions with masters, we were given the impression that the caseloads were "self-limited." We are uncertain why this policy was followed, but the policy itself suggested that greater numbers of youths might have benefited from the court even if then-current targeting procedures were not to change.

Responses to Progress in Treatment (Sanctions and Incentives): We note that in the "handbook" rewards and sanctions were outlined to guide the juvenile's progress through the treatment program. That appears to reflect a balanced and thoughtful approach to treatment allowing for encouragement for positive progress (incentives) and penalties for failure to perform at an acceptable level. In court, we saw variation among the masters in how incentives and sanctions were distributed. Without unfairly pointing to one style over another, it is fair to say that less attention was given to positive progress in some instances and more attention was given

to negative developments. Perhaps the probation orientation of the court made this somewhat predictable, but the apparent ready emphasis on confinement made the "thrust" of proceedings seem punitive, and, in fact, risked making the court seem more focused on punishment than on treatment. It was certainly a matter of philosophy as to how encouragement to treatment and discouragement through punishment might be balanced. Our preliminary impression was that there was a heavier emphasis on the threat and use of secure confinement than on other possible responses. Thus, one suggestion for consideration is whether a fuller range of negative and positive responses might be developed, reserving confinement for special emphasis.

Treatment Program Length: The treatment program for the Juvenile Drug Court was described as averaging about 12 months, certainly a fairly long period in the lives of youths. The program description explained how excellent progress through the phases of treatment could result in reduced obligations (fewer group sessions, less frequent testing, less community service, etc.) and a shortening of the overall treatment experience. This flexibility in the treatment process appeared to offer an important advantage, given the different needs and problems individual juveniles might have. In adult courts, flexible programming has run into questions about equal treatment of defendants and offenders. In short, the issue is that persons with very serious substance abuse problems will have a more difficult time in treatment, may need more resources, and may take considerably longer to achieve a successful treatment outcome than those who have more minor substance abuse problems. This issue may not be as critical in the juvenile court setting, but it still raises questions of whether persons with "real" problems find themselves disproportionately disadvantaged in a system that may be designed to expect less serious cases. This question becomes more significant to the extent that secure confinement is used as a response to poor performance. When this is so, one can predict in advance that

juveniles with serious problems of addiction will be spending notably more time in confinement during the Juvenile Drug Court process. If this is so, perhaps alternatives or intensive services could be devised that anticipate these results and address the special challenges associated with the more difficult part of the treatment population.

Conclusion: Observations of the Clark County Juvenile Drug Court

The observations we have reported capture the operation of and issues presented by the Clark County Juvenile Drug Court in the Juvenile Division of Family Court. They are, in a sense, observations of one of the first juvenile drug courts in the United States carried out shortly in advance of a fairly major restructuring and enhancement of its program by Judge Gaston, who assumed responsibility for the Juvenile Division and for the Juvenile Drug Court beginning in 1999.

Descriptive Study of the Clark County Juvenile Drug Court during 1999

Because Judge Gaston wished to draw on as much information and critical feedback as possible in his re-examination of the Juvenile Drug Court, we were able to carry out a descriptive, implementation-oriented study in the year he began to make changes to the program. During that year, Judge Gaston took over sole responsibility for the drug court calendar, and replaced the three-master, limited calendar approach with a single juvenile drug court judge, himself. Other emphases in his year of improving the program's operation included a much greater involvement and better working relationship with the schools and after-school programs, and an emphasis on parental involvement in their children's treatment process.[91] To provide a descriptive study of the youth served by the Juvenile Drug Court in its year of change, we

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[91] The court agreed to a prospective evaluation of the drug court following the implementation, process-oriented study. We were unable to secure funding to carry out the evaluation using a planned experimental design.

collected demographic, assessment, and criminal justice data for all juveniles entering or active

in the program during 1999 (n=145).[92]

Demographic Attributes

The demographic and current case attributes of the youth entering the Juvenile Drug

Court during 1999 are highlighted in Figure 83. Most juvenile participants were white (79

percent), male (81 percent), and between the ages of 15 and 17. Most did not have a known alias

(85 percent), and approximately 60 percent had been adjudicated delinquent on a case involving

drug charges. About 40 percent of juvenile participants did not have drug charges in the current

case that precipitated their involvement in the drug court. Nearly all participants entered the

program as a condition of probation, following delinquency adjudication.

Figure 83 Selected Demographic and Current Case Attributes among Clark County Juvenile Drug Court Participants, 1998 - 1999

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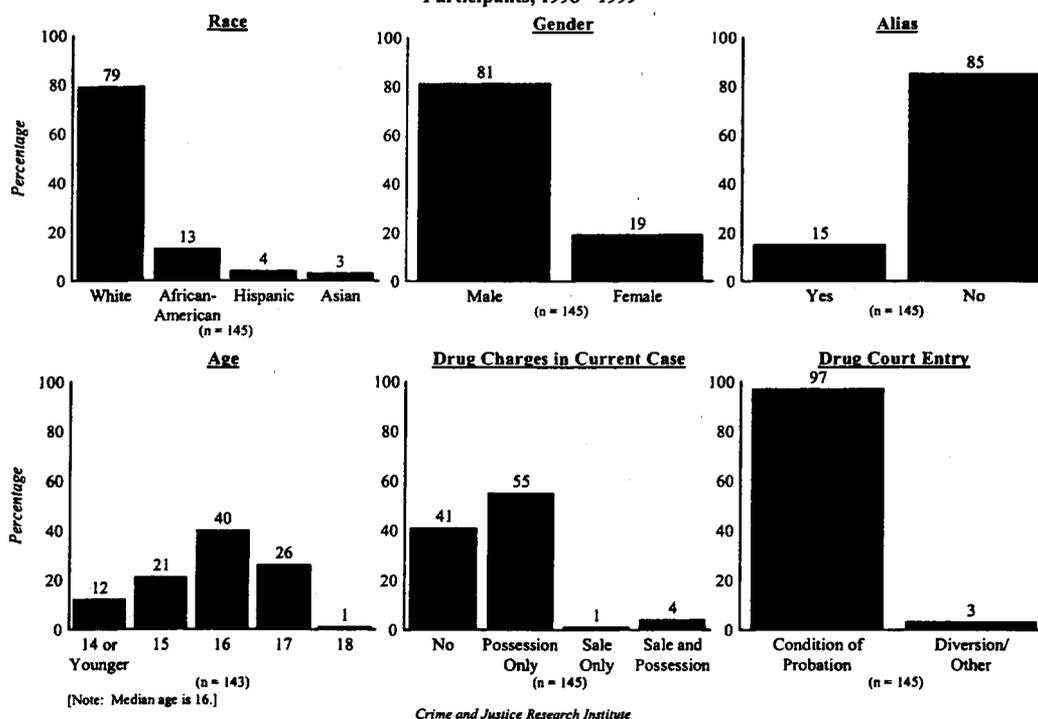
[92] Although we originally intended to study only those youth entering the program after January 1999, when Judge Robert Gaston began presiding over the court, we also included 21 youths who entered in 1998 and were active under Judge Gaston's supervision during 1999. Unfortunately, we were not able to capture treatment performance and outcome data.

Prior Juvenile Histories

The juveniles enrolled in drug court were seldom first-time offenders; on the whole, they had extensive prior involvement in the justice system, particularly given their ages. Nearly all of the 1999 participants had prior arrests (94 percent), the vast majority occurring within three years of their drug court participation (92 percent). (See Figure 84.) Seventy percent had a prior felony arrest: 15 percent for serious person offenses, 17 percent for serious property, 28 percent for felony theft, and 63 percent for drug offenses. Although only 24 percent have a prior failure to appear (FTA), nearly three-quarters have prior delinquency adjudications.

Figure 84 Selected Prior Criminal History Attributes among Clark County Juvenile Drug Court Participants, 1998 - 1999
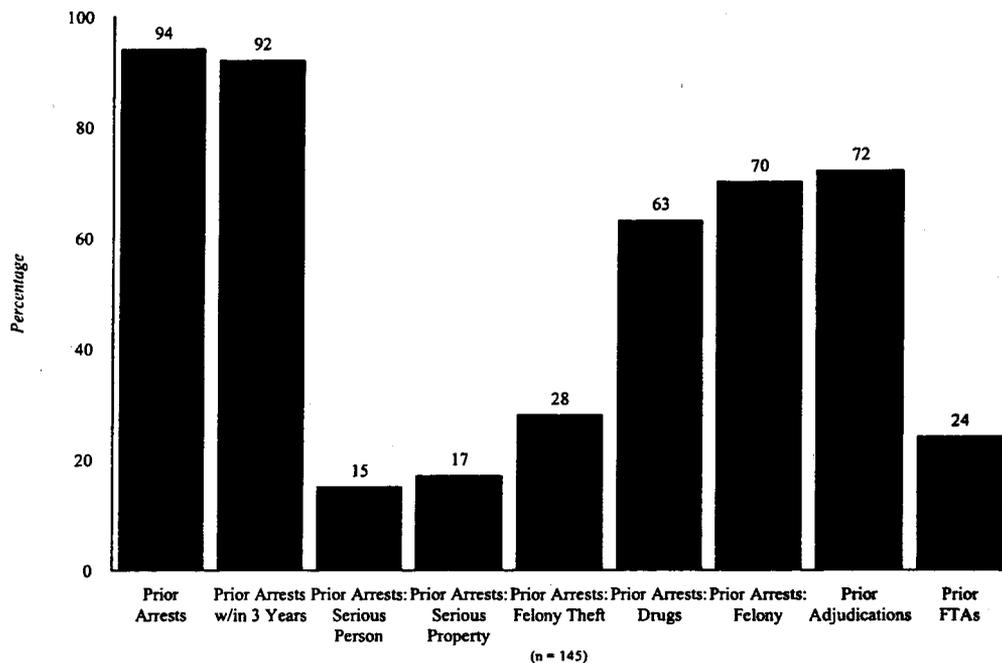
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School and Family

Most participants were in the ninth, tenth, or eleventh grade at the time of their arrest, though one-quarter was not actively enrolled in school (had dropped out previously). (See Figure 85.) Participants' self-reported relationships with their mothers and fathers differed

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notably. Thirty-seven percent of participants reported having a positive relationship with their father, compared to 80 percent reporting a positive relationship with their mother. Thirty-two percent reported a negative relationship with their father, compared to only 13 percent with their mother. Participants were also much more likely to report no relationship with their father than with their mother (32 percent versus six percent). Participants with siblings generally reported positive relationships with their brothers and sisters.

Figure 85 Selected Assessment Attributes among Clark County Juvenile Drug Court Participants, 1998 - 1999

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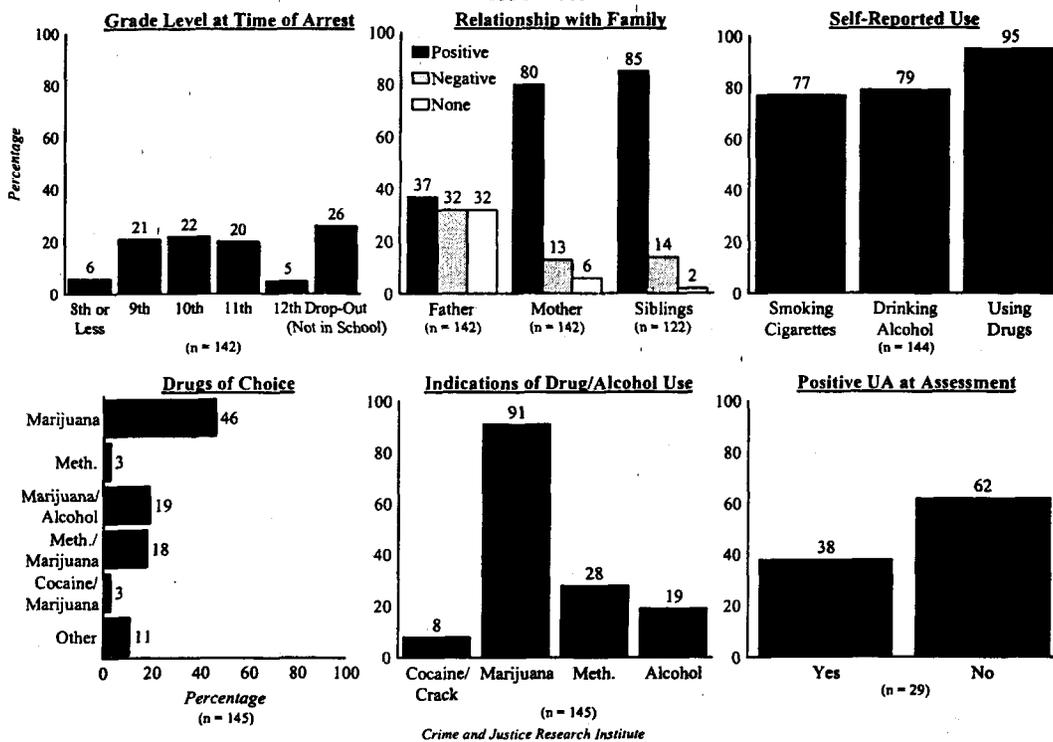
Drug and Alcohol Use

Most of the Juvenile Drug Court participants reported smoking cigarettes and drinking alcohol (77 percent and 79 percent, respectively), and nearly all (95 percent) admitted drug use at assessment. Marijuana was overwhelmingly the primary drug of choice, either alone (46 percent), or in combination with alcohol (19 percent) or methamphetamines (18 percent).

Overall, 91 percent of the juvenile participants had some indication of marijuana use. Over one-quarter of participants had some indication of methamphetamine use, and only eight percent had an indication of crack/cocaine use. Sixty-two percent of participants tested negatively for drugs at assessment. (This may not be surprising because most were entering the drug court at the disposition stage, long after their arrest—when they may well have tested positively.)

Reinvolvement in the Justice System during a One-Year Follow-up

More than two-thirds (69 percent) of the 1999 participants recorded at least one follow-up arrest (excluding bench warrants) during a one-year observation period, 15 percent involving serious person offenses, five percent serious property, 11 percent felony theft, 16 percent drugs, and 10 percent weapons offenses. More than three-quarters of the participants were arrested on a bench warrant while in drug court, most of which involved drug court failures-to-appear. An extraordinarily high proportion (88 percent) of participants were confined at least once during the one-year observation period, and 44 percent recorded a failure-to-appear at a scheduled drug court appearance resulting in a bench warrant.

Median time to each type of misconduct shows that participants averaged 80 days to their first arrest, 71 days to their first failure-to-appear and 38 days to their first confinement. The relatively short time to first confinement likely reflects jail sanctions issued by the drug court judge as a result of treatment non-compliance, since other types of criminal misconduct likely to result in confinement occurred later in time. Juvenile Drug Court participants spent nearly a month in jail during the year following their entrance into the Juvenile Drug Court program.

Figure 86 Selected Criminal Justice Outcomes among Clark County Juvenile Drug Court Participants, 1998 - 1999, during a One-Year Observation Period
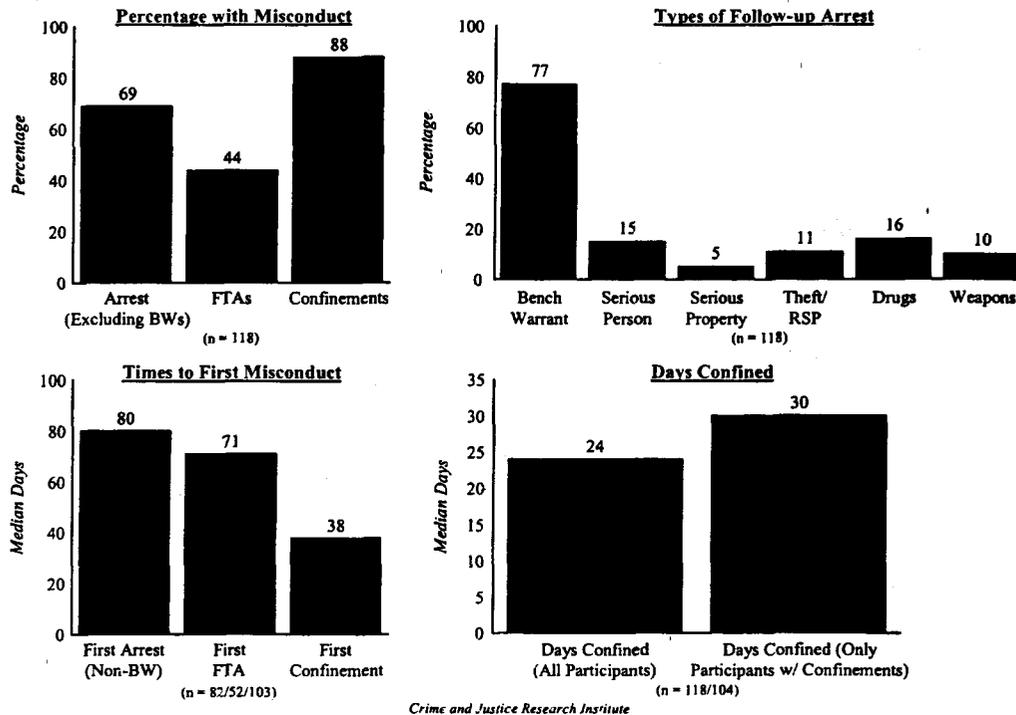
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Summary: The Clark County Juvenile Drug Court

The purpose of this study was rather descriptive and intended to capture an evolving Juvenile Drug Court during two periods of time. Both periods involved change. We conducted interviews, observed the courts in session, and carefully studied hours of videotape of earlier drug court sessions (because all sessions are taped). To capture at least the kinds of juveniles entering the Drug Court in Clark County during a year of re-examination and planned change (under Judge Gaston's tenure), we studied all 145 juveniles entering the court in 1999. Our descriptive analyses suggest that the court enrolls seriously drug involved juveniles who have surprisingly extensive prior juvenile histories of arrest and adjudication—all in all a very challenging target population of juveniles in need of a great deal of supervision and assistance. Although we were not able to track down treatment outcomes with sufficient completeness, we were able to follow the rearrests of the juveniles during the 12 months following their enrollment

in the drug court. During that time, more than two-thirds of the youths were arrested for new offenses. It is clear that the Juvenile Drug Court succeeded in targeting a "core" of juvenile offenders with serious difficulties in many areas.

Conclusion: Drug Courts as Catalysts for Change

Findings from this brief examination of two spin-off innovations illustrate that Clark County officials successfully applied the drug court model to different court settings and circumstances. The participants targeted by the rural and juvenile programs were different from those served by the original Clark County Drug Court, with different attributes, backgrounds, and experiences. Each innovation, no doubt, was forced to adjust to the different needs and problems of its clients, and these descriptive analyses suggest that drug court officials were able to provide viable substance abuse treatment to rural and juvenile defendants who, under prior circumstances, would not have been able to receive such services. In many ways, this achievement alone represents success.

Part Four
Producing the Drug Court "Effect": An Analytic Model

XII. Conclusion: Moving Beyond "Whether" Drug Courts Work to "How" They Work, When They Work

The evaluation research reported in our first (Phase I) and in the current report represents a comprehensive, in-depth and longitudinal study of two of the nation's pioneering and longest-operating felony drug courts. The examination of the Clark County (Las Vegas) and Multnomah County (Portland) Drug Courts was guided by a conceptual framework—a drug court typology—that focused on the critical elements of the drug court model. The drug court typology, which organized the analyses and findings of the evaluation of these courts, represents an effort to translate a working definition of "what a drug court is" into research. Within this context, this evaluation research begins with broad brush strokes to illustrate and examine core aspects of the drug court model, but then also turns to special investigation of specific elements. With the help of this framework, the research was able to investigate common questions asked of two different drug courts. As commonalities in findings emerged, the drug court typology offered a means for considering the external validity of some of the findings to draw inferences that extend beyond the specifics of one drug court in one special setting.

The Special Opportunity Provided by Examining the Drug Courts over Time

Another unusual feature of this comprehensive evaluation was its longitudinal nature. We examined the development, operation and impact of two major drug courts over time: in Clark County from 1993 through 1997 and in Multnomah County from late 1991 through 1997. This longitudinal approach—or more properly the retrospective longitudinal evaluation design—provided an opportunity to understand this important justice innovation over time and in the larger context of changing circumstances. The luxury provided by the opportunity to examine these drug courts over time cannot be overstated.

Ordinarily, evaluation would focus on a sample of cases from one point in time with some follow-up period. The evaluation would draw inferences about the performance of the drug court in a time-limited fashion. In contrast, the design of this research sampled cohorts of drug court participants and of comparison group defendants from successive time periods representing the total study period in each jurisdiction. Our description of the evolution of these drug courts in the Phase I report (see also Goldkamp, White et al., 2001a) and the analysis of the effects of outside events and changing policies using time series convincingly illustrated the dynamic nature of the drug court in action and the importance of its larger context. The longitudinal approach allowed the research to observe how the drug courts grew and changed, faced and overcame difficult obstacles as part of a larger court system, or, in short, saw better times and worse times. The one-time or cross-section evaluation approach and its findings, therefore, about drug court operation and impact are inexorably tied to the historical moment when the research was conducted. The inferences these findings generate may reflect the drug court's impact at a high or low point, a "good" year or a "bad" year—at random.

Another critical benefit of the study of the two drug courts over time is that, as we document high points and low points of impact, the investigation can turn from, "Do drug courts work?" to consideration of how drug courts work, when they work or, "Why do they sometimes work better than at other times?" This allows examination of the elements of the drug court model and testing of assumptions and conventional wisdoms accepted on faith by practitioners of the drug court vocation. Changes in drug court outcomes may be explained simply by the performance of a particular group of participants. However, it is also reasonable to suppose that some external or internal factor may have accounted for the changes. When the longitudinal study of the Clark County and Multnomah County Drug Courts shows that their relative impact

fluctuated over time, the research can begin to ask why and to attempt to identify the moving parts (the critical elements) of the drug court model that contribute to these changes in impact. This research has examined changes in the target population, changes in judicial staffing, aspects of treatment provided, changes in law and policies, and changes in the legal status of enrollees over time.

Toward a (Causal) Model of Drug Court Impact

In the introduction to this report, we decomposed the simple evaluation question driving this research, "Do (these two) drug courts work?" into two related research components. The first component involved a definition of "drug court," what the "they" means in the question, "Do they work?" We have addressed this in developing and applying the drug court typology. The typology provides a workable understanding of what drug courts "are" and what their working ingredients include. The second part of the question involved the notion of drug courts "working." Working was understandable in two different ways. The first version of working involved an assessment of whether, compared to not having drug courts, drug courts produced more favorable results (drug use, crime, confinement, cost, etc.). Quite simply, in a comparative sense, to "work," drug courts should produce better results than non-drug courts. The second version of "working" was important if the first effect was found. If drug courts "work" in the sense that they produce better results, then, how do they produce those positive results? With these questions, the research shifts from whether they work to how they work, and to what accounts for their working better or worse at times. In this concluding section, we try to develop a model of drug court impact using the data from the two drug courts to test assumptions of the drug court model.

To infer that an effect may have been produced by a cause, one should find three conditions: a) an association between the putative cause and the effect, b) the cause logically precedes the effect, and c) the relationship in question is not spurious (explained by other factors). Figure 87 depicts the simple causal relationship implicit in the drug court model (Drug Court Causal Model 1). A (drug court treatment) causes B (improved offender behavior). Using some reasonable comparative framework, one would test this model of drug court impact by asking whether drug court participants reoffend less than their (similar) counterparts who do not go through drug court. The researcher has merely to compare reoffending rates—usually rearrests—for the two (or more) groups of potentially eligible defendants or offenders. If drug court participants are rearrested less frequently than their counterparts, the data may be interpreted as supporting the argument that drug courts "work," or that, compared to the condition of not having the drug court, drug court participation reduces crime among participants. Or do they?

Figure 87 The Implicit Drug Court Hypothesis: Drug Court Treatment "Causes" (Improved) Offender Behavior (Model 1)

A Drug Court Treatment	→	B Offender Behavior

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Consider findings from Multnomah County and Clark County in Figure 88. These figures show the weighted estimates contrasting the one-year rearrest rates of drug court participants with comparison group defendants in Multnomah County (1991-97) and in Clark County (1993-97). These comparative analyses for both jurisdictions suggest that lower

proportions of drug court participants overall were rearrested during these study periods than of their counterparts when the criterion ("effect") is rearrest for any type of offense and rearrest for drug offenses. The differences are slight or insignificant in both jurisdictions when the measure is rearrest for non-drug offenses (and may be explained by sampling error). Assuming the researcher can be confident that the differences are not an artifact of the design employed[93] and some agreement on how large an effect must be to be "large," are these findings enough to suggest that drug courts work? Indeed, based on these data for the seven and five-year study periods employed in the evaluation of the Multnomah County and Clark County Drug Courts, officials should feel encouraged to make that claim.

Figure 88 Rearrest of Drug Court Participants within One Year of Entry in Multnomah County (1991 - 1997) and Clark County (1993 - 1997), by Type of Offender
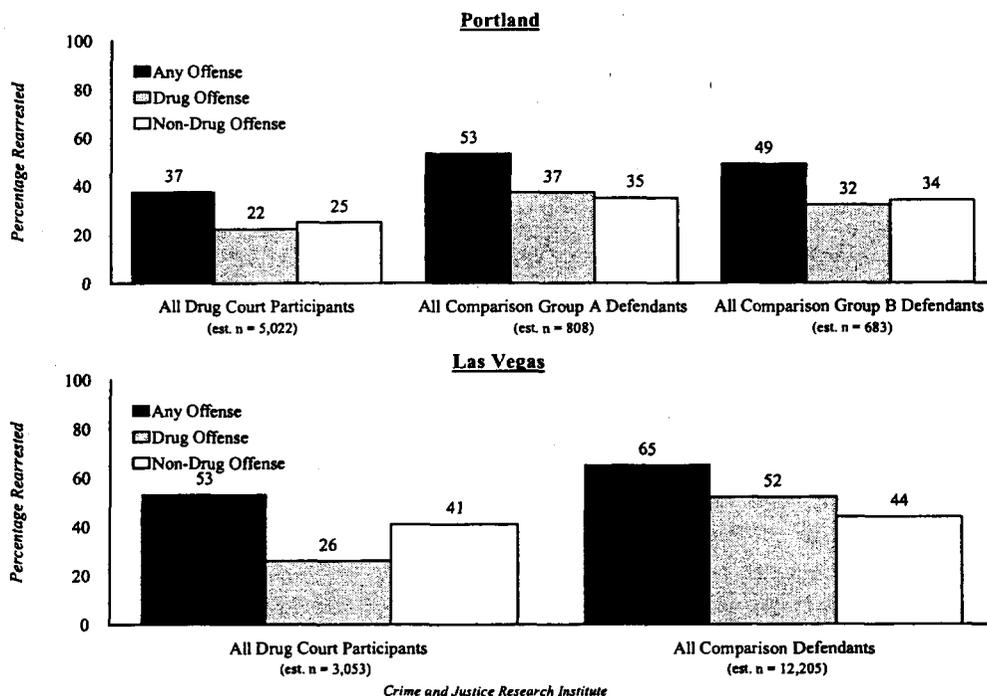
Figures 89 and 90 display the comparative rates of rearrest for drug court and comparison groups in each site over time (rather than aggregating the yearly cohorts for an all-

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[93] See analysis of rearrest in Section III of this report.

years weighted total). These findings still show some of the hypothesized positive results, but with qualification. First, the size of the differences between drug court participants and comparison group defendants varies by the sample periods. In Multnomah County, drug court participants always produce lower rearrest rates for "any" offense than drug defendants in one comparison group (Comparison Group A, the immediate absconders who never attended the drug court process), but during two periods did not differ much from the second comparison group (B, those who attended the initial drug court hearing but did not enter treatment).[94]

In Clark County, not only did the size of the differences between drug court participants and the comparison group members vary, but it also decreased over time. Clark County Drug Court participants outperformed their comparison group counterparts in the 1993, 1994, and 1995 sample cohorts on all measures (except for the non-drug offenses in the 1994 cohort). Clark County Drug Court participants produced higher rearrest rates than comparison group defendants in 1996 sample cohorts and similar rearrest rates in the 1997 sample cohorts (except they showed lower rearrest rates for drug offenses in both the 1996 and 1997 cohorts). In fact, the "drug court effect" appears to have disappeared in Clark County by 1996, except for rearrests for drug offenses.[95] In short, the apparent overall effect of drug court treatment on criminal behavior masks variation over time-periods in both locations. If the study were not longitudinal—following cohorts of drug defendants in each successive period of the courts'

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[94] In Multnomah County, drug court participants recorded higher rearrest rates in the 1991-92 sample period. These rates may be explained by interruptions in the drug court in its first year when one treatment provider had to be dropped and new arrangements for treatment made. The interruption lasted several months, creating serious logistical and operational problems for the drug court during its pilot phase. Improved procedures were developed leading to smoother operation by 1993. In the 1997 defendant cohorts, drug court participants showed significantly lower rearrest rates only when rearrest for drug offenses was the criterion.

[95] The apparent reversal in outcomes is explained principally by the new district attorney's adoption of a policy favoring drug court only for persons pleading guilty in advance. This represented an important departure from the primarily diversion-oriented drug court that had mostly treated defendants at the pre-adjudication stage. The change in emphasis reduced the incentives felony defendants would have (dismissed charges) in seeking and completing the program and had the indirect effect of changing the nature of the drug court population to one that had more extensive criminal experience and that posed higher risks of recidivism. See Goldkamp et al. (2000; 2001a).

existence—one might have drawn very different inferences about drug court effectiveness depending on the period studied.

Figure 89 Rearrest of Drug Court Participants within One Year of Entry in Multnomah County (1991 - 1997), by Type of Offense, by Time Period

*Indicates significant difference at p ≤ .05 when compared to drug court participants.
[Note: Each time period was randomly sampled to produce equal sample sizes of about 150 persons in the drug court group with the exception of 1991-92 (n = 246).]
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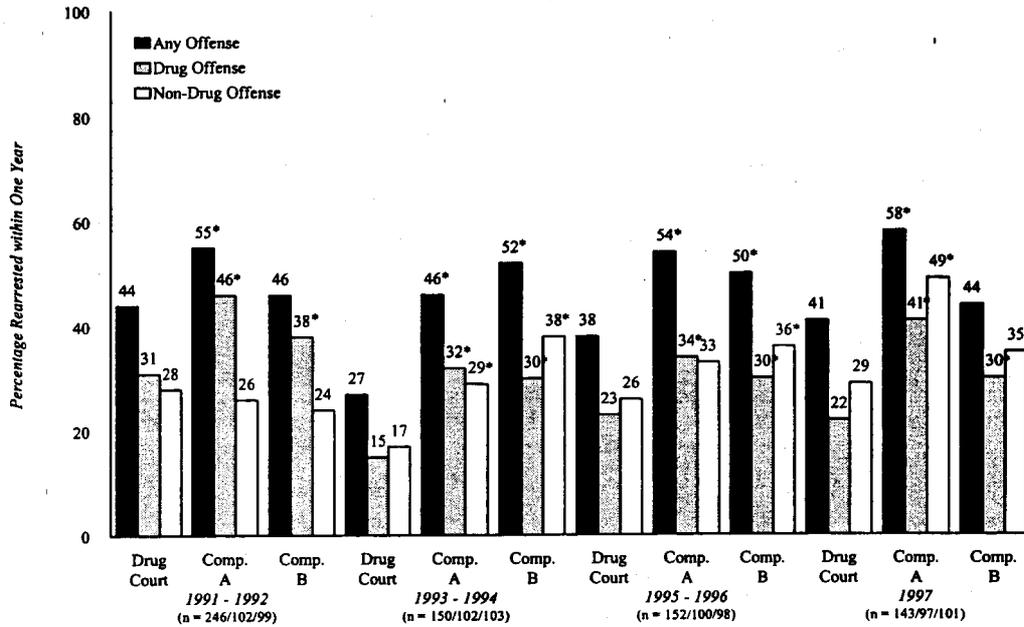
Figure 90 Rearrest of Drug Court Participants within One Year of Entry in Clark County (1993 - 1997), by Type of Offense, by Time Period

*Indicates significant difference at p ≤ .05 when compared to drug court participants.
[Note: Each year was randomly sampled to produce equal samples of approximately 100 defendants.]
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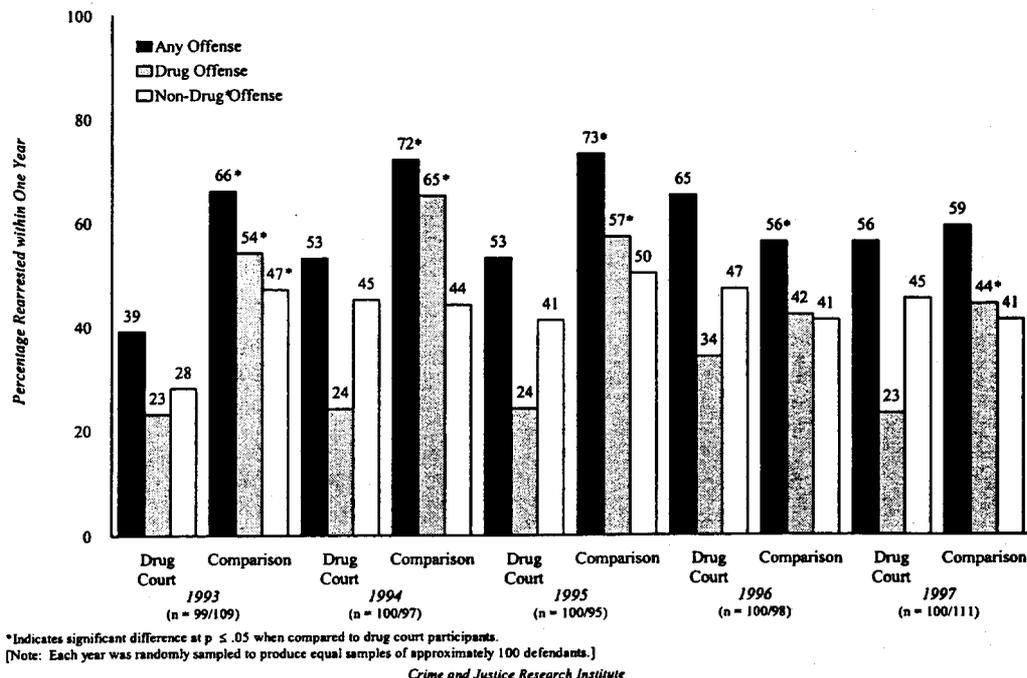
A related measure of drug court impact on offending behavior is not whether participants were rearrested (more or less often than comparison groups) but, when arrested, the length of time (in median days) that passed between enrollment and rearrest. Using this criterion, the Multnomah County and Clark County Drug Court findings also seem powerful and positive. Figure 91 shows dramatic differences in lengths of time to first rearrest between drug court participants and non-participants overall and when yearly cohorts are considered separately in Multnomah County and Clark County.[96] From 1991 to 1997, Multnomah County Drug Court participants took two to four times as long as comparison group defendants to be rearrested. (These ratios fluctuated depending on the sampling period, but the differences were consistently large.) In Clark County, drug court participants also took nearly twice as long (median, 94 days) as comparison group defendants (median, 52 days) to be rearrested. This varied by year studied, with a diminution of the difference in the 1997 cohort.

Taken together, these two measures of drug defendant reoffending provide moderately strong evidence to support the hypothesis that drug courts have a crime-reduction effect (when the behavior of participating and non-participating defendants are compared roughly one year after arrest or program entry). At the same time, these findings also make it difficult to be satisfied with the simple causal model (Model 1) suggesting that drug court participation shapes offender behavior (reduces criminality). Because the impact of drug courts measured in these two basic ways appears to fluctuate over time, one might reasonably question whether drug court impact must therefore be conditioned by other factors—external or internal to the operation of drug courts—not included in the model. We have argued elsewhere (Goldkamp et al., 2000; Goldkamp, White et al., 2001a) that the larger context or circumstances surrounding drug courts—such as key laws, political environment, drug epidemics, jail overcrowding emergency

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[96] The medians for all years combined are based on weighted data.

measures, administrative policies, treatment resources, etc.—may affect their functioning and, ultimately, their productivity.

Figure 91 Median Days to First Rearrest among Drug Court Participants and Comparison Defendants in Multnomah County (1991 - 1997) and Clark County (1993 - 1997)

Multnomah County

Clark County

[Note: Medians for totals are calculated based on weighted data. Annual medians are calculated with unweighted data.]
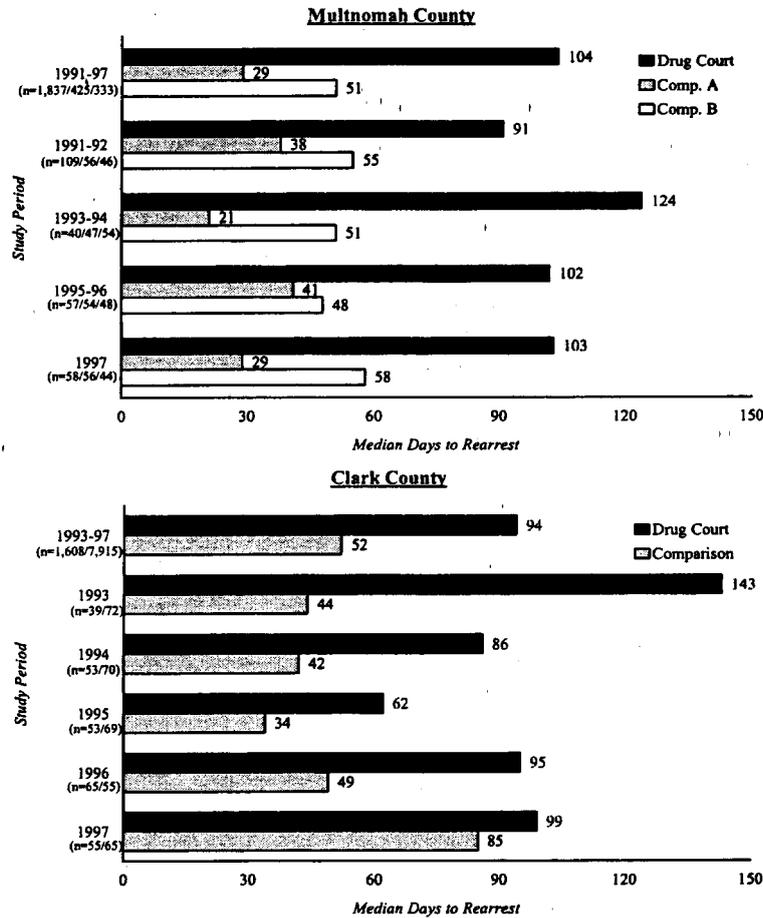
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The possibility of potentially influential antecedent causal factors—whether internal or external in origin—makes it necessary to modify the simple causal model explaining drug court impact on offender behavior. In one modified version, the drug court's influence on offender behavior is shaped by the prior influence of outside factors, such as changes in law, a drug epidemic, jail overcrowding, etc. Model 2 shown in Figure 92 postulates that such contextual factors could influence offender behavior directly as well as indirectly through the effect of the

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drug court. For example, changes in law affixing penalties for drug offenses might affect both the offender's willingness to pursue risky drug-oriented behavior as well as the offender's willingness to enter drug court and follow treatment if apprehended. The offender's residential neighborhood may provide a context that both encourages crime (through availability of drugs or opportunities for crime) and discourages access to treatment or supportive services. These outside factors could explain the variation in impact shown in the Multnomah County and Clark County results when viewed in successive cohorts over time.[97]

Figure 92 Outside Factors Shape Offender Behavior Directly and Indirectly through Drug Court Treatment (Model 2)
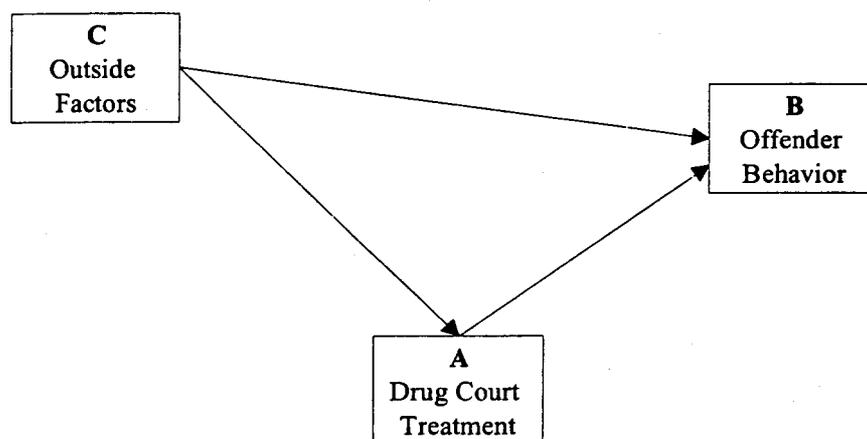
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Unfortunately, Model 2 also raises the possibility that the apparent relation between drug court treatment and offender outcomes may be spurious. (See Model 3 in Figure 93.) Conceivably, then, the same explanation of outside factors—e.g., the enactment of three-strikes legislation upping the stakes for persons who might be apprehended for drug felonies or

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[97] In a separate analysis we have examined the possible effects of these types of influences on drug court operation using time series (Goldkamp et al., 2000; Goldkamp, White et al., 2001a).

neighborhood context—might explain participation in, drug court as well as offender behavior during follow-up. Although the lower rate of reoffending may be construed as a result of drug court participation, it may instead represent a concomitant or parallel result of a common cause.

Figure 93 Drug Court Impact on Offender Behavior is Spurious (Model 3)
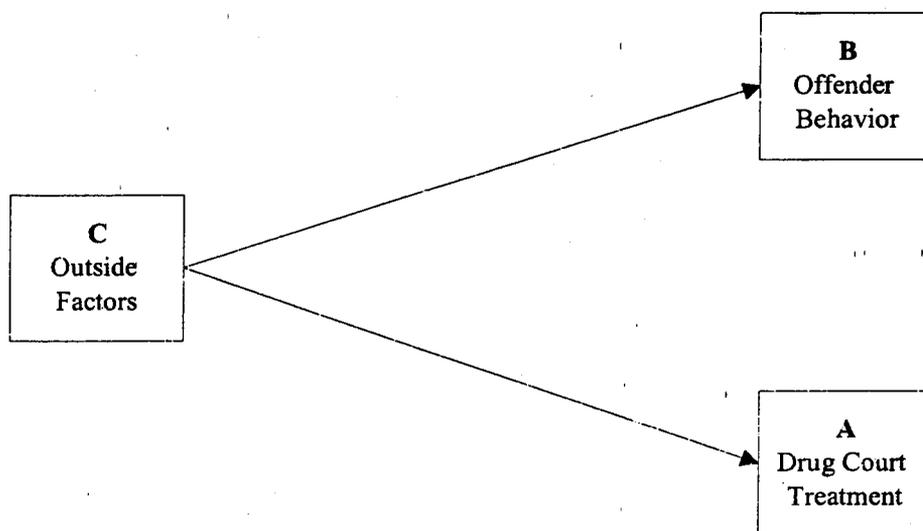
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A compelling argument that antecedents may play a strong role in shaping drug court impact can be made when offender attributes are considered. Model 4 (Figure 94) suggests that various attributes of offenders, including demographics, family ties, prior criminal history, prior substance abuse history, type and frequency of substance abuse prior to drug court candidacy, etc., may at least partly explain drug court participation and offender behavior during a follow-up period. Neighborhood of residence could be considered an offender attribute or an outside, contextual factor. (Our analysis in Section X suggests that community context plays a role in shaping participant outcomes.) Seriously substance-abuse involved defendants from

neighborhoods with chronic drug problems, with unsuccessful prior experience with drug treatment, and extensive prior contacts with the justice system may a) choose not to enter drug court, and b) be more likely to reoffend without it. In positing this specific form of "antecedent" factors, Model 4 at least offers a plausible (indirect effect) explanation for the variation in drug court impact over time: 'the participants may differ in their criminogenic or "risk" attributes from year to year. Thus, as the "degree of difficulty" (mix of participant attributes) associated with each cohort fluctuates over time, so too do the results, or measurable outcomes of drug court treatment. Model 4 also offers a plausible explanation for spuriousness—that drug court participants differ from comparison group defendants in reoffending because they enroll with lower-risk attributes (than their comparison group counterparts) in the first place.

Figure 94 Offender Attributes and Outside Factors Shape Drug Court Outcomes and Offender Behavior (Model 4)
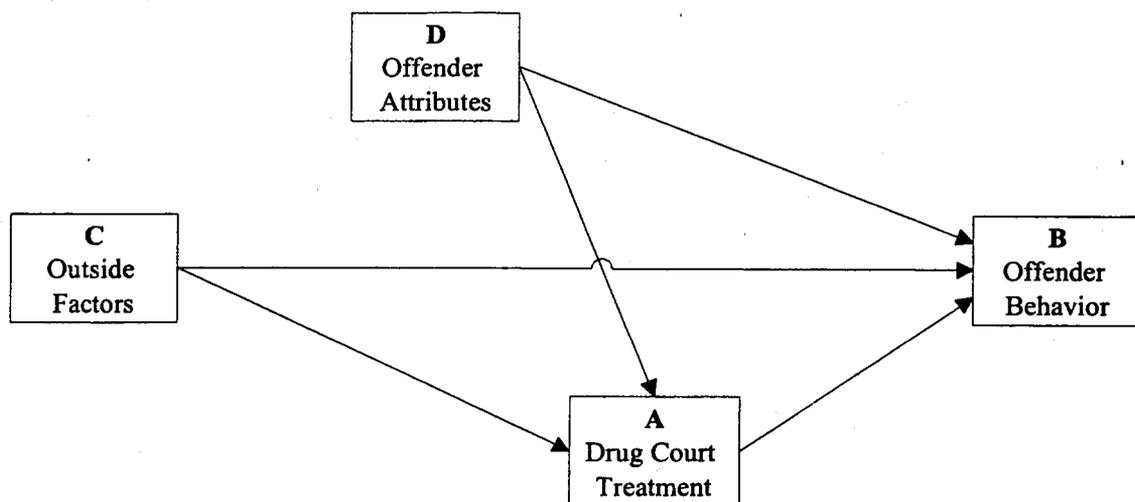
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A simple test of this (spuriousness) model is to identify differences in the attributes of persons entering and not entering drug court and, if found, to enter them as controls in comparative analysis of reoffending to determine whether lower rates for drug court participants still survive.   If the lower rates disappear with controls for *a priori* participant risk or for community context (e.g. distance measures), then lower drug court rearrest rates would appear to be explained by differences in sample composition (i.e., in the risk attributes or neighborhood context) between drug court participants and their non-drug court counterparts.[98]   If, after controls, significantly lower rates of reoffending among drug court participants do not disappear, one could assume that the more favorable outcomes among drug court participants are not explained by their less "risky" prior attributes or different neighborhood attributes.   Instead, one would infer that the relation between drug court participation and a lower rate of subsequent reoffending is not spurious.

Following this logic, Table 26 shows that, when controls for defendant attributes are exercised using the unweighted 1991-97 Multnomah County data,[99] the news is not so encouraging: when drug court participants for the entire period are compared to defendants in Comparison Group A (never attended court) and Comparison Group B (did not enter drug court) over that same period no significant differences in rearrests of any type are found.   When the specific time frames are considered, the drug court participants showed significantly lower rearrest rates only in the 1993-94 drug court cohort, when they outperformed Comparison Group

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[98] These attributes could be of any type, demographic, risk-related or other that might be related to enrollment in drug court and reoffending.

[99] The disproportionate stratified sampling design employed in both sites sought to represent the key time periods with equal numbers of cases so that analysis of effects would not be affected disproportionately by one or more high volume periods. This worked in a straightforward fashion in the Las Vegas data which included 100 drug court and 100 comparison group cases sampled from each period (1993, 1994, 1995, 1996, 1997). The balance is not so even in the Portland data, which included 246 defendants for the 1991-92 period, and 150 defendants for the 1993-94, 1995-96 and 1997 periods each for drug court participants. The comparison groups were based on samples of 100 defendants for each sampling period. Note that these analyses do not reflect estimates of the overall population.

B defendants for each type of rearrest (any, drug, and non-drug). Table 27 shows that in Clark County, after controls for defendant risk attributes, drug court participants from the total study period (1993-97) showed significantly lower rates for each type of rearrest measured at the one year mark. When the same analysis was conducted for specific years, the difference in rearrests for any offense between drug court participants and comparison group defendants remained significant only for the 1994 and 1995 cohorts. Drug rearrests were significantly lower only among 1994 defendants. Differences between drug and non-drug court defendants did not reach significance for non-drug rearrest rates in any of the sample years separately analyzed.

These results, particularly the Multnomah County findings, suggest that, indeed, some of the apparent differences in reoffending (i.e., lower rearrest rates for drug court participants) disappear when defendant attributes are controlled in comparative analyses. They suggest that, to some extent in some specific time periods, the relationship between drug court treatment and later offender behavior may be spurious, partly explained by differences in sample composition, or, as the model posits, by the prior defendant risk attributes.

Table 26 Testing the Significance of Differences in Rearrest within One Year between Drug Court Participants and Comparison Groups in Multnomah County, Controlling for Sample Differences, by Time Period, by Type of Rearrest

[Note: These analyses are based on unweighted data. Parameter estimates and significance are indicated from Logit analysis.]

Any Rearrest — *Participant Year*

Sample Differences	1991-1997 D. Ct. v. Comp. A	1991-1997 D. Ct. v. Comp. B	1991-1992 D. Ct. v. Comp. A	1991-1992 D. Ct. v. Comp. B	1993-1994 D. Ct. v. Comp. A	1993-1994 D. Ct. v. Comp. B	1995-1996 D. Ct. v. Comp. A	1995-1996 D. Ct. v. Comp. B	1997 D. Ct. v. Comp. A	1997 D. Ct. v. Comp. B
Demographic										
Over or Under 25 Yrs. Old	.127 (.397)		.493 (.081)						.321 (.315)	
Hispanic	.258 (.157)	.507 (.018)	-.018 (.959)	.610 (.064)	.610 (.073)		-.778 (.048)			
Race (White/Non-White)			.849 (.001)						.833 (.008)	
Current Case										
Phone										-.108 (.739)
Detained at All Pretrial	.559 (.000)	.310 (.020)			.821 (.005)	.381 (.187)	1.147 (.000)	.353 (.205)	.537 (.069)	1.095 (.000)
Criminal History										
Pending Arrest Charge	.871 (.000)	.783 (.000)	.793 (.011)	1.075 (.001)		.955 (.006)	1.668 (.002)		.906 (.070)	
Prior Drug Arrest		.802 (.000)								
Prior Drug Possession Arrest										
Prior Drug Trafficking Arrest						.350 (.550)				
Serious Person Conviction				.194 (.624)						
Drug Possession Conviction									1.163 (.002)	.790 (.021)
Drug Trafficking Conviction						-.581 (.420)		.953 (.070)		
Weapon Conviction	.211 (.542)									
Prior FTAs in 3 Yrs.	1.203 (.000)				.616 (.198)					
Sample										
TX v. Comp. A	-.190 (.205)		.184 (.522)		-.302 (.337)		-.320 (.316)		.030 (.926)	
TX v. Comp. B		-.166 (.224)		.163 (.546)		-751 (.010)		-.364 (.189)		.335 (.283)
Model Statistics										
Log Likelihood	1,362.362	1,374.964	442.136	436.898	305.497	310.141	313.944	331.408	294.148	284.678
Goodness of Fit	8.393	11.261	1.089	2.069	5.414	.529	4.917	4.117	6.359	9.626
GF Significance	.398	.081	.982	.723	.368	.991	.426	.249	.498	.141
Chi Square	126.330	90.639	27.673	17.852	22.988	25.738	32.715	9.393	37.963	24.079
DF	7	5	5	4	4	5	4	3	6	4
Significance	.000	.000	.000	.001	.000	.000	.000	.024	.000	.000
n	1,083	1,073	339	329	252	253	252	249	240	226

Table 26 Testing the Significance of Differences in Rearrest within One Year between Drug Court Participants and Comparison Groups in Multnomah County, Controlling for Sample Differences, by Time Period, by Type of Rearrest (Cont.)

[Note: These analyses are based on unweighted data. Parameter estimates and significance are indicated from Logit analysis.]

Drug Rearrest

Sample Differences	1991-1997 D. Ct. v. Comp. A	1991-1997 D. Ct. v. Comp. B	1991-1992 D. Ct. v. Comp. A	1991-1992 D. Ct. v. Comp. B	1993-1994 D. Ct. v. Comp. A	1993-1994 D. Ct. v. Comp. B	1995-1996 D. Ct. v. Comp. A	1995-1996 D. Ct. v. Comp. B	1997 D. Ct. v. Comp. A	1997 D. Ct. v. Comp. B
Demographic										
Over or Under 25 Yrs. Old	.014 (.932)		.397 (.164)						.253 (.476)	
Hispanic	.638 (.001)	.928 (.000)	.479 (.163)	1.050 (.001)	.998 (.006)		-.292 (.472)			
Race (White/Non-White)			.691 (.014)						1.157 (.000)	
Current Case										
Phone										-.308 (.410)
Detained at All Pretrial	.582 (.000)	.320 (.029)			.663 (.051)	.515 (.115)	1.132 (.001)	.505 (.097)	.923 (.006)	1.089 (.001)
Criminal History										
Pending Arrest Charge	.761 (.000)	.760 (.000)	.612 (.045)	.964 (.002)		.994 (.006)	1.464 (.002)		.374 (.429)	
Prior Drug Arrest		.530 (.001)								
Prior Drug Possession Arrest										
Prior Drug Trafficking Arrest						.067 (.916)				
Serious Person Conviction				-.434 (.349)						
Drug Possession Conviction									1.010 (.007)	.290 (.426)
Drug Trafficking Conviction						.394 (.589)		.175 (.744)		
Weapon Conviction	.569 (.120)									
Prior FTAs in 3 Yrs.	.643 (.000)				.492 (.348)					
Sample										
TX v. Comp. A	-.241 (.126)		-.066 (.820)		-.401 (.272)		-.147 (.662)		.152 (.667)	
TX v. Comp. B		-.214 (.152)		-.060 (.833)		-.730 (.031)		-.231 (.458)		.013 (.970)
Model Statistics										
Log Likelihood	1,217.523	1,181.793	410.119	392.535	245.298	249.861	274.100	279.554	294.052	245.537
Goodness of Fit	4.778	1.293	5.071	5.967	7.195	1.452	6.071	1.691	14.967	14.646
GF Significance	.573	.972	.535	.202	.126	.963	.299	.639	.060	.012
Chi Square	93.706	78.328	30.497	26.752	24.156	20.105	25.576	4.269	40.694	16.143
DF	7	5	5	4	4	5	4	3	6	4
Significance	.000	.000	.000	.000	.000	.001	.000	.234	.000	.003
n	1,083	1,073	339	329	252	253	252	249	240	226

Table 26 Testing the Significance of Differences in Rearrest within One Year between Drug Court Participants and Comparison Groups in Multnomah County, Controlling for Sample Differences, by Time Period, by Type of Rearrest (Cont.)

Non-Drug Rearrest

Sample Differences	1991-1997 D. Ct. v. Comp. A	1991-1997 D. Ct. v. Comp. B	1991-1992 D. Ct. v. Comp. A	1991-1992 D. Ct. v. Comp. B	1993-1994 D. Ct. v. Comp. A	1993-1994 D. Ct. v. Comp. B	1995-1996 D. Ct. v. Comp. A	1995-1996 D. Ct. v. Comp. B	1997 D. Ct. v. Comp. A	1997 D. Ct. v. Comp. B
Demographic										
Over or Under 25 Yrs. Old	.095 (.550)		.429 (.146)						-.071 (.831)	
Hispanic	-.380 (.058)	-.551 (.025)	-.727 (.046)	-.175 (.620)	-.085 (.821)		-1.056 (.018)			
Race (White/Non-White)			.974 (.000)						.758 (.016)	
Current Case										
Phone										.368 (.276)
Detained at All Pretrial	.328 (.023)	.226 (.003)	.443 (.153)	.736 (.018)		.740 (.036)	1.061 (.018)		.929 (.047)	
Criminal History										
Pending Arrest Charge										
Prior Drug Arrest		.818 (.000)								
Prior Drug Possession Arrest										
Prior Drug Trafficking Arrest						.008 (.990)				
Serious Person Conviction				.712 (.072)						
Drug Possession Conviction									1.031 (.004)	1.060 (.002)
Drug Trafficking Conviction						-.544 (.505)		.840 (.091)		
Weapon Conviction	.230 (.536)									
Prior FTAs in 3 Yrs.	1.060 (.000)				.704 (.144)					
Sample										
TX v. Comp. A	-.223 (.154)		.504 (.104)		-.366 (.285)		-.291 (.372)		-.397 (.223)	
TX v. Comp. B		-.138 (.341)		.221 (.450)		-.744 (.019)		-.284 (.334)		.148 (.651)
Model Statistics										
Log Likelihood	1,258.595	1,252.610	402.860	399.756	271.698	280.452	294.401	303.874	279.437	264.507
Goodness of Fit	16.113	8.963	1.138	3.562	1.479	5.438	1.591	2.105	7.414	7.664
GF Significance	.024	.176	.980	.614	.915	.489	.902	.551	.284	.264
Chi Square	81.207	63.515	18.335	9.214	11.719	14.059	14.419	5.722	38.114	21.314
DF	7	5	5	4	4	5	4	3	6	4
Significance	.000	.000	.003	.056	.020	.015	.007	.126	.000	.000
n	1,083	1,073	339	329	252	253	252	249	240	226

Table 27 Testing the Significance of Differences in Rearrest within One Year between Drug Court Participants and Comparison Group Defendants in Clark County, Controlling for Sample Differences, by Time Period, by Type of Rearrest

[Note: These analyses are based on unweighted data. Parameter estimates and significance are indicated from Logit analysis.]

Any Rearrest	Clark County					
Sample Differences	**1993-1997**	**1993**	**1994**	**1995**	**1996**	**1997**
Demographic						
Gender				.2398 (.5376)		
Alias						-.8448 (.0065)
Current Case						
Phone	-.1064 (.6102)	.3148 (.4988)	-.5517 (.2990)	.0447 (.9264)	.3597 (.4315)	
Criminal History						
Most Serious Charge, Current		-.8002 (.1618)	.1779 (.7688)			
Theft Charge, Current	.1400 (.6528)				.7436 (.2486)	
Drug Charge, Current	-.6170 (.0297)			-1.6123 (.0501)		-.7724 (.0872)
Guilty Comparison		-.6404 (.1047)				
Prior Drug Arrests			1.1460 (.0009)			
Prior Serious Persons Convictions				1.4002 (.0114)		
Prior Drug Convictions	.6627 (.0003)					
Prior Drug Trafficking Convictions				1.2004 (.0704)	.5747 (.3716)	
Prior Felony Convictions						.5812 (.1110)
Prior FTAs	.9964 (.0000)				1.5954 (.0000)	
Sample	.7184 (.0009)	.8601 (.0734)	1.0937 (.0435)	.9748 (.0499)	-.2447 (.6056)	.4380 (.2010)
Model Statistics						
Log Likelihood	1,219.671	255.318	222.132	227.688	229.556	267.653
Goodness of Fit (H&L)	2.9552	4.9890	4.6416	5.2886	2.4802	5.3727
GF Significance	.8891	.2884	.7036	.5074	.7795	.4970
Chi Square	103.102	17.529	21.198	24.220	29.042	16.283
DF	6	4	4	6	5	4
Significance	.0000	.0015	.0003	.0005	.0000	.0027
n	979	198	185	192	192	207

Table 27 Testing the Significance of Differences in Rearrest within One Year between Drug Court Participants and Comparison Group Defendants in Clark County, Controlling for Sample Differences, by Time Period, by Type of Rearrest (Cont.)

[Note: These analyses are based on unweighted data. Parameter estimates and significance are indicated from Logit analysis.]

Drug Rearrest	Clark County					
Sample Differences	1993-1997	1993	1994	1995	1996	1997
Demographic						
Gender				.0228 (.9538)		
Alias						-.6049 (.0586)
Current Case						
Phone	.1068 (.5976)	1.1271 (.0183)	-.2029 (.6877)	.2358 (.5988)	.2423 (.5797)	
Criminal History						
Most Serious Charge, Current		-.1987 (.7522)	-.3152 (.6371)			
Theft Charge, Current	.2696 (.3941)				.2852 (.6222)	
Drug Charge, Current	.6324 (.0454)			.4344 (.5598)		1.2622 (.0345)
Guilty Comparison		-.3242 (.4124)				
Prior Drug Arrests			1.0054 (.0028)			
Prior Serious Persons Convictions				-.1879 (.6935)		
Prior Drug Convictions	.6151 (.0003)					
Prior Drug Trafficking Convictions				1.4730 (.0073)	-.2021 (.7132)	
Prior Felony Convictions						.5786 (.1249)
Prior FTAs	.9999 (.0000)				1.6932 (.0000)	
Sample	1.0241 (.0000)	.4915 (.3353)	1.7331 (.0008)	.8428 (.0750)	.6812 (.1548)	.5597 (.1215)
Model Statistics						
Log Likelihood	1,168.449	238.466	214.723	233.869	230.437	244.307
Goodness of Fit (H&L)	4.7900	10.6926	-4.8590	7.9545	.7166	5.0228
GF Significance	.6856	.0302	.5620	.3366	.9820	.5409
Chi Square	147.171	24.267	40.524	26.942	28.942	19.210
DF	6	4	4	6	5	4
Significance	.0000	.0001	.0000	.0001	.0000	.0007
n	979	198	185	192	192	207

Table 27 Testing the Significance of Differences in Rearrest within One Year between Drug Court Participants and Comparison Group Defendants in Clark County, Controlling for Sample Differences, by Time Period, by Type of Rearrest (Cont.)

[Note: These analyses are based on unweighted data. Parameter estimates and significance are indicated from Logit analysis.]

Non-Drug Rearrest	*Clark County*					
Sample Differences	**1993-1997**	**1993**	**1994**	**1995**	**1996**	**1997**
Demographic						
Gender				-.3370 (.3851)		
Alias						-.7637 (.0138)
Current Case						
Phone	-.1736 (.3774)	-.1008 (.8232)	-.0249 (.9564)	-.5444 (.2300)	.2256 (.6017)	
Criminal History						
Most Serious Charge, Current		-.3157 (.5805)	.1317 (.8225)			
Theft Charge, Current	.0455 (.8764)				.6436 (.2417)	
Drug Charge, Current	-.9031 (.0008)			-1.4851 (.0381)		-1.1219 (.0118)
Guilty Comparison		-.3308 (.3870)				
Prior Drug Arrests			1.1424 (.0003)			
Prior Serious Persons Convictions				1.7885 (.0005)		
Prior Drug Convictions	.2773 (.0920)					
Prior Drug Trafficking Convictions				.0418 (.9324)	.5984 (.2619)	
Prior Felony Convictions						.4760 (.1747)
Prior FTAs	.8128 (.0000)				.8978 (.0061)	
Sample	.4332 (.0345)	.7947 (.0940)	-.0382 (.9358)	.8513 (.0759)	-.1370 (.7627)	.0848 (.8080)
Model Statistics						
Log Likelihood	1,275.572	261.506	238.475	240.378	249.420	264.376
Goodness of Fit (H&L)	7.2856	5.1284	1.6317	3.9761	13.0259	12.9209
GF Significance	.3998	.2744	.8974	.6799	.0231	.0443
Chi Square	63.486	6.398	14.035	24.769	14.222	17.303
DF	6	4	4	6	5	4
Significance	.0000	.1713	.0072	.0004	.0143	.0017
n	979	198	185	192	192	207

Getting Inside the Drug Court Black Box

In short, the findings from this evaluation of a) positive impact and b) variation in impact over time make it impossible to avoid the question, "If drug courts work, how do they work?" (Or, "Why does a drug court work sometimes, in some settings, under some circumstances?") To understand the circumstances of the relative impact of the drug court model, then, research is ineluctably forced to look "inside" the drug court to consider how this can be—assuming there is a drug court effect independent of outside factors. Here the business of understanding the impact of drug courts becomes noticeably more complicated as this question goes to the heart of what a drug court "is" and tries to distinguish between what a drug court does and what a drug court produces.

The "drug court model" represents a coordinated collection of functions, methods, and activities that reflect general and specific deterrent as well as rehabilitative aims. For example, the drug court model involves frequent appearances before the drug court judge. This can be seen to serve two purposes: 1) to coax, persuade, and encourage participants into better behavior (treatment), and 2) to reward progress with increased privileges or to threaten sanctions in the event of poor performance (specific deterrence). As if drawn directly from Jeremy Bentham's 19[th] century discussion of the principle of utility (1988), central reliance on manipulation of rewards (praise, promotion to next treatment stages, awards) and sanctions (additional appearances before the judge, days in the jury box, demotion to prior phases of treatment, and days in jail) are believed to form an important component of the content of the drug court experience. The alternation of encouragement and sanctioning occurs in a public forum—the criminal courtroom—much like a classroom with seated participants observing the interactions of other participants with the judge. The sanctions and rewards in that setting serve to

communicate in the manner of general deterrence the message to all observers that if one does X, Y results—with the warnings and lessons to be repeated over and over. Linked to the judge's performance in the courtroom, the treatment program itself is a principal rehabilitative component. The type, range, and frequency of services, as well as drug testing, its frequency and how it is employed, are presumed to be potentially significant elements in producing the drug court effect. Their linkage to the special courtroom experience and direct person-to-person exchanges with the judge are thought to interact to produce a therapeutic effect greater than traditional treatment or deterrent approaches alone could achieve.

In sum, the impact of the drug court—the "drug court effect"—is believed to be derived from a collection of instrumental elements, the salience of which is likely to vary over time in a particular jurisdiction and to vary from location to location as the elements of the drug court model are adapted to different settings. An important challenge for research is to determine the relative contributions of the various parts of the drug court model in accounting for its overall (presumed) impact and to discuss the implications of findings that some and not all are important. A high priority, for example, is testing the assumption that the role of the drug court judge is a fundamental and core element of the drug court model in producing positive treatment outcomes. (See our discussion of judicial staffing in Section VI of this report.) Other core assumptions of the model needing critical examination relate to the use of sanctions, the relative value of sanctions and incentives deployed in the courtroom, and whether drug court participants are really motivated toward favorable progress by fear of going to jail.

These questions implicit in assessing the contribution of the ingredients of the drug court model are not inconsequential. For example, as we have argued in Section VI, if the belief that the judge is the central and most important positive influence on drug court outcomes is not

supported through empirical testing, there are major implications for drug courts and the allocation of judicial resources. Setting aside the potentially significant effects of outside factors and participant attributes, these questions begin to sort through the contributions of the internal elements of the drug court model assumed by their designers to be instrumental to the drug court's operation.

Modeling the Effects of Drug Court Functions on Outcomes

The task of sorting out the effects of the various ingredients of the drug court model is complicated by the need to distinguish between the instrumental functions (such as those just listed) and their results or outcomes. The appearances before the judge, the appointments for treatment, drug tests, and other activities form part of the delivery of the treatment effect. The results they produce—drug court success or failure—are overall drug court outcomes. Figure 95 illustrates this distinction, moving analysis of the impact of drug court "inside" the drug court model, by a) breaking the drug court operation into these two parts—its operating elements delivering treatment and its outcomes; and b) specifying more clearly the variables measuring these different aspects of the drug court model.

By saying on a general level that a drug court should reduce an offender's criminal behavior, Figure 95 specifies that numerous contacts with the judge, a regular program of drug testing, attendance in appropriate treatment services, positive incentives, and acupuncture all serve as instrumental functions that translate into favorable drug court outcomes.[100] Favorable drug court outcomes among participants include not dropping out at an early stage, producing favorable interim progress reports, attending court as required and graduating with all tasks satisfactorily completed. In fact, longer and more treatment is hypothesized to produce positive

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[100] A more advanced analysis would also posit the type of services ("level of care") that should figure importantly in treatment effectiveness.

drug court outcomes. According to the causal drug court model shown in Figure 95, favorable drug court achievements, then, bring about favorable subsequent behavior in the form of fewer rearrests, lower fugitive rates from the justice process, reduced substance abuse, and other measures of productive, law-abiding citizenship. Participants who have not progressed fully through drug court treatment and have had less exposure to treatment (insufficient "dosage") should reoffend more frequently.

Figure 96 displays data from the two study sites to test presumed relationships between two key instrumental drug court variables, length of treatment and number of jail sanctions ordered, and graduation, one of the key drug court outcome measures. In both of the drug court study sites, the expected positive relationship between longer times in treatment during the first year and drug court graduation (measured at two years) is found. In Multnomah County, less than 20 percent of drug court participants in treatment for less than 90 days in the first year graduated within two years, compared to 54 percent of those receiving treatment more than 90 days in the first year.[101] In Clark County, 0 percent of drug court participants in treatment for 90 days or less graduated within two years of entry, compared to 41 percent of those with more than 90 days in treatment.

The use of jail sanctions also appears related to graduation in the direction hypothesized by the drug court model. Among Multnomah County Drug Court participants, 27 percent of participants who had jail assigned as a sanction at least once during year one graduated within two years of entry, compared to 65 percent of those not having a jail sanction. Among Clark County participants, 12 percent of those sanctioned with jail in their first year later graduated, compared to 44 percent of those who were not. (Note that a portion of those receiving jail

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[101] It may seem implausible that the participants with less than 90 days of treatment in the first year could later graduate successfully within two years of program entry. In fact, some participants who started poorly and who may have been fugitives for some period, were allowed to return and complete the program.

sanctions in both sites did ultimately graduate.) Certainly other instrumental measures of the

delivery of the drug court treatment could have been selected for this illustration with the same

result: bivariate relationships from two different drug court data sets supporting the plausibility

of the model of the drug court being discussed (Model 5 in Figure 95).

**Figure 95 Measuring Offender Attributes, Drug Court Treatment Elements and Drug Court
Outcomes in a Model Explaining Offender Behavior (Model 5)**

Offender Attributes
Age
Race/Ethnicity
Family Status
Employment History
Residence History
Drug Abuse (Type, Frequency)
Mental Health History
Drug Treatment History
Geographic Location
Criminal History

Offender Behavior
Rearrest
Type of Rearrest
Time to Rearrest
Drug Use
Fugitivity

Drug Court Elements
Judge Contact
Drug Testing
Treatment Attendance
Other Services
Sanctions
Acupuncture
Length of Treatment

Drug Court Outcomes
Early Drop-out
Favorable Interim Status
Bench Warrants
Graduation
Unfavorable Termination

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Figure 96 Relationship between Instrumental Drug Court Treatment Functions of Drug Court Outcomes among Drug Participants in Multnomah County (1991 - 1996) and Clark County (1993 - 1997)
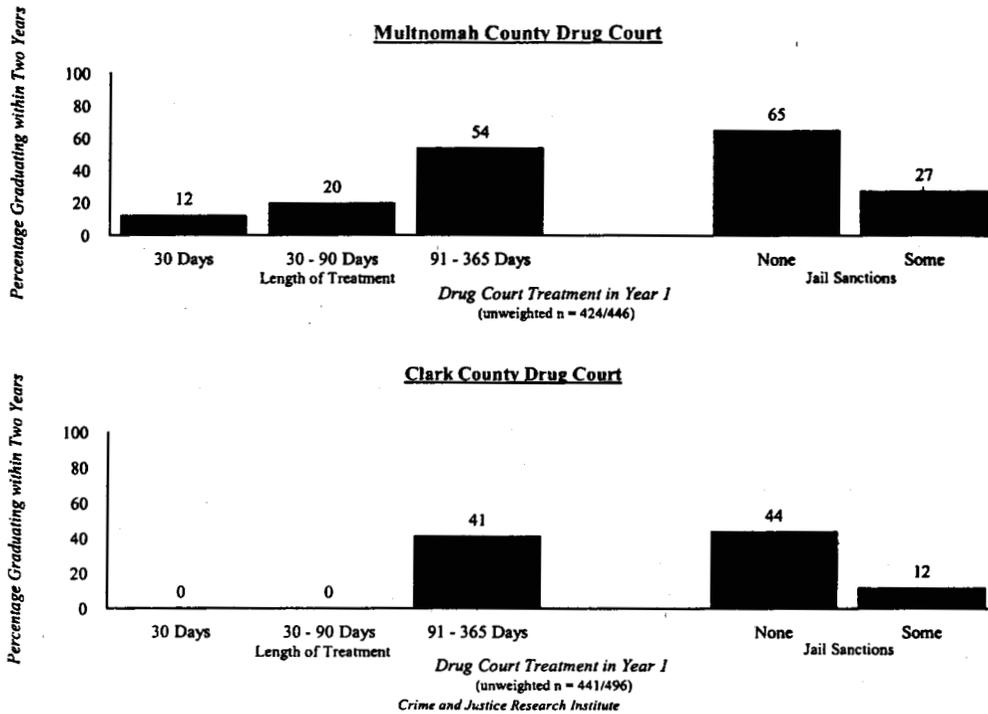
Model 6 shown in Figure 97 maintains the distinction between instrumental variables reflecting the delivery of treatment to drug court participants and drug court outcomes, but simplifies the causal model by interpreting drug court outcomes as measures of offender behavior like reoffending. From this perspective, drug court graduation and unfavorable termination are possible products of the drug court experience in the same way reoffending and substance abuse may be. In this model, drug court treatment outcomes do not themselves "cause" reoffending or its absence, they are concomitants. This version of the drug court model suggests that offender attributes (antecedent variables) affect drug court treatment delivery (as higher and lower risk participants tax services differently) directly and the offender behavior criteria (drug court outcomes, reoffending, and substance abuse) directly as well as indirectly through drug court treatment delivery. Model 6 also posits that drug court treatment delivery has a direct effect on offender behavior.

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Figure 97 Measuring Offender Attributes, Drug Court Treatment Elements and Drug Court Outcomes with Overall Outcomes in a Model Explaining Offender Behavior (Model 6)

Offender Attributes
Age
Race/Ethnicity
Family Status
Employment History
Residence History
Drug Abuse (Type, Frequency)
Mental Health History
Drug Treatment History
Geographic Location
Criminal History

Offender Behavior
Rearrest
Type of Rearrest
Time to Rearrest
Drug Use
Fugitivity
Early Drop-out
Bench Warrants
Graduation
Unfavorable Termination

Drug Court Elements
Judge Contact
Drug Testing
Treatment Attendance
Other Services
Sanctions
Acupuncture
Length of Treatment

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Testing the Model: The Impact of the Drug Court on Offender Behavior

Under Model 6, the researcher would expect to find—and be able to assess—the hypothesized relationships between the instrumental drug court treatment functions and offender behavior. For the drug court to be viewed as effective, its treatment functions should deliver an effect on reoffending (i.e., lower it), net of effects on reoffending contributed by antecedent variables relating to offender attributes (or other outside factors, unmeasurable for this analysis). Table 28 summarizes bivariate relationships between selected drug court treatment measures and

rearrest (over a one year period) among participants in the Multnomah County and Clark County Drug Courts during the study periods.

In both sites, expected relationships are found. The number of sanctions ordered in court and the number of jail sanctions are positively related to rearrest prospects: participants with sanctions are more likely to be rearrested in the first year. In both sites, attendance in treatment and length of time in treatment are negatively related to reoffending: participants who completed more than 50 percent of the expected treatment regimen and participants who attended more than 30 treatment appointments showed much lower rates of rearrest during the first year in each location. In Multnomah County, the number of appearances made before the drug court judge was related to later rearrest (those with more than 8 appointments in the first year were less likely to be rearrested than those with fewer). In Clark County, the bivariate relationship was non-significant and did not appear to apply.

Table 29 tests this model (Model 6) of drug court treatment on subsequent offender behavior more fully using multivariate analysis with rearrest within one year of drug court entry and graduation within two years as the dependent measures. In separate analyses, "risk" attributes of drug court participants related to rearrest were identified for each site. In Clark County, these included prior arrests (within three years), prior drug arrests, and prior failures-to-appear in court (FTAs). In Multnomah County, participant attributes predicting rearrest in one year included race (white/non-white), having an alias, having prior arrests (within three years), and having a pending (unadjudicated) charge already in the courts at the time of drug court entry. These offender attributes were entered as controls in logistic regression modeling offender behavior to represent the possibly independent role of risk attributes in producing offender behavior.

Table 28 Relationships between Instrumental Drug Court Treatment Variables and Rearrest among Drug Court Participants in Multnomah County (1991-1997) and Clark County (1993-1997)

	Multnomah County								Clark County							
Drug Court Treatment (Measured in Year 1)	Total		Any Rearrest		Drug Rearrest		Non-Drug Rearrest		Total		Any Rearrest		Drug Rearrest		Non-Drug Rearrest	
	(n)	Percent	(n)	Percent	(n)	Percent	(n)	Percent	(n)	Percent	(n)	Percent	(n)	Percent	(n)	Percent
Number of Court Appearances																
Total	586	100	213	36.4	126	21.5	154	26.3	409	100	216	52.8	110	26.9	168	41.1
8 or less	143	100	68	47.6	33	23.1	51	35.7	98	100	54	55.1	31	31.6	39	39.8
>8	443	100	145	32.8	93	21.0	103	23.3	311	100	162	52.1	79	25.4	129	41.5
Length of Phase I																
Total	588	100	214	36.4	127	21.6	155	26.4	487	100	255	52.4	124	25.5	201	41.3
<30 days	125	100	45	36.0	27	21.6	32	25.6	203	100	84	41.4	39	19.2	67	33.0
>30 days	464	100	169	36.5	100	21.6	123	26.6	284	100	171	60.2	85	29.9	134	47.2
Number of Positive Tests																
Total	573	100	206	36.0	123	21.5	148	25.8	485	100	256	52.8	128	26.4	200	41.2
None	169	100	56	33.3	28	16.7	45	26.8	49	100	20	40.8	5	10.2	17	34.7
One or more	405	100	150	37.0	95	23.5	103	25.4	436	100	236	54.1	123	28.2	183	42.0
Number of Treatment Appointments																
Total	576	100	209	36.3	125	21.7	151	26.2	494	100	260	52.6	129	26.1	203	41.1
30 or less	225	100	112	49.8	63	28.0	85	37.8	123	100	85	69.1	50	40.7	66	53.7
>30	352	100	97	27.6	62	17.7	66	18.8	371	100	175	47.2	79	21.3	137	36.9
Length of Time in Treatment																
Total	576	100	209	36.3	125	21.7	151	26.2	494	100	260	52.6	129	26.1	203	41.1
Less than 50% of expected	306	100	145	47.4	85	27.8	106	34.6	181	100	119	65.7	71	39.2	93	51.4
50% or more	271	100	64	23.7	40	14.8	45	16.7	313	100	141	45.0	58	18.5	110	35.1
Median Days in Treatment in 1 Year																
Total	555		204		121		148		441		227		111		175	
Median Days	231		137.5		139		137.5		358		330		287		349	
Number of Sanctions																
Total	586	100	213	36.4	126	21.5	155	26.5	499	100	261	52.3	129	25.9	204	40.9
None	457	100	156	34.2	92	20.2	115	25.2	131	100	29	22.1	12	9.2	24	18.3
One or more	129	100	57	44.2	34	26.4	40	31.0	368	100	232	63.0	117	31.8	180	48.9
Number of Jail Sanctions																
Total	588	100	214	36.4	127	21.6	155	26.4	496	100	261	52.6	129	26.0	204	41.1
None	234	100	29	12.4	13	5.6	22	9.4	338	100	150	44.4	70	20.7	116	34.3
One or more	355	100	185	52.1	114	32.1	133	37.5	158	100	111	70.3	59	37.3	88	55.7

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Table 29 Modeling the Effects of Drug Court Treatment Variables on Later Offender Behavior (Rearrest within One Year; Graduation within Two Years) among Drug Court Participants in Multnomah County (1991-1997) and Clark County (1993-1997)

[Note: These analyses are based on unweighted data. Parameter estimates and significance are indicated from Logit analysis.]

	Multnomah County					*Clark County*			
	Any Rearrest	Drug Rearrest	Non-Drug Rearrest	Graduation w/in 2 Years		Any Rearrest	Drug Rearrest	Non-Drug Rearrest	Graduation w/in 2 Years
Risk Variables					*Risk Variables*				
					Prior Arrests in Last 3 Years	.7278 (.0087)	.7517 (.0200)	.7310 (.0084)	.2026 (.5743)
Race (White/Non-White)	.324 (.138)	.706 (.002)	.113 (.622)	-.428 (.120)					
Alias	-.943 (.000)	-.784 (.001)	-.527 (.018)	.145 (.553)	Prior Drug Arrests	.6276 (.0227)	.3129 (.2745)	.6080 (.0211)	-.3627 (.3072)
Prior Arrest in Last 3 Years	.603 (.007)	-.022 (.929)	1.075 (.000)	-.078 (.790)	Prior FTAs	.0758 (.7767)	.5395 (.0508)	-.0656 (.7979)	-.4406 (.1986)
Pending Arrest Charge	.164 (.652)	.194 (.589)	.221 (.523)	-.856 (.120)					
Treatment Variables					*Treatment Variables*				
Time in TX (<50%, 50% or more)	-.209 (.515)	-.286 (.411)	.032 (.927)	1.187 (.002)	Time in TX (<50%, 50% or more)	-.4122 (.2928)	-.9256 (.0171)	-.2850 (.4477)	3.2540 (.0020)
No. of TX Contacts (30 or less, 30>)	-.248 (.429)	-.012 (.973)	-.543 (.100)	.491 (.242)	No. of TX Contacts (30 or less, 30>)	-1.1790 (.0078)	-.2304 (.5652)	-.9692 (.0189)	.4461 (.7647)
Any Sanctions	.637 (.203)	.449 (.524)	.894 (.101)	-.937 (.048)	Any Sanctions	1.2867 (.0000)	.9898 (.0131)	.8947 (.0036)	-1.5957 (.0000)
Any Jail Sanctions	1.026 (.025)	1.430 (.024)	.491 (.315)	-.476 (.298)	Any Jail Sanctions	.7029 (.0059)	.4279 (.0955)	.4830 (.0445)	-1.4584 (.0000)
No. of Court Appearances (8 or less, 8>)	-.147 (.588)	.345 (.239)	-.138 (.618)	3.515 (.001)	No. of Court Appearances (8 or less, 8>)	1.0547 (.0096)	.4866 (.1703)	1.0288 (.0049)	2.0081 (.0318)
Model Statistics					*Model Statistics*				
Log Likelihood	148.59	488.071	526.122	363.299	Log Likelihood	451.972	404.029	476.109	291.912
Goodness of Fit	4.405	3.945	3.089	7.107	Goodness of Fit (H&L)	18.4032	9.7041	4.7604	8.8744
GF Significance	.819	.786	.929	.525	GF Significance	.0184	.2864	.7828	.3530
Chi Square	148.59	92.539	108.574	183.421	Chi Square	110.714	70.963	75.663	220.978
DF	9	9	9	9	DF	8	8	8	8
Significance	.000	.000	.000	.000	Significance	.0000	.0000	.0000	.0000
n	547	547	547	405*	n	407	407	407	407

*Includes 1991-96 defendants only in Multnomah County.

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We then entered five drug court treatment variables to represent the effects of the instrumental treatment functions delivered by the drug court on offender behavior. These included two measures of treatment: number of treatment sessions attended during year one (30 or less, more than 30) and percent of expected treatment sessions attended (less than 50 percent, 50 percent or more). Exposure to the drug court courtroom experience was measured as the number of court appearances attended during the first year (8 or fewer, more than 8). The delivery of sanctions was represented as the number of any sanctions assigned (none, some) and number of jail sanctions assigned (none, some) during the initial year.[102]

Using logistic regression, the logic of this analysis is to identify the impact of any or all of the five instrumental ingredients of drug court treatment on subsequent offender behavior, net of prior risk-related participant attributes, when their effects are considered together.

Reoffending

Clark County: Participant reoffending was measured three ways in the analysis: being rearrested within one year of entry for any offense, for a drug offense, or for a non-drug offense. Analysis of the Clark County 1993-97 data suggests that two risk attributes (prior arrests and prior drug arrests) contribute independently to the probability of any rearrest during the first year and that, four of the drug court treatment functions also demonstrate a relationship with reoffending, net of controls for risk attributes. The number of treatment sessions attended, assignment of any sanctions, assignment of jail sanctions, and the number of appearances in drug court all contribute the effects suggested by the drug court model. (Note that the number of court appearances was not related to being rearrested at the bivariate level.) That is, the more treatment sessions and drug court sessions attended, the lower the probability of being rearrested;

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[102] Note that we do not have a good measure of the use of incentives, which would also be an important instrumental drug court treatment variable to consider.

the more sanctions generally and the more jail sanctions specifically assigned, the greater the probability of being rearrested.

With drug arrests as the outcome measure, the results change somewhat. Among offender risk attributes, only prior arrests and prior FTAs contribute independently to the prospects of rearrest and, net of these controls, only two drug court treatment variables account for subsequent rearrest prospects: percent of expected treatment attended and any sanctions assigned during the first year. When non-drug arrest is employed as the criterion, the results are similar to the results from the analysis of any rearrest: prior arrests and prior drug arrests remain significant predictors of reoffending, while four of five drug court measures also contribute independent effects to the likelihood of reoffending.

Multnomah County: The analysis of the 1991-97 Multnomah County data showed different results. With the dependent measure defined as any type of rearrest within one year of drug court entry, two risk attributes showed significant relationships with reoffending: having an alias (persons with aliases had a lower probability[103]) and having prior arrests within three years (persons with arrests had a higher probability). Only one of the five measures of instrumental drug court functions—the assignment of jail sanctions—showed a significant relation with rearrest for any offense, net of controls for offender risk. The analysis with drug rearrest as the criterion produced similar results: two risk attributes (race and alias) showed significant relationships, while only one drug court variable (jail sanctions) did. When the outcome measure for the logistic regression was non-drug rearrest, two risk attributes were significant (alias and prior arrests), but no drug court variables affected the probability of rearrest for non-drug offenses in the first year after entry.

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[103] Officials in Portland have suggested that one explanation for this surprising (counterintuitive) relationship is that some participants were illegal aliens who either disappeared for fear of being deported or were deported, hence lowering the chances that they would later be rearrested in the same area.

These findings show mixed results that are site dependent. In Clark County, the 1993-97 data suggest that participant attributes at entry into the drug court do consistently play a role in the probability of offending behavior one year after program entry, independent of the effects of the drug court experience. The Clark County analyses also strongly suggest that drug court functions contribute significantly to reducing the prospects of subsequent offending behavior, though just how depends on the measure of interest. The Multnomah County 1991-97 data also suggest a consistent role for offender attributes in shaping the likelihood of later offending, regardless of the type of measure examined. Little support overall is found for significant effects of drug court functions on later offending, with one exception: the use of jail sanctions. When any rearrest or drug rearrests were the outcome criteria, only the use of jail was related to rearrest, net of controls for participant risk. No drug court function showed a significant effect when rearrest for non-drug offenses was the outcome of concern.

<u>Graduation within Two Years of Drug Court Entry</u>

Clark County: Model 6 hypothesizes that a number of drug court outcomes should be included in measures of offender behavior produced by the drug court model, the most obvious being whether or not a participant graduates from the program. Logistic regression analyses were employed to consider the relative effects of instrumental drug court functions on graduation, net of the independent effects of offender risk attributes as Model 6 would posit. Among Clark County Drug Court participants, no offender risk attributes showed a significant or independent relation to the prospects of graduation (within two years). Four of the five measures of drug court treatment did play important roles: percent of expected treatment attended in the first year (more than 50 percent was associated with greater odds of graduation), any sanctions or jail sanctions assigned (having sanctions decreased the likelihood of graduation), and the number

of court appearances (the greater the number the better the chances of graduation). Thus, in Clark County, while offender attributes partly determined the likelihood of rearrest, above and beyond the effects of drug court functions, they did not play a role in determining graduation— only the instrumental treatment functions did.

Multnomah County: In Multnomah County also, offender attributes were not related to the likelihood of graduation within two years of entry into the drug court. Three of the five instrumental drug court functions were predictive, net of the effects of controls: percent of expected treatment attended, any sanctions ordered, and number of court appearances before the drug court judge. The assignment of jail sanctions by the drug court judge within the first year was not related to the prospects of graduation, when the effects of the other variables were taken into account.

Interactions between Drug Court Functions in Producing Outcomes (Rearrest and Graduation)

The analysis of drug court impact so far has sought to consider the relative effects of drug court functions as a group and individually, net of the effects of prior offender attributes, on outcomes (rearrest and graduation). Conceivably, given the mix of rehabilitative and deterrent aims and methods represented by the drug court model, particular drug court functions could interact to produce an impact on outcomes above and beyond their specific contributions. Tables 30 and 31 summarize logit analyses for both sites considering possible first-order interaction effects of treatment attended (either actual number or percentage of expected number) and court appearances, and treatment attended and jail sanctions, while controlling for offender attributes.

Table 30 Modeling the Effects of Drug Court Treatment Variables of Interactions on Later Offending Behavior (Rearrest within One Year; Graduation within Two Years) among Drug Court Participants in Clark County (1993-1997)

[Note: These analyses are based on unweighted data. Parameter estimates and significance are indicated from logit analysis.]

Predictors	*Treatment Time and Jail*				Predictors	*Treatment Time and Court Appearances*			
	Any Rearrest	Drug Rearrest	Non-Drug Rearrest	Graduation w/in 2 Years		Any Rearrest	Drug Rearrest	Non-Drug Rearrest	Graduation w/in 2 Years
Risk Variables					*Risk Variables*				
Prior Arrests in Last 3 Years	.7519 (.0067)	.7635 (.0186)	.7457 (.0074)	.1998 (.5793)	Prior Arrests in Last 3 Years	.7282 (.0087)	.7453 (.0212)	.7312 (.0084)	.2139 (.5539)
Prior Drug Arrests	.5957 (.0302)	.3017 (.2935)	.5908 (.0253)	-.3616 (.3079)	Prior Drug Arrests	.6250 (.0234)	.3259 (.2562)	.6076 (.0214)	-.3698 (.2995)
Prior FTAs	.0884 (.7409)	.5459 (.0484)	-.0564 (.8258)	-.4400 (.1985)	Prior FTAs	.0743 (.7810)	.5495 (.0472)	-.0658 (.7973)	-.4212 (.2209)
Treatment Variables					*Treatment Variables*				
Time in TX (<50%, 50%>)	-.4137 (.2839)	-.9377 (.0156)	-.3003 (.4210)	3.2492 (.0020)	Time in TX (<50%, 50%>)	-.3930 (.3359)	-1.0365 (.0121)	-.2814 (.4743)	3.2105 (.0023)
No. of TX Contacts (30 or less, >30)	--	--	--	--	No. of TX Contacts (30 or less, >30)	--	--	--	--
Any Sanctions	1.3167 (.0000)	1.0020 (.0121)	.9141 (.0030)	-1.5962 (.0000)	Any Sanctions	1.2831 (.0000)	1.0116 (.0115)	.8941 (.0037)	-1.5947 (.0000)
Any Jail Sanctions	--	--	--	--	Any Jail Sanctions	.6999 (.0062)	.4349 (.0907)	.4826 (.0450)	-1.4581 (.0000)
No. of Court Appearances	.9001 (.0310)	.4537 (.2058)	.9581 (.0098)	2.0588 (.0289)	No. of Court Appearances	--	--	--	--
Interactions					*Interactions*				
TX Time and Jail	(.0039)	(.3349)	(.0197)	(.0005)	TX Time and Court Appearances	(.0199)	(.4837)	(.0177)	(.1098)
(1) <31 TX, No Jail	.6750 (.1618)	.0607 (.8988)	.6922 (.1419)	-.2587 (.8638)	(1) 30 or less TX, 8 or less crt apps	.1311 (.7820)	-.2988 (.5225)	-.0583 (.8973)	-1.7784 (.2254)
(2) <31 TX, Jail	2.9327 (.0004)	.7208 (.1501)	1.6423 (.0019)	-5.4067 (.7194)	(2) 30 or less TX, >8 crt apps	1.2573 (.0571)	-.0255 (.9601)	.9797 (.0681)	-5.3722 (.7342)
(3) >30 TX, Jail	.3975 (.1596)	.3111 (.3211)	.3136 (.2627)	-1.4423 (.0000)	(3) >30 TX, 8 or less crt apps	-.9941 (.0721)	-.8855 (.1527)	-1.0154 (.0759)	-2.6091 (.0276)
Model Statistics					*Model Statistics*				
Log Likelihood	445.462	403.604	474.709	291.596	Log Likelihood	451.945	403.357	476.109	290.178
Goodness of Fit (H&L)	23.3975	9.8475	6.4526	10.4737	Goodness of Fit (H&L)	16.1240	9.4245	4.7546	6.1652
GF Significance	.0029	.2759	.5967	.2333	GF Significance	.0406	.3078	.7835	.6287
Chi Square	117.223	71.387	77.063	221.294	Chi Square	110.740	71.634	75.664	222.713
DF	9	9	9	9	DF	9	9	9	9
Significance	.0000	.0000	.0000	.0000	Significance	.0000	.0000	.0000	.0000
n	407	407	407	407	n	407	407	407	407

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Table 31 Modeling the Effects of Drug Court Treatment Variables with Interactions on Later Offending Behavior (Rearrest within One Year, Graduation within Two Years) among Drug Court Participants in Multnomah County (1991-1997)

[Note: These analyses are based on unweighted data. Parameter estimates and significance are indicated from logit analysis.]

Predictors	*Treatment Time and Jail*				Predictors	*Treatment Time and Court Appearances*			
	Any Rearrest	Drug Rearrest	Non-Drug Rearrest	Graduation w/in 2 Years		Any Rearrest	Drug Rearrest	Non-Drug Rearrest	Graduation w/in 2 Years
Risk Variables					*Risk Variables*				
Race (white/nonwhite)	.340 (.121)	.716 (.002)	.137 (.551)	-.425 (.124)	Race (white/nonwhite)	.331 (.128)	.725 (.002)	.123 (.587)	-.399 (.147)
Alias	.981 (.000)	-.799 (.001)	-.560 (.014)	.146 (.550)	Alias	-.964 (.000)	-.794 (.001)	-.553 (.014)	.128 (.599)
Prior Arrest in Last 3 Years	.589 (.008)	-.026 (.917)	1.060 (.000)	-.079 (.786)	Prior Arrest in Last 3 Years	.600 (.007)	.003 (.991)	1.073 (.000)	-.045 (.878)
Pending Arrest Charges	.182 (.617)	.208 (.562)	.226 (.515)	-.851 (.123)	Pending Arrest Charges	.162 (.657)	.171 (.633)	.213 (.536)	-.898 (.103)
Treatment Variables					*Treatment Variables*				
Time in TX (<50%, 50% or more)	--	--	--	--	Time in TX (<50%, 50%>)	--	--	--	--
No. of TX contacts (30 or less, 30>)	-.286 (.351)	-.054 (.871)	-.567 (.081)	.490 (.246)	No. of TX contacts (30 or less, >30)	-.247 (.432)	.001 (.998)	-.548 (.097)	.502 (.231)
Any Sanctions	.859 (.104)	.678 (.353)	1.157 (.048)	-.924 (.052)	Any Sanctions	.657 (.190)	.443 (.529)	.924 (.091)	-.940 (.047)
Any Jail Sanctions	--	--	--	--	Any Jail Sanctions	1.025 (.025)	1.445 (.023)	.490 (.316)	-.469 (.305)
No. of Court Appearances	-.154 (.561)	.331 (.252)	-.144 (.597)	3.529 (.001)	No. of Court Appearances	--	--	--	--
Interactions					*Interactions*				
TX Time and Jail	11.940 (.008)	8.736 (.033)	7.131 (.068)	11.361 (.010)	TX Time and Court Appearances	1.190 (.755)	1.584 (.663)	.798 (.850)	24.207 (.000)
(1) <50% and No Jail	-.388 (.512)	-.581 (.446)	-.028 (.965)	-.681 (.270)	(1) <50% and <8 apps.	.341 (.368)	-.073 (.862)	.076 (.850)	-4.688 (.000)
(2) >50% and No Jail	-1.645 (.002)	-2.020 (.006)	-1.184 (.044)	.444 (.360)	(2) >50% and <8 apps.	.915 (.502)	-3.855 (.755)	1.114 (.419)	-8.140 (.749)
(3) Jail and <50%	-.157 (.648)	.038 (.918)	-.373 (.309)	-1.233 (.055)	(3) <50% and >8 apps.	.216 (.500)	.248 (.476)	-.028 (.935)	-1.220 (.001)
Model Statistics					*Model Statistics*				
Log Likelihood	566.387	483.828	519.181	363.259	Log Likelihood	575.618	489.683	527.862	365.512
Goodness of Fit (H&L)	5.394	4.827	9.550	6.807	Goodness of Fit (H&L)	3.879	5.341	3.627	6.814
GF Significance	.715	.776	.298	.449	GF Significance	.868	.721	.889	.557
Chi Square	156.204	96.782	115.516	183.461	Chi Square	150.812	94.926	110.718	185.292
DF	10	10	10	10	DF	10	10	10	10
Significance	.000	.000	.000	.000	Significance	.000	.000	.000	.000
n	547	547	547	405*	n	550	550	550	408

*Includes 1991-96 defendants only in Multnomah County.

Treatment and Court Appearances: In Clark County, the interaction between treatment attended and court appearances was significant in modeling any rearrest and non-drug rearrest, but not graduation or drug rearrest. It appeared that participants with 30 or fewer treatment sessions in the first year and fewer than 9 court appearances had a greater chance of rearrest, over and above the effects of these functions viewed separately. In Multnomah County, the interaction between treatment (as percentage of treatment attended) and court appearances did not contribute to the modeling of any form of rearrest, but did add to the prediction of graduation.

Treatment and Jail Sanctions: In Clark County, the interaction between treatment attendance and jail sanctions played a significant role in modeling any rearrest and non-drug rearrest, as well as graduation. In Multnomah County, the interaction between treatment and jail sanctions also proved a significant contributor to the models of rearrest (of each type). This interaction also appeared to affect the probability of graduation in the Multnomah County Drug Court data.

Reoffending Causing Drug Court Outcomes: The Dependent Variable as Independent Variable

To this point, we have examined the logic implicit in assessing the impact of the drug court model, using data from the Multnomah County and Clark County studies to illustrate conceptualizations of a causal drug court model in which it is hypothesized that drug courts reduce criminal offending. The analytic framework we have suggested divides the question into two parts, one ("does it work?") that draws on a comparative analysis of reoffending of drug court participants and similar non-participants, and a second ("if it works, how does it work?"), that considers how the drug court produces its advertised results. Analyses testing models that distinguish between instrumental drug court functions (the delivery of the drug court treatment

experience) and drug court outcomes (how participants fare in the drug court process) have shown that all of the tested drug court treatment functions did not appear to make equal contributions to explaining outcomes, and some, such as treatment and court appearances before the drug court judge and treatment and jail sanctions, interact to produce effects on offender outcomes above and beyond their single contributions.

In short, and this is positive news for proponents of drug courts, we have presented evidence supporting a crime reduction effect of drug courts in the two locations—but with variation in impact over time. These variations led us to consider sources of that variation as external (or prior) to the drug court itself. Hence, we identified the potential importance of outside factors and offender attributes in producing drug court impact. In addition, we have tested the relative contributions of some of the key elements of the drug court treatment mechanism, showing effects for court appearance, treatment, and sanctions—and interactions—that varied by site (and quite likely would vary over time as well).

One more major difficulty still confronts the attempt to draw inferences about the impact of drug courts: the causal order we have postulated in the theoretical models thus far in part may be inaccurate. In fact, the presumptive criterion or outcome variable to be affected by the drug court innovation—later offender behavior (reoffending and/or graduation)—may to some extent precede (and in fact may "cause") drug court treatment measures, rather than the reverse. For example, a drug court participant may be arrested for a new offense a few weeks into the drug court program.

Measured one way, we might conclude that due to the few court appearances made and the few treatment sessions attended, the participant failed "out" of the program, as might be expected, and that resulted in new criminal behavior and rearrest. Yet, because of the temporal

order, instead the new offense may have in fact caused the participant's poor attendance, disqualification, and early termination from the drug court.[104] If this is so, some or all of the relations depicted in Table 28 between drug court measures and rearrest can also be read in the other direction: participants who are rearrested during the one-year follow-up have shorter lengths of time in treatment, attend fewer treatment appointments, and attend drug court less frequently than those who are not rearrested—because their rearrests preceded and determined program outcomes.

Model 7 in Figure 98 modifies the causal model of drug court impact to suggest that offender behavior has an influence on drug court treatment (and therefore indirectly on drug court outcomes under offender behavior) as well as being itself shaped by outside factors, the drug court treatment experience and prior offender attributes. This model is tested in multivariate modeling of graduation (within two years) among Clark County and Multnomah County participants by including measures of rearrest (within year one) as predictor variables. If, while controlling for the independent effects of offender attributes on graduation, rearrest adds to the likelihood of not graduating within two years, Model 7 would receive support.

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[104] Drug courts differ in the rules they employ to guide continued participation by defendants who are arrested for new offenses. Some permit continued participation pending or including conviction on new offenses as long as they are eligible for drug court, with other more serious charges resulting in exclusion. Some drug courts automatically terminate participants who are rearrested.

Figure 98 Offender Behavior also Influences Drug Court Treatment and Indirectly Influences Drug Court Outcomes (Model 7)
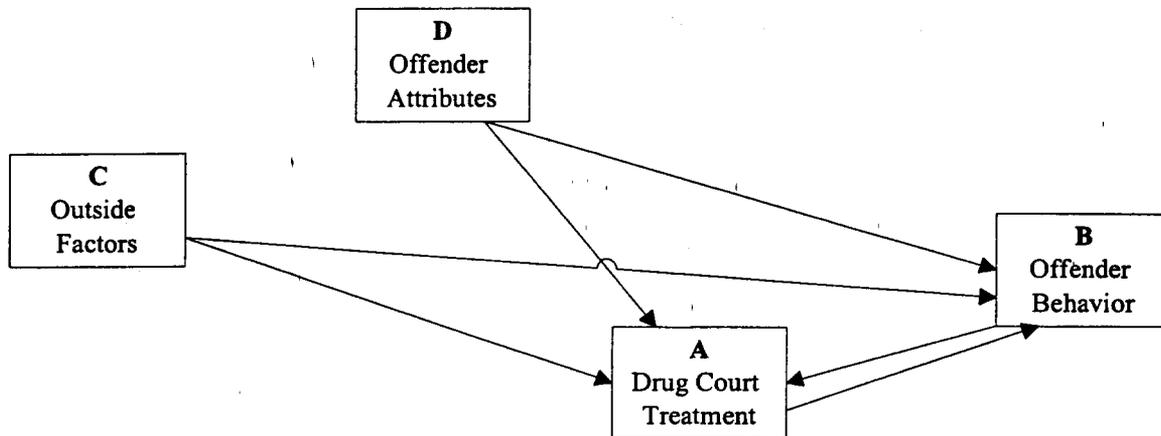
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In fact, as Table 32 shows, none of the measures of rearrest make a significant contribution to the models of graduation in either site, when offender attributes (which are also all non-significant) and instrumental drug court variables are also taken into account. However, we did determine that interactions between rearrest and drug court treatment measures can make significant contributions, at least in the Clark County data.[105] In short, these findings do not provide convincing evidence that rearrest is not only affected by drug court treatment but also affects treatment and drug court outcome measures itself, but they do raise an issue that should be addressed in other analyses.

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[105] When we tested possible interaction effects between rearrest and drug court treatment variables, they contributed significantly to modeling graduation in Clark County but not at all in Multnomah County. In Clark County, interaction effects between treatment and rearrest, court appearances and rearrest, and sanctions and rearrest contributed significantly to the model of graduation. (Attending more than 30 sessions in year one and being rearrested decreased the likelihood of graduation. Having more than eight court appearances and being rearrested also contributed to a reduced likelihood of graduation. Having sanctions and being rearrested decreased the likelihood of graduation.) In Multnomah County, none of the interactions between rearrest and drug court treatment measures were significant in modeling graduation.

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Table 32 Modeling the Effects of Drug Court Treatment Variables on Graduation, Controlling for Rearrest as an Independent Variable, among Drug Court Participants in Multnomah County (1991-1996) and Clark County (1993-1997)

[Note: These analyses are based on unweighted data. Parameter estimates and significance are indicated from Logit analysis.]

Multnomah County		_Clark County_	
	Graduation w/in 2 Years		Graduation w/in 2 Years
Risk Variables		_Risk Variables_	
Race (white/non-white)	-.356 (.203)	Prior Arrests in Last 3 Years	.3600 (.3417)
Alias	.08 (.659)	Prior Drug Arrests	-.3641 (.3200)
Prior Arrests in Last 3 Years	-.075 (.801)	Prior FTAs	-.4552 (.1976)
Pending Arrest Charge	-.821 (.138)		
Treatment Variables		_Treatment Variables_	
Time in TX (<50%, 50% or more)	1.177 (.002)	Time in TX (<50%, 50% or more)	3.3144 (.0018)
No. of TX Contacts (30 or less, 30>)	.512 (.225)	No. of TX Contacts (30 or less, 30>)	.2560 (.8644)
Any Sanctions	-.930 (.050)	Any Sanctions	-1.3339 (.0004)
Any Jail Sanctions	-.372 (.425)	Any Jail Sanctions	-1.4403 (.0000)
No. of Court Appearances (8 or less, 8>)	3.560 (.001)	No. of Court Appearances (8 or less, 8>)	2.1712 (.0224)
Rearrest		_Rearrest_	
Any Rearrest	.223 (.750)	Any Rearrest	-1.3278 (.0650)
Drugs Rearrest	-.700 (.195)	Drugs Rearrest	-.0105 (.9836)
Non-Drugs Rearrest	-.104 (.860)	Non-Drugs Rearrest	-.5272 (.4152)
Model Statistics		_Model Statistics_	
Log Likelihood	360.502	Log Likelihood	282.377
Goodness of Fit (H&L)	11.156	Goodness of Fit (H&L)	9.0635
GF Significance	.193	GF Significance	.3370
Chi Square	186.218	Chi Square	230.513
DF	12	DF	11
Significance	.000	Significance	.0000
n	405	n	407

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Implications of Clark County and Multnomah County Findings for the Model of Drug Court Impact

These analyses testing the conceptualization of "how drug courts work" represented in Model 6 have important implications for assessing the contributions of the ingredients of the drug court treatment repertoire. First, the importance of considering the independent effects of prior participant attributes on later offender behavior as suggested in several of the hypothesized models is strongly supported by analyses of Clark County and Multnomah County data across rearrest measures. In fact, one of the most consistent findings across sites was that, even when

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taking into account the effects of instrumental drug court variables, risk attributes always contributed significantly to the likelihood of reoffending among drug court participants.

Second, by implication, in none of the analyses did we find the opposite, that drug court treatment functions alone accounted for variation in reoffending. The findings relating to examination of the contribution of drug court treatment functions, net of participant risk attributes, are mixed and site dependent. In Clark County, four of five instrumental drug court treatment measures affected the prospects of later reoffending. The picture was quite different in Multnomah County. Once offender risk attributes were controlled, only the use of jail sanctions made a significant contribution to prediction of later rearrests—and even then, this was found for only two measures of rearrest, any and drug.[106] No drug court function was related to the likelihood of being rearrested within one year for non-drug offenses—at least when measured as a main effect. In Multnomah County, then, it appears that the positive drug court results shown earlier at the bivariate level (see Figure 88) are partly spurious, explained by offender risk attributes unaffected by the drug court experience.

The analyses presented above represent a first attempt to assess the impact of various drug court treatment elements. On their face, the findings suggest an emphasis on treatment and deterrence in the Clark County Drug Court and primarily a deterrence emphasis (via jail sanctions) in the Multnomah County Drug Court.[107] Analysis in both sites suggest additionally that drug court functions wield influence conjointly—as interactions—above and beyond their independent contributions to offender outcomes. Thus, while treatment variables alone were not significant predictors of rearrest in Multnomah County, net of the effects of defendant risk, treatment participation did interact with jail sanctions to make a significant contribution.

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[106] Note that the relationship was positive.

[107] A deterrence finding, however, would posit a negative relationship between jail sanctions and later offending. The positive relationship found raises questions about the interpretation of this finding in both sites.

In dealing with the multivariate analyses we have presented with data combined to represent all years in each site (1993-97 in Clark County and 1991-97 in Multnomah County), however, there is a danger in drawing inferences that may "on average" make sense, but mask effects in particular years. In fact, the longitudinal retrospective design of this study has highlighted the special histories of the drug courts in each site and demonstrated that the year-to-year experience of the courts varied notably (Goldkamp et al., 2000). Different factors and events influenced the operation of the drug courts in each location as they functioned from year to year in a dynamic process. In Multnomah County, the drug court was supervised in succession by two strong drug court judges, who were succeeded by a non-judge referee and a rapid rotation of numerous judges for short stints through the drug court. These changes illustrate the dynamic process of the drug court innovation and the importance of a time-sensitive analysis as well as an aggregate analysis of all years.

The masking effect of the all-year, aggregate analyses presented in this report should be kept in mind in considering findings, for example the Multnomah County finding that court appearances before the drug court judge did not affect the probability of later rearrest. Given the special history of judicial supervision of and assignment to Multnomah County's drug court, one may interpret—with great caution and serious reservations—this finding to mean that the drug court practice of person-to-person appearance before the drug court judge is not important. In fact, one might argue that the apparent effect of jail sanctions and its interaction with treatment in the Multnomah County Drug Court represents an aspect of the judge's pervasive role. These findings, nonetheless, deserve serious consideration as a first attempt to examine the impact of drugs courts using a clear conceptual model of drug court impact. The questions raised by the findings should be pursued in greater depth in subsequent research.

Third, in Model 7 we posit that drug court outcomes—such as early termination and graduation—should be viewed as dependent measures of later offender behavior that parallel but do not precede or "cause" offending behavior. Thus, Model 7 suggests that the instrumental drug court functions should produce a variety of later measures of offender behavior, including satisfactory progress through the drug court, reduced drug use, and reduced criminal activity. The findings in both sites raise questions about this assumption. Strikingly, just as offender attributes consistently predicted later rearrests of drug court participants, they consistently did not predict graduation in both sites.

In one sense, this is good news for the respective drug courts because drug court graduation appears to be determined by success in the drug court, not by individual attributes. In another sense, though, the different prediction of graduation suggests that drug court outcomes and reoffending are not parallel outcomes and should not be combined under the general rubric of offender behavior as the outcome of interest. Rather, some version of Model 5 might warrant further analysis. Another inference might be that the skills, achievements, and behavior changes required to graduate from the drug court are not co-extensive with those required to avoid criminality. This apparent disjuncture between prediction of participant success in the drug court and success on the street should be viewed as fundamentally disturbing by drug court advocates if true.

Conclusions: The Challenges of Measuring Drug Court Impact

The proliferation of drug courts over the last decade in the United States and abroad has been remarkable in its substance and magnitude. The simple approach pioneered in Miami in 1989 spawned a movement consisting presently of about 600 operating courts in the United States, one marked by growing diversity and creativity as the original model has been expanded,

adapted, and has contributed to related innovation in the larger court and justice systems. As this rapid growth in the application of the drug court model has taken place, not unusually, research examining its basic tenets and impact has lagged behind. Now, when the number of studies of drug courts is growing exponentially, little work has provided a theoretical framework for organizing the critical questions about drug court impact.

The issues associated with addressing these research questions were illustrated using data from the retrospective studies of drug courts in Portland (Multnomah County), Oregon (1991-97) and Las Vegas (Clark County), Nevada (1993-97) (Goldkamp et al., 2000) in a conceptual model of drug court impact. The analyses demonstrated how such a framework can facilitate consideration of principal elements of the drug court model across sites. The findings raise questions for further analyses and, rather than being definitive, must be seen in the context of other findings from the retrospective evaluation of the two sites, if inferences about drug court impact in each location are to be fairly drawn. In asking whether drug courts produced better results based on a crime-reduction criterion (measured as rearrests in a follow-up of one year), we found that overall positive effects masked variation in cohorts from different periods of time. These data show support for the hypothesis that drug court participants fare better than their counterparts in terms of rates of rearrest in the first year. However, they are qualified by the finding of variation over time. The theoretical model of drug court impact was constructed to attempt to explain the sources of this variation, whether they were external, such as changes in law and policy, a result of offender attributes, or traced to the internal workings of the drug court.

We have found plausible support for the hypothesis that drug court impact is influenced over time by outside factors in an analysis reported elsewhere (Goldkamp et al., 2000; Goldkamp, White et al., 2001a). In this report, analyses supported the hypothesis that offender

attributes (considered an antecedent factor in causal models) accounted for some of the positive impact found in the study of the Multnomah County and Clark County Drug Courts—a greater share in Multnomah County and a lesser share in Clark County. After controlling for such attributes, the differences in rearrest rates were still significant in Multnomah County mainly only when the 1993-94'defendants groups were compared. Our review of the milestones in the development of that court suggests that 1993-94 was a period of relative stability and effective functioning. These findings conform to earlier analyses (Goldkamp et al., 2000) showing difficulties with a treatment provider during the court's 1991-92 initial start-up period and later adverse effects of two important changes: moving away from the single drug court judge model after 1995 to a "referee" (quasi-judicial officer), and frequent rotation of judges into the drug court for short periods—a change that advocates would argue was a serious dilution of the drug court model.

In Clark County, the favorable findings survived controls when 1993, 1994, and 1995 cohorts of drug court participants and comparison group defendants were contrasted. They did not survive in analysis of the 1997 cohorts. The finding that comparison group defendants did better than drug court participants when 1996 cohorts were compared remained significant after controls for defendant attributes. These findings too are explained by important changes in the Clark County approach over time, principally by the policy of the new district attorney favoring admission to the drug court only of persons pleading guilty. This represented a major shift away from the diversion philosophy originally shaping the court and removed the incentives of dismissal and expungement that attracted unconvicted felony drug candidates until 1996. At the same time, the conviction requirement changed the nature of the enrolled population to higher risk participants with more extensive criminal histories.

Although a consistent and strong drug court effect producing lower rearrest rates in every time period across the two sites was not found, attempts to explain the effects by controlling for factors external or prior to the influence of the drug court treatment process itself could not eliminate the effect systematically. We conclude from this analysis that a) under certain circumstances drug courts can deliver the advertised crime-reduction effect, b) "outside" factors account for some of the variation in their impact over time, and c) variation in the remainder of the drug court effect must, then, be explained by factors internal to the drug court. This forces examination of what it is about drug court treatment that could explain variation in participant outcomes over time, i.e., getting inside the "black box" of what a drug court is and what it delivers.

The original drug court model mixed rehabilitative (treatment) and deterrent aims. In testing models of how a drug court works, we employed measures of treatment exposure, sanctions, and appearances before the drug court judge. Net of the prior effects of participant risk attributes, analyses of Clark County data found that treatment, sanctioning, and attendance at drug court sessions all were significant predictors of subsequent offender behavior (reoffending and graduation)—in the expected directions. In Multnomah County, only jail sanctioning survived controls to have a significant effect on the likelihood of reoffending; the other instrumental drug court treatment variables were not significant. The sanction relationship in both sites was in the opposite direction of what would be expected by deterrence theory, in which increased penalty would reduce crime. From this finding, one would question the deterrent interpretation of jail sanctions and seek some other explanation, such as that sanctions beyond a certain level served more as punishment or basically confirmed the failing status of drug court participants. Analysis of possible first-order interaction effects found that, beyond the

main effects of the drug court treatment variables, court appearances, treatment attendance, treatment, and jail sanctions sometimes played important roles in predicting later reoffending behavior. These exploratory findings suggest the need for careful consideration of how instrumental drug court functions are measured and more focused examination of their interaction to produce the drug court effect.

Moreover, we found some support for the notion that rearrest is not only affected by drug court treatment but also affects treatment measures itself. Analyses in Clark County showed that interactions among rearrest and instrumental drug court variables (e.g. court appearances, sanctions, treatment attended, etc.) were significant in modeling graduation measured at two years after entry in the program. This effect deserves more careful study. Model 7 (pictured above in Figure 98), the culmination of substantial, successive model-building, may provide the most useful analytic framework for assessing later offender behavior, as it incorporates outside factors, offender attributes, and instrumental components of drug court treatment. Offender attributes and external factors influence drug court treatment measures directly and later offender behavior directly and indirectly through drug court treatment. Later offender behavior (reduced offending) is influenced by the drug court experience but also, itself, has an influence on treatment (which affects offending). More careful consideration of community contexts should be incorporated into the model for testing in future research.

These findings from two different drug courts with two different populations show some support for the hypothesis that drug courts can contribute to a crime reduction effect. That effect may be conditioned on the influence of outside factors and participant attributes and may change over time. Nevertheless, these findings also suggest that variation in drug court outcomes also and importantly may be explained by changes in the operation of the drug court and its ability to

deliver the treatment and deterrent effects postulated by the collection of components inside the drug court "black box." The findings raise important questions about the impact of sanctions that deserve serious examination. Understanding the conditions under which drug courts operate effectively, then, depends on the make-up of the enrolled population, community context, the influence of outside factors (laws, administrative policies, resources) and the effective functioning of selective drug court elements. Of these, appearances before the judge, treatment participation, and sanctions do appear to wield important effects on offender behavior.

REFERENCES

Bentham, J. (1988). *The Principals of Morals and Legislation*. Buffalo: Prometheus Books.

Block, R. (1979). Community, Environment, and Violent Crime. *Criminology, 17*(1), 46-57.

Boland, B. (1998). Community Prosecution: Portland's Experience, *Community Justice: An Emerging Field* (pp. 253-277). Lanham, Boulder, New York, and Oxford: Rowman and Littlefield Publishers, Inc.

Bullock, M. L., Culleton, P. D., & Olander, R. T. (1989). Controlled Trial of Acupuncture for Severe Recidivist Alcoholism. *Lancet, 1*, 1435-1439.

Center for Substance Abuse Treatment. (1995). *Detoxification from Alcohol and Other Drugs: Treatment Improvement Protocol (TIP)* (Series 19). Rockville: U.S. Department of Health and Human Services, Center for Substance Abuse Treatment.

Finigan, M. (1998). *An Outcome Program Evaluation of the Multnomah County S.T.O.P. Drug Diversion Program*. Washington, DC: State Justice Institute.

Finigan, M. (1999). Assessing Cost Offsets in a Drug Court Setting. *National Drug Court Institute Review, 2*(2), 59-92.

General Accounting Office. (1995). *Drug Courts: Information on a New Approach to Address Drug-Related Crime* (Briefing Report to the Committee on the Judiciary, U.S. Senate, and the Committee on the Judiciary, House of Representatives). Washington, DC: United States General Accounting Office.

General Accounting Office. (1997). *Drug Courts: An Overview of Growth, Characteristics, and Results*. Washington, DC: Office of Justice Programs, U.S. Department of Justice.

Goldkamp, J. S. (1994, December). *Justice and Treatment Innovation: The Drug Court Movement*. Paper presented at the First National Drug Court Conference, Washington, DC.

Goldkamp, J. S. (1995, March). *Overall Evaluation Issues for Drug Courts*. Paper presented at the Special Conference on Drug Court Evaluation.

Goldkamp, J. S. (1999a). The Origins of the Treatment Drug Court in Miami. In C. Terry (Ed.), *The Early Drug Courts: Case Studies in Judicial Innovation*. Beverly Hills: Sage Publications.

Goldkamp, J. S. (1999b). When is a Drug Court Not a Drug Court? In C. Terry (Ed.), *The Early Drug Courts: Case Studies in Judicial Innovation*. Beverly Hills: Sage Publications.

Goldkamp, J. S. (2000). The Drug Court Response: Issues and Implications for Justice Change. *Albany Law Review, 63*, 923-961.

Goldkamp, J. S., Irons-Guynn, C., & Weiland, D. (2001). *Community Prosecution Strategies: Measuring Impact*. Philadelphia: Crime and Justice Research Institute.

Goldkamp, J. S., & Weiland, D. (1993). *Assessing the Impact of Dade County's Felony Drug Court*. Philadelphia: Crime and Justice Research Institute.

Goldkamp, J. S., Weiland, D., Collins, M., & Moore, J. (1999). *The Implementation of the Philadelphia Treatment Court: A Descriptive Analysis of Early Stages of Implementation*. Philadelphia: Crime and Justice Research Institute.

Goldkamp, J. S., Weiland, D., & Moore, J. (2001). *The Philadelphia Treatment Court, Its Development and Impact: The Second Phase (1998-2000)*. Philadelphia: Crime and Justice Research Institute.

Goldkamp, J. S., White, M. D., & Robinson, J. B. (2000). *Retrospective Evaluation of Two Pioneering Drug Courts: Phase I Findings from Clark County, Nevada, and Multnomah County, Oregon*. Philadelphia: Crime and Justice Research Institute.

Goldkamp, J. S., White, M. D., & Robinson, J. B. (2001a). Context and Change: The Evolution of Pioneering Drug Courts in Portland and Las Vegas (1991-1998). *Law & Policy, 23*(2), 143-170.

Goldkamp, J. S., White, M. D., & Robinson, J. B. (2001b). *"An Honest Chance": Perspectives of Drug Court Participants: Findings from Focus Groups in Brooklyn, Miami, Seattle, Las Vegas, and San Bernardino*. Philadelphia: Crime and Justice Research Institute.

Green, L. (1995). Cleaning Up Drug Hot Spots in Oakland, California: The Displacement and Diffusion Effects. *Justice Quarterly, 12*, 737-754.

Green, L. (1996). *Policing Places with Drug Problems*. Beverly Hills: Sage Publications.

Hora, P., Schma, W., & Rosenthal, J. (1999). Therapeutic Jurisprudence and the Drug Treatment Court Movement: Revolutionizing the Criminal Justice System's Response to Drug Abuse and Crime in America. *Notre Dame Law Review, 74*(2), 439-538.

Katims, J. J., Ng, L. K. Y., & Lowinson, J. H. (1992). Acupuncture and Transcutaneous Electrical Nerve Stimulation: Afferent Nerve Stimulation (ANS) in the Treatment of Addiction. In L. H. Lowenson & P. Ruiz & R. B. Millman & J. G. Langrod (Eds.), *Substance Abuse: A Comprehensive Textbook* (2nd ed.). Baltimore: Williams and Wilkins.

Konefal, J. (1997). Paper presented at the National Institute of Health (NIH) Consensus Development Conference in Acupuncture.

Longshore, D., Turner, S., Wenzel, S., Morral, A., Harrell, A., McBride, D., Deschenes, E., & Iguchi, M. (2001). Drug Courts: A Conceptual Framework. *Journal of Drug Issues, 31*(1), 7-26.

Margolin, A., Avants, S. K., Holford, T. R., & Kosten, T. R. (2000). A Randomized Controlled Trial of Auricular Acupuncture for Cocaine Dependence. *Archives of Internal Medicine, 160*, 2305-2312.

Nasar, J., & Fisher, B. (1993). Hot Spots of Fear and Crime: A Multi-Method Investigation. *Journal of Environmental Psychology, 13*, 187-206.

National Association of Drug Court Professionals. (1997). *Defining Drug Courts: The Key Components*. Washington, DC: U.S. Department of Justice, Office of Justice Programs, Drug Courts Program Office.

Ned Levine & Associates. (1999). A Special Statistics Program for the Analysis of Crime Incident Locations. Washington, DC: National Institute of Justice.

Pennell, S., & Melton, R. (1994). *Solutions/Soluciones: An Evaluation of an Acupuncture Program for Drug Treatment in San Diego County*. San Diego: Criminal Justice Research Division, San Diego Association of Governments.

Ratcliffe, J., & McCullagh, M. (1998). The Perception of Crime Hot Spots: A Spatial Study in Nottingham, U.K. In J. Wartell (Ed.), *Crime Mapping Case Studies: Successes in the Field*. Washington, DC: Police Executive Research Forum.

Robinson, J. B. (2001). *Drug Free Zones: An Examination of a Situational Crime Prevention Measure in Portland, Oregon*. Unpublished Dissertation, Temple University, Philadelphia.

Schwartz, M., Saitz, R., Mulvey, K., & Brannigan, P. (1999). The Value of Acupuncture Detoxification Programs in a Substance Abuse Treatment System. *Journal of Substance Abuse Treatment, 17*(4), 305-312.

Sherman, L. W. (1997). Hot Spots of Crime and Criminal Careers of Places. In D. Weisberd (Ed.), *Crime and Place*. Monsey: Criminal Justice Press.

Sherman, L. W., Gartin, P. R., & Buerger, M. E. (1989). Hot Spots of Predatory Crime: Routine Activities and the Criminology of Place. *Criminology, 27*(1), 27-55.

Singer, A. (1992). *Effective Treatment for Drug-Involved Offenders: A Review and Synthesis for Judges and Other Court Personnel*. Newton: Education Development Center, Inc.

Taylor, R. B. (2001). *Breaking Away from Broken Windows: Baltimore Neighborhoods and the Nationwide Fight Against Crime, Grime, Fear, and Decline*. Boulder: Westview Press.

Washburn, A. M., Fullilove, R. E., Fullilove, M. T., Keenan, P. A., McGee, B., Morris, K. A., Sorenson, J. L., & Clark, W. W. (1993). Acupuncture Heroin Detoxification: A Single-Blind Clinical Trial. *Journal of Substance Abuse Treatment, 10*, 345-351.

Weisburd, D., & Green, L. (1995). Policing Drug Hot Spots: The Jersey City Drug Market Analysis Experiment. *Justice Quarterly, 12*(4), 711-735.

APPENDIX A
Supplemental Tables

Table A1 Drug Court Participation as a Predictor of Lower Rearrest among Clark County Participants and Comparison Group Defendants, Controlling for Sample Differences: Rearrest (One Year)

Predictors	1993-97	1993	1994	1995	1996	1997
Any						
Model A (Sample, Controlling for Sample Differences)						
Tx vs. Comp.	.7184 (.0009)	.8601 (.0734)	1.0937 (.0435)	.9748 (.0499)	-.2447 (.6056)	.4380 (.2010)
Gender				.2398 (.5376)		
Alias						-.8448 (.0065)
Phone	-.1064 (.6102)	.3148 (.4988)	-.5517 (.2990)	.0447 (.9264)	.3597 (.4315)	
Most serious charge, current		-.8002 (.1618)	.1779 (.7688)			
Theft charge, current	.1400 (.6528)				.7436 (.2486)	
Drug charge, current	-.6170 (.0297)			-1.6123 (.0501)		-.7724 (.0872)
Guilty comparison		-.6404 (.1047)				
Prior drug arrests			1.1460 (.0009)			
Prior serious person convicts				1.4002 (.0114)		
Prior drug convicts	.6627 (.0003)					
Prior drug traffic convicts				1.2004 (.0704)	.5747 (.3716)	
Prior felony convicts						.5812 (.1110)
Prior FTAs	.9964 (.0000)				1.5954 (.0000)	
Model Statistics						
Log likelihood	1,219.671	255.318	222.132	227.688	229.556	267.653
Goodness of fit (H&L)	2.9552	4.9890	4.6416	5.2886	2.4802	5.3727
GF significance	.8891	.2884	.7036	.5074	.7795	.4970
Chi square	103.102	17.529	21.198	24.220	29.042	16.283
DF	6	4	4	6	5	4
Significance	.0000	.0015	.0003	.0005	.0000	.0027
N	979	198	185	192	192	207

*Tx vs. Comp. indicates drug court versus comparison group membership.

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Table A1 Drug Court Participation as a Predictor of Lower Rearrest among Clark County Participants and Comparison Group Defendants, Controlling for Sample Differences: Rearrest (One Year) (Cont.)

Predictors	1993-97	1993	1994	1995	1996	1997
Drug						
Model A (Sample, Controlling for Sample Differences)						
Tx vs. Comp.	**1.0241 (.0000)**	.4915 (.3353)	**1.7331 (.0008)**	.8428 (.0750)	.6812 (.1548)	.5597 (.1215)
Gender				.0228 (.9538)	-	
Alias						**-.6049 (.0586)**
Phone	.1068 (.5976)	**1.1271 (.0183)**	-.2029 (.6877)	.2358 (.5988)	.2423 (.5797)	
Most serious charge, current		-.1987 (.7522)	-.3152 (.6371)			
Theft charge, current	.2696 (.3941)				.2852 (.6222)	
Drug charge, current	**.6324 (.0454)**			.4344 (.5598)		**1.2622 (.0345)**
Guilty comparison		-.3242 (.4124)				
Prior drug arrests			**1.0054 (.0028)**			
Prior serious person convicts				-.1879 (.6935)		
Prior drug convicts	**.6151 (.0003)**					
Prior drug traffic convicts				**1.4730 (.0073)**	-.2021 (.7132)	
Prior felony convicts						.5786 (.1249)
Prior FTAs	**.9999 (.0000)**				**1.6932 (.0000)**	
Model Statistics						
Log likelihood	1,168.449	238.466	214.723	233.869	230.437	244.307
Goodness of fit (H&L)	4.7900	10.6926	4.8590	7.9545	.7166	5.0228
GF significance	.6856	.0302	.5620	.3366	.9820	.5409
Chi square	147.171	24.267	40.524	26.942	28.942	19.210
DF	6	4	4	6	5	4
Significance	.0000	.0001	.0000	.0001	.0000	.0007
N	979	198	185	192	192	207

*Tx vs. Comp. indicates drug court versus comparison group membership.

Table A1 Drug Court Participation as a Predictor of Lower Rearrest among Clark County Participants and Comparison Group Defendants, Controlling for Sample Differences: Rearrest (One Year) (Cont.)

Predictors	1993-97	1993	1994	1995	1996	1997
Non-Drug						
Model A (Sample, Controlling for Sample Differences)						
Tx vs. Comp.	**.4332 (.0345)**	.7947 (.0940)	-.0382 (.9358)	.8513 (.0759)	-.1370 (.7627)	.0848 (.8080)
Gender				-.3370 (.3851)		
Alias						**-.7637 (.0138)**
Phone	-.1736 (.3774)	-.1008 (.8232)	-.0249 (.9564)	-.5444 (.2300)	.2256 (.6017)	
Most serious charge, current		-.3157 (.5805)	.1317 (.8225)			
Theft charge, current	.0455 (.8764)				.6436 (.2417)	
Drug charge, current	**-.9031 (.0008)**			**-1.4851 (.0381)**		**-1.1219 (.0118)**
Guilty comparison		-.3308 (.3870)				
Prior drug arrests			1.1424 (.0003)			
Prior serious person convicts				1.7885 (.0005)		
Prior drug convicts	.2773 (.0920)					
Prior drug traffic convicts				.0418 (.9324)	-.5984 (.2619)	
Prior felony convicts						.4760 (.1747)
Prior FTAs	.8128 (.0000)				.8978 (.0061)	
Model Statistics						
Log likelihood	1,275.572	261.506	238.475	240.378	249.420	264.376
Goodness of fit (H&L)	7.2856	5.1284	1.6317	3.9761	13.0259	12.9209
GF significance	.3998	.2744	.8974	.6799	.0231	.0443
Chi square	63.486	6.398	14.035	24.769	14.222	17.303
DF	6	4	4	6	5	4
Significance	.0000	.1713	.0072	.0004	.0143	.0017
N	979	198	185	192	192	207

*Tx vs. Comp. indicates drug court versus comparison group membership.

Table A2 Drug Court Participation as a Predictor of Lower Rearrest among Clark County Participants and Comparison Group Defendants, Controlling for Sample Differences: Rearrest (Two Years)

Predictors	1993-97	1993	1994	1995	1996	1997
Any						
Model A (Sample, Controlling for Sample Differences)						
Tx vs. Comp.	**.7238 (.0017)**	**1.6883 (.0020)**	**1.1551 (.0574)**	.9812 (.0608)	-.3719 (.4386)	-.0819 (.8236)
Gender				.1580 (.6943)		
Alias						**-.9203 (.0084)**
Phone	-.0196 (.9310)	.1503 (.7797)	-.5821 (.3297)	.2258 (.6641)	.3546 (.4435)	
Most serious charge, current		-.1375 (.7973)	.0264 (.9675)			
Theft charge, current	.3010 (.3845)				.6287 (.3710)	
Drug charge, current	-.4585 (.1293)			-1.2979 (.1125)		-.2477 (.6161)
Guilty comparison		-.7033 (.1101)				
Prior drug arrests			**1.5919 (.0001)**			
Prior serious person convicts				1.0090 (.0691)		
Prior drug convicts	**.6330 (.0022)**					
Prior drug traffic convicts				1.2372 (.1138)	.1646 (.7995)	
Prior felony convicts						**.8208 (.0560)**
Prior FTAs	**1.1077 (.0000)**				**1.4922 (.0004)**	
Model Statistics						
Log likelihood	1,113.026	230.084	192.527	211.182	217.461	238.308
Goodness of fit (H&L)	3.3200	3.5093	1.5312	1.5819	3.2203	9.4404
GF significance	.8539	.4765	.9812	.9034	.7807	.1503
Chi square	98.388	29.487	27.243	20.615	21.037	14.421
DF	6	4	4	6	5	4
Significance	.0000	.0000	.0000	.0022	.0008	.0061
N	979	198	185	192	192	207

*Tx vs. Comp. indicates drug court versus comparison group membership.

Table A2 Drug Court Participation as a Predictor of Lower Rearrest among Clark County Participants and Comparison Group Defendants, Controlling for Sample Differences: Rearrest (Two Years) (Cont.)

Predictors	1993-97	1993	1994	1995	1996	1997
Drug						
Model A (Sample, Controlling for Sample Differences)						
Tx vs. Comp.	**1.0550 (.0000)**	**1.0739 (.0263)**	**1.7108 (.0012)**	**1.1447 (.0156)**	.3148 (.5046)	.4003 (.2355)
Gender				.0716 (.8532)	–	
Alias						-.5851 (.0539)
Phone	.1186 (.5584)	**.8898 (.0505)**	-.2750 (.5976)	.0533 (.9060)	.5612 (.2031)	
Most serious charge, current		-.0599 (.9206)	-.6043 (.3593)			
Theft charge, current	.0824 (.7918)				.1043 (.8544)	
Drug charge, current	.7018 (.0200)			.6130 (.4033)		**.9472 (.0466)**
Guilty comparison		-.1610 (.6875)				
Prior drug arrests			.8655 (.0099)			
Prior serious person convicts				.0468 (.9194)		
Prior drug convicts	**.5303 (.0021)**					
Prior drug traffic convicts				1.1673 (.0344)	.3650 (.5266)	
Prior felony convicts						.4483 (.2087)
Prior FTAs	**1.0183 (.0000)**				**1.5533 (.0000)**	
Model Statistics						
Log likelihood	1,200.907	237.454	218.564	237.618	236.767	269.437
Goodness of fit (H&L)	3.7319	7.1511	4.0932	4.1855	5.0676	3.2256
GF significance	.8101	.1281	.5361	.7582	.4077	.7801
Chi square	153.184	35.738	37.766	27.529	29.068	15.392
DF	6	4	4	6	5	4
Significance	.0000	.0000	.0000	.0001	.0000	.0040
N	979	198	185	192	192	207

*Tx vs. Comp. indicates drug court versus comparison group membership.

Table A2 Drug Court Participation as a Predictor of Lower Rearrest among Clark County Participants and Comparison Group Defendants, Controlling for Sample Differences: Rearrest (Two Years) (Cont.)

Predictors	1993-97	1993	1994	1995	1996	1997
Non-Drug						
Model A (Sample, Controlling for Sample Differences)						
Tx vs. Comp.	.2455 (.2328)	**1.2856 (.0097)**	-.3645 (.4436)	.5160 (.2754)	-.4979 (.2734)	-.2337 (.5017)
Gender				-.6311 (.0916)		
Alias						**-.9850 (.0020)**
Phone	-.1012 (.6109)	-.5343 (.2614)	.2072 (.6497)	-.1113 (.8056)	.3669 (.4003)	
Most serious charge, current		-.0602 (.9098)	.1965 (.7428)			
Theft charge, current	-.0910 (.7628)				.2709 (.6329)	
Drug charge, current	**-.9141 (.0014)**			-1.4863 (.0672)		-.7386 (.1181)
Guilty comparison		-.4396 (.2492)				
Prior drug arrests			**1.2998 (.0001)**			
Prior serious person convicts				**1.4191 (.0081)**		
Prior drug convicts	**.4768 (.0051)**					
Prior drug traffic convicts				-.2991 (.5418)	.7290 (.2104)	
Prior felony convicts						**.8304 (.0277)**
Prior FTAs	**.8316 (.0000)**				**.9440 (.0050)**	
Model Statistics						
Log likelihood	1,279.729	264.864	238.664	242.328	248.587	260.719
Goodness of fit (H&L)	4.2505	3.4039	1.0861	2.3852	8.8379	10.0557
GF significance	.7505	.4926	.8965	.8811	.1157	.1223
Chi square	71.071	9.542	17.362	19.743	15.891	23.218
DF	6	4	4	6	5	4
Significance	.0000	.0489	.0016	.0031	.0072	.0001
N	979	198	185	192	192	207

*Tx vs. Comp. indicates drug court versus comparison group membership.

Table A3 Drug Court Participation as a Predictor of Lower Rearrest among Multnomah County Participants and Comparison Group Defendants (Group A or Group B), Controlling for Sample Differences: Rearrest (One Year)

Predictors	1991-97		1991-92		1993-94		1995-96		1997	
	All TXA	All TXB	All TXA	All TXB	All TXA	All TXB	All TXA	All TXB	All TXA	All TXB
Any										
Model A (Sample, Controlling for Sample Differences)										
Demographic										
Over or under 25 years old	.014 (.932)		.397 (.164)						.253 (.476)	
Hispanic	.638 (.001)	.928 (.000)	.479 (.163)	1.050 (.001)	.998 (.006)		-.292 (.472)			
Race (white/non-white)			.691 (.014)						1.157 (.000)	
Current Case										
Phone										-.308 (.410)
Detained at all pretrial	.582 (.000)	.320 (.029)			.663 (.051)	.515 (.115)	1.132 (.001)	.505 (.097)	.923 (.006)	1.089 (.001)
Criminal History										
Pending arrest charge	.761 (.000)	.760 (.000)	.612 (.045)	.964 (.002)		.994 (.006)	1.464 (.002)		.374 (.429)	
Prior drug arrest		.530 (.001)								
Prior drug trafficking arrest						.067 (.916)				
Serious person conviction				-.434 (.349)						
Drug possession conviction									1.010 (.007)	.290 (.426)
Drug trafficking conviction						.394 (.589)		.175 (.744)		
Weapon conviction	.569 (.120)									
Prior FTAs in 3 years	.643 (.000)				.492 (.348)					
Other										
*Tx vs. Comp A	-.241 (.126)		-.066 (.820)		-.401 (.272)		-.147 (.662)		.152 (.667)	
*Tx vs. Comp B		-.214 (.152)		-.060 (.833)		-.730 (.031)		-.231 (.458)		.013 (.970)

*Tx = Drug Court.

Table A3 Drug Court Participation as a Predictor of Lower Rearrest among Multnomah County Participants and Comparison Group Defendants (Group A or Group B), Controlling for Sample Differences: Rearrest (One Year) (Cont.)

	1991-97		1991-92		1993-94		1995-96		1997	
Predictors	All TXA	All TXB	All TXA	All TXB	All TXA	All TXB	All TXA	All TXB	All TXA	All TXB
Model Statistics										
Log likelihood	1,217.523	1,181.793	410.119	392.535	245.298	249.861	274.100	279.554	294.052	245.537
Goodness of fit	4.778	1.293	5.071	5.967	7.195	1.452	6.071	1.691	14.967	14.646
GF significance	.573	.972	.535	.202	.126	.963	.299	.639	.060	.012
Chi square	93.706	78.328	30.497	26.752	24.156	20.105	25.576	4.269	40.694	16.143
DF	7	5	5	4	4	5	4	3	6	4
Significance	.000	.000	.000	.000	.000	.001	.000	.234	.000	.003
N	1083	1073	339	329	252	253	252	249	240	226
Drug										
Model A (Sample, Controlling for Sample Differences)										
Demographic										
Over or under 25 years old	.014 (.932)		.397 (.164)						.253 (.476)	
Hispanic	.638 (.001)	.928 (.000)	.479 (.163)	1.050 (.001)	.998 (.006)		-.292 (.472)			
Race (white/non-white)			.691 (.014)						1.157 (.000)	
Current Case										
Phone										-.308 (.410)
Detained at all pretrial	.582 (.000)	.320 (.029)			.663 (.051)	.515 (.115)	1.132 (.001)	.505 (.097)	.923 (.006)	1.089 (.001)
Criminal History										
Pending arrest charge	.761 (.000)	.760 (.000)	.612 (.045)	.964 (.002)		.994 (.006)	1.464 (.002)		.374 (.429)	
Prior drug arrest		.530 (.001)								
Prior drug trafficking arrest						.067 (.916)				
Serious person conviction				-.434 (.349)						
Drug possession conviction									1.010 (.007)	.290 (.426)
Drug trafficking conviction						.394 (.589)		.175 (.744)		

*Tx = Drug Court.

Table A3 Drug Court Participation as a Predictor of Lower Rearrest among Multnomah County Participants and Comparison Group Defendants (Group A or Group B), Controlling for Sample Differences: Rearrest (One Year) (Cont.)

Predictors	1991-97		1991-92		1993-94		1995-96		1997	
	All TXA	All TXB	All TXA	All TXB	All TXA	All TXB	All TXA	All TXB	All TXA	All TXB
Weapon conviction	.569 (.120)									
Prior FTAs in 3 years	**.643 (.000)**				.492 (.348)					
Other										
*Tx vs. Comp A	-.241 (.126)		-.066 (.820)		-.401 (.272)		-.147 (.662)		.152 (.667)	
*Tx vs. Comp B		-.214 (.152)		-.060 (.833)		**-.730 (.031)**		-.231 (.458)		.013 (.970)
Model Statistics										
Log likelihood	1,217.523	1,181.793	410.119	392.535	245.298	249.861	274.100	279.554	294.052	245.537
Goodness of fit	4.778	1.293	5.071	5.967	7.195	1.452	6.071	1.691	14.967	14.646
GF significance	.573	.972	.535	.202	.126	.963	.299	.639	.060	.012
Chi square	93.706	78.328	30.497	26.752	24.156	20.105	25.576	4.269	40.694	16.143
DF	7	5	5	4	4	5	4	3	6	4
Significance	.000	.000	.000	.000	.000	.001	.000	.234	.000	.003
N	1083	1073	339	329	252	253	252	249	240	226
Non-Drug										
Model A (Sample, Controlling for Sample Differences)										
Demographic										
Over or under 25 years old	.095 (.550)		.429 (.146)						-.071 (.831)	
Hispanic	-.380 (.058)	**-.551 (.025)**	**-.727 (.046)**	-.175 (.620)	-.085 (.821)		**-1.056 (.018)**			
Race (white/non-white)			**.974 (.000)**						**.758 (.016)**	
Current Case										
Phone										.368 (.276)
Detained at all pretrial	**.328 (.023)**	**.226 (.003)**	.443 (.153)	**.736 (.018)**		**.740 (.036)**	**1.061 (.018)**		**.929 (.047)**	
Criminal History										
Prior drug arrest		**.818 (.000)**								
Prior drug trafficking arrest						.008 (.990)				
Serious person conviction				.712 (.072)						

*Tx = Drug Court.

Table A3 Drug Court Participation as a Predictor of Lower Rearrest among Multnomah County Participants and Comparison Group Defendants (Group A or Group B), Controlling for Sample Differences: Rearrest (One Year) (Cont.)

Predictors	1991-97		1991-92		1993-94		1995-96		1997	
	All TXA	All TXB	All TXA	All TXB	All TXA	All TXB	All TXA	All TXB	All TXA	All TXB
Drug possession conviction									1.031 (.004)	1.060 (.002)
Drug trafficking conviction						-.544 (.505)		.840 (.091)		
Weapon conviction	.230 (.536)									
Prior FTAs in 3 years	**1.060 (.000)**				.704 (.144)					
Other										
*Tx vs. Comp A	-.223 (.154)		.504 (.104)		-.366 (.285)		-.291 (.372)		-.397 (.223)	
*Tx vs. Comp B		-.138 (.341)		.221 (.450)		**-.744 (.019)**		-.284 (.334)		.148 (.651)
Model Statistics										
Log likelihood	1,258.595	1,252.610	402.860	399.756	271.698	280.452	294.401	303.874	279.437	264.507
Goodness of fit	16.113	8.963	1.138	3.562	1.479	5.438	1.591	2.105	7.414	7.664
GF significance	.024	.176	.980	.614	.915	.489	.902	.551	.284	.264
Chi square	81.207	63.515	18.335	9.214	11.719	14.059	14.419	5.722	38.114	21.314
DF	7	5	5	4	4	5	4	3	6	4
Significance	.000	.000	.003	.056	.020	.015	.007	.126	.000	.000
N	1083	1073	339	329	252	253	252	249	240	226

*Tx = Drug Court.

Table A4 Drug Court Participation as a Predictor of Lower Rearrest among Multnomah County Participants and Comparison Group Defendants (Group A or Group B), Controlling for Sample Differences: Rearrest (Two Years)

Predictors	1991-96 All TXA	1991-96 All TXB	1991-92 All TXA	1991-92 All TXB	1993-94 All TXA	1993-94 All TXB	1995-96 All TXA	1995-96 All TXB
Any								
Model A (Sample, Controlling for Sample Differences)								
Demographic								
Over or under 25 years old	-.029 (.863)		.348 (.226)					
Hispanic	.202 (.314)	.583 (.014)	-.102 (.775)	.584 (.086)	.394 (.235)		-.839 (.032)	
Race (white/non-white)			.766 (.004)					
Current Case								
Detained at all pretrial	.391 (.009)	.003 (.983)			.565 (.045)	.349 (.215)	.879 (.005)	.143 (.610)
Criminal History								
Pending arrest charge	1.093 (.002)	.982 (.000)	.899 (.007)	1.272 (.000)		.922 (.010)	1.567 (.007)	
Prior drug arrest		.580 (.000)						
Prior drug trafficking arrest						.471 (.420)		
Serious person conviction				.264 (.512)				
Drug trafficking conviction						-.371 (.550)		.773 (.161)
Weapon conviction	.184 (.606)							
Prior FTAs in 3 years	.574 (.005)				-.185 (.616)			
Other								
Tx versus Comp A	-.142 (.398)		.204 (.482)		-.196 (.507)		-.332 (.298)	
Tx versus Comp B		-.213 (.170)		.358 (.189)		-.537 (.061)		-.486 (.080)
Model Statistics								
Log likelihood	1,109.003	1,091.727	441.153	432.788	336.145	331.003	323.037	335.370
Goodness of fit	10.055	9.060	1.752	1.719	3.534	3.298	3.004	2.467
GF significance	.185	.170	.941	.787	.739	.654	.699	.481
Chi square	56.717	57.504	22.264	20.743	10.912	19.409	24.250	7.640
DF	7	5	5	4	4	5	4	3
Significance	.000	.000	.000	.000	.028	.002	.000	.054
N	842	830	339	329	252	253	251	248
Drug								
Model A (Sample, Controlling for Sample Differences)								
Demographic								
Over or under 25 years old	-.118 (.502)		.214 (.450)					

*Tx = Drug Court.

Table A4 Drug Court Participation as a Predictor of Lower Rearrest among Multnomah County Participants and Comparison Group Defendants (Group A or Group B), Controlling for Sample Differences: Rearrest (Two Years) (Cont.)

Predictors	1991-96 All TXA	1991-96 All TXB	1991-92 All TXA	1991-92 All TXB	1993-94 All TXA	1993-94 All TXB	1995-96 All TXA	1995-96 All TXB
Hispanic	.716 (.000)	1.181 (.000)	.666 (.054)	1.185 (.000)	.711 (.039)		-.347 (.375)	
Race (white/non-white)			.636 (.019)	-				
Current Case								
Detained at all pretrial	.239 (.130)	-.096 (.553)			.383 (.217)	.454 (.138)	.766 (.015)	.262 (.361)
Criminal History								
Pending arrest charge	.923 (.000)	.767 (.000)	.683 (.025)	1.032 (.001)		.902 (.010)	1.434 (.002)	
Prior drug arrest		.651 (.000)						
Prior drug trafficking arrest						.520 (.368)		
Serious person conviction				-.710 (.125)				
Drug trafficking conviction						.268 (.687)		.086 (.864)
Weapon conviction	.341 (.363)							
Prior FTAs in 3 years	.449 (.024)				.018 (.965)			
Other								
Tx versus Comp A	-.282 (.100)		-.013 (.965)		-.497 (.125)		-.275 (.390)	
Tx versus Comp B		-.243 (.137)		.213 (.452)		-.436 (.166)		-.556 (.052)
Model Statistics								
Log likelihood	1,030.349	985.686	427.007	405.362	285.556	280.527	303.391	314.090
Goodness of fit	15.304	1.848	4.971	1.508	3.938	1.846	5.776	.331
GF significance	.032	.933	.419	.825	.558	.089	.329	.954
Chi square	62.771	74.132	31.170	30.580	15.972	15.965	20.562	6.041
DF	7	5	5	4	4	5	4	3
Significance	.000	.000	.000	.000	.003	.007	.000	.110
N	842	830	339	329	252	253	251	248
Non-Drug								
Model A (Sample, Controlling for Sample Differences)								
Demographic								
Over or under 25 years old	.013 (.939)		.227 (.430)					
Hispanic	-.386 (.070)	-.419 (.083)	-.690 (.052)	-.164 (.629)	-.221 (.536)		-1.005 (.017)	
Race (white/non-white)			.732 (.006)					
Current Case								
Detained at all pretrial	.211 (.176)	.056 (.714)			.502 (.093)	-.054 (.853)	.393 (.207)	.136 (.630)

*Tx = Drug Court

Table A4 Drug Court Participation as a Predictor of Lower Rearrest among Multnomah County Participants and Comparison Group Defendants (Group A or Group B), Controlling for Sample Differences: Rearrest (Two Years) (Cont.)

	1991-96		1991-92		1993-94		1995-96	
Predictors	All TXA	All TXB	All TXA	All TXB	All TXA	All TXB	All TXA	All TXB
Criminal History								
Pending arrest charge	.982 (.000)	.775 (.000)	.891 (.003)	1.077 (.000)		.647 (.058)	1.363 (.004)	
Prior drug arrest		.506 (.002)						
Prior drug trafficking arrest						-.007 (.990)		
Serious person conviction				.746 (.060)				
Drug trafficking conviction						-.502 (.471)		.907 (.074)
Weapon conviction	.030 (.936)							
Prior FTAs in 3 years	.337 (.085)				-.113 (.774)			
Other								
Tx versus Comp A	-.006 (.971)		.363 (.222)		-.077 (.806)		-.183 (.566)	
Tx versus Comp B		-.188 (.233)		.172 (.540)		-.469 (.110)		-.359 (.201)
Model Statistics								
Log likelihood	1,052.893	1,056.963	427.786	418.950	308.238	317.757	311.976	324.891
Goodness of fit	1.141	9.156	1.924	1.683	2.896	6.148	1.414	.952
GF significance	.992	.165	.927	.794	.856	.407	.923	.813
Chi square	37.778	37.857	19.588	15.974	3.596	9.165	16.769	7.057
DF	7	5	5	4	4	5	4	3
Significance	.000	.000	.001	.003	.463	.103	.002	.070
N	842	830	339	329	252	253	251	248

*Tx = Drug Court.

Table A5 Drug Court Participation as a Predictor of Lower Rearrest among Clark County Participants and Comparison Group Defendants, Controlling for Sample Differences and Risk: Rearrest (One Year)

Predictors	1993-97	1993	1994	1995	1996	1997
Any						
Model B (Sample, Control Sample Differences, Arrest Predictors)						
Tx vs. Comp.	.7107 (.0020)	1.0620 (.0506)	1.3479 (.0225)	1.1006 (.0525)	-.0166 (.9756)	1.0211 (.0772)
Race (white/non-white)	.6255 (.0001)	.9665 (.0111)	.8832 (.0581)	.6229 (.1068)	.6054 (.1084)	.5934 (.0609)
Gender				.3329 (.4511)		
Alias	-.6389 (.0000)	-.6127 (.0766)	-.6202 (.0821)	-.1085 (.7808)	-1.3513 (.0003)	-.6108 (.0587)
Phone	-.0826 (.7107)	-.0329 (.9506)	-.7830 (.1749)	.1637 (.7650)	.1720 (.7452)	-.6389 (.2348)
Most serious charge, current		-.9951 (.1112)	.1290 (.8429)			
Serious property, current						
Theft charge, current	.1386 (.6713)				1.3824 (.0706)	
Drug charge, current	-.4557 (.1276)			-1.3132 (.1291)		-.7093 (.1303)
Guilty comparison		-.6025 (.1633)				
Prior arrests						
Prior arrests (3 years)	1.2169 (.0000)	.9373 (.0158)	1.4484 (.0005)	1.2851 (.0046)	1.0844 (.0097)	.7451 (.0446)
Pending arrests						
Prior serious person arrests						
Prior drug arrests		.8864 (.0341)	.0551 (.9001)	.9632 (.0298)	1.0407 (.0238)	.4899 (.2267)
Prior drug possession arrests						
Prior drug traffic arrests						
Prior felony arrests						
Prior misdemeanor arrests						
Prior serious person convicts				.8353 (.1588)		
Prior serious property convicts						
Prior drug convicts	.2071 (.2962)					
Prior drug traffic convicts		-.4077 (.7307)	5.2815 (.7170)	.5206 (.5048)	-.6999 (.3391)	
Prior felony convicts						-.0150 (.9726)
Prior FTAs	.5088 (.0047)				1.0892 (.0142)	
Prior FTAs (3 years)						
Model Statistics						
Log likelihood	1,114.520	218.376	194.339	193.514	191.901	251.838
Goodness of fit (H&L)	7.4356	8.2792	12.4566	8.2631	8.9385	4.9738
GF significance	.4904	.4067	.0865	.4082	.3475	.7604

Tx vs. Comp. indicates drug court versus comparison group membership.

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Table A5 Drug Court Participation as a Predictor of Lower Rearrest among Clark County Participants and Comparison Group Defendants, Controlling for Sample Differences and Risk: Rearrest (One Year) (Cont.)

Predictors	1993-97	1993	1994	1995	1996	1997
Chi square	208.253	54.472	48.991	58.394	66.696	32.099
DF	9	9	8	10	9	8
Significance	.0000	.0000	.0000	.0000	.0000	.0001
N	979	198	185	192	192	207
Drug						
Model B (Sample, Control Sample Differences, Arrest Predictors)						
Tx vs. Comp.	**1.0004 (.0000)**	.6885 (.2088)	**2.2292 (.0002)**	.8311 (.0845)	.6714 (.1956)	**1.2836 (.0344)**
Race (white/non-white)						
Gender				-.0026 (.9950)		
Alias	**-.4241 (.0047)**	-.0091 (.9800)	**-.7503 (.0434)**	-.0125 (.9719)	**-.9906 (.0056)**	-.5203 (.1264)
Phone	.1429 (.4944)	**1.0905 (.0347)**	-.5139 (.3551)	.3271 (.4735)	.1716 (.7192)	-.7653 (.1834)
Most serious charge, current		-.0876 (.9229)	.4545 (.6329)			
Serious property, current						
Theft charge, current	.1889 (.5561)				.4274 (.6093)	
Drug charge, current	**.7563 (.0170)**	.1110 (.9283)	1.2036 (.3680)	.7366 (.3310)	.5060 (.5377)	**1.3861 (.0222)**
Guilty comparison		-.4331 (.3044)				
Prior arrests						
Prior arrests (3 years)	**1.0715 (.0000)**	**.9288 (.0342)**	**1.4301 (.0016)**	**.9036 (.0259)**	**1.0535 (.0061)**	**1.2737 (.0176)**
Pending arrests						
Prior serious person arrests						
Prior drug arrests		.2053 (.6092)	-.0941 (.8262)			
Prior drug possession arrests						
Prior drug traffic arrests						
Prior felony arrests						
Prior misdemeanor arrests	-.1284 (.5508)					-.6472 (.2057)
Prior serious person convicts				-.5374 (.2783)		
Prior serious property convicts						
Prior drug convicts	.3044 (.0890)					
Prior drug traffic convicts				**1.3486 (.0198)**	-.3562 (.5694)	
Prior felony convicts						.1958 (.6438)
Prior FTAs	**.6557 (.0002)**				.6745 (.3493)	
Prior FTAs (3 years)		**1.1383 (.0163)**	.9078 (.0515)	.3513 (.3825)	.8372 (.2660)	.3779 (.3557)

*Tx vs. Comp. indicates drug court versus comparison group membership.

Predictors	1993-97	1993	1994	1995	1996	1997
Model Statistics						
Log likelihood	1,123.450	213.255	188.328	225.237	210.426	231.750
Goodness of fit (H&L)	3.6985	8.5009	7.2382	6.5264	8.7083	6.8248
GF significance	.8832	.3861	.4045	.5885	.3675	.5556
Chi square	192.170	49.479	66.919	35.574	48.952	31.767
DF	9	9	8	9	9	8
Significance	.0000	.0000	.0000	.0000	.0000	.0001
N	979	198	185	192	192	207
Non-Drug						
Model B (Sample, Control Sample Differences, Arrest Predictors)						
Tx vs. Comp.	**.4225 (.0534)**	**1.0278 (.0461)**	-.0038 (.9939)	.7481 (.1500)	-.0212 (.9664)	.0493 (.8915)
Race (white/non-white)						
Gender				-.5792 (.1742)		
Alias	**-.6778 (.0000)**	**-.8045 (.0180)**	-.3392 (.3106)	**-.7459 (.0475)**	**-1.0064 (.0036)**	**-.6231 (.0510)**
Phone	-.1733 (.4081)	-.5010 (.3184)	-.1724 (.7207)	-.4147 (.3907)	.1477 (.7584)	
Most serious charge, current		-.5592 (.3702)	.1076 (.8617)			
Serious property, current						
Theft charge, current	-.0552 (.8565)				.5345 (.3911)	
Drug charge, current	**-.8070 (.0044)**			-1.0492 (.1552)		**-.9740 (.0322)**
Guilty comparison		-.3052 (.4579)				
Prior arrests						
Prior arrests (3 years)	**1.1746 (.0000)**	**1.1834 (.0036)**	**1.3505 (.0014)**	**1.9436 (.0000)**	**1.0170 (.0051)**	.6457 (.1066)
Pending arrests						
Prior serious person arrests		.3582 (.3904)	.3717 (.3445)	-.2087 (.6543)	**1.3016 (.0046)**	.3025 (.4164)
Prior drug arrests			.6370 (.6216)			
Prior drug possession arrests	**.7422 (.0001)**	.3458 (.3588)	-.3022 (.8109)			.4421 (.2470)
Prior drug traffic arrests						
Prior felony arrests						
Prior misdemeanor arrests						
Prior serious person convicts				**1.5274 (.0163)**		
Prior serious property convicts						
Prior drug convicts	**-.5480 (.0070)**					

*Tx vs. Comp. indicates drug court versus comparison group membership.

Table A5 Drug Court Participation as a Predictor of Lower Rearrest among Clark County Participants and Comparison Group Defendants, Controlling for Sample Differences and Risk: Rearrest (One Year) (Cont.)

Predictors	1993-97	1993	1994	1995	1996	1997
Prior drug traffic convicts				-.5635 (.3044)	.0941 (.8701)	
Prior felony convicts						-.0924 (.8228)
Prior FTAs	.1796 (.2859)				.3993 (.2886)	
Prior FTAs (3 years)						
Model Statistics						
Log likelihood	1,164.627	230.075	220.685	207.908	220.387	254.413
Goodness of fit (H&L)	6.4057	4.7300	10.7344	7.0953	6.6623	13.5394
GF significance	.6019	.7860	.2172	.5264	.5735	.0600
Chi square	174.431	37.829	31.825	57.238	43.255	27.267
DF	9	8	8	9	8	7
Significance	.0000	.0000	.0001	.0000	.0000	.0003
N	979	198	185	192	192	207

*Tx vs. Comp. indicates drug court versus comparison group membership.

Table A6 Drug Court Participation as a Predictor of Lower Rearrest among Clark County Participants and Comparison Group Defendants, Controlling for Sample Differences and Risk: Rearrest (Two Years)

Predictors	1993-97	1993	1994	1995	1996	1997
Any						
Model B (Sample, Control Sample Differences, Arrest Predictors)						
Tx vs. Comp.	**.7437 (.0026)**	**2.2448 (.0004)**	**1.6136 (.0199)**	1.0987 (.0731)	-.2132 (.6777)	-.0608 (.9227)
Race (white/non-white)	**.6249 (.0002)**	.6293 (.1324)	1.1070 (.0709)	.7535 (.0681)	.3917 (.2861)	**.6892 (.0554)**
Gender				.2170 (.6368)		
Alias	**-.5670 (.0003)**	-.5410 (.1461)	-.6685 (.1044)	-.4405 (.2753)	**-.9834 (.0062)**	-.6525 (.0769)
Phone	.0073 (.9760)	-.2705 (.6568)	-.9572 (.1577)	.3420 (.5695)	.2116 (.6704)	.0042 (.9942)
Most serious charge, current		-.3272 (.5729)	-.0656 (.9289)			
Serious property, current						
Theft charge, current	.3057 (.4071)				1.0099 (.1883)	
Drug charge, current	-.2456 (.4461)			-.8408 (.3247)		.0442 (.9328)
Guilty comparison		-.7371 (.1173)				
Prior arrests						
Prior arrests (3 years)	**1.3842 (.0000)**	**1.1753 (.0052)**	**2.2452 (.0000)**	**1.0395 (.0266)**	**.9418 (.0268)**	**1.2914 (.0016)**
Pending arrests						
Prior serious person arrests						
Prior drug arrests		**1.1076 (.0195)**	.1201 (.8237)	**1.1911 (.0144)**	.3366 (.4778)	.2319 (.6263)
Prior drug possession arrests						
Prior drug traffic arrests						
Prior felony arrests						
Prior misdemeanor arrests						
Prior serious person convicts				.4345 (.4832)		
Prior serious property convicts						
Prior drug convicts	.1035 (.6462)					
Prior drug traffic convicts		-1.5680 (.1989)	5.0885 (.8308)	.3173 (.7256)	-.5921 (.4079)	
Prior felony convicts						.1455 (.7814)
Prior FTAs	**.5523 (.0064)**				**1.1029 (.0170)**	
Prior FTAs (3 years)						
Model Statistics						
Log likelihood	1,007.949	193.657	154.400	176.199	198.755	217.870
Goodness of fit (H&L)	2.7506	11.1152	10.2244	8.5301	5.3888	11.2306
GF significance	.9490	.1953	.1762	.3835	.7153	.1890

*Tx vs. Comp. indicates drug court versus comparison group membership.

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Table A6 Drug Court Participation as a Predictor of Lower Rearrest among Clark County Participants and Comparison Group Defendants, Controlling for Sample Differences and Risk: Rearrest (Two Years) (Cont.)

Predictors	1993-97	1993	1994	1995	1996	1997
Chi square	203.465	65.914	65.369	55.598	39.743	34.858
DF	9	9	8	10	9	8
Significance	.0000	.0000	.0000	.0000	.0000	.0000
N	979	198	185	192	192	207
Drug						
Model B (Sample, Control Sample Differences, Arrest Predictors)						
Tx vs. Comp.	**1.0477 (.0000)**	**1.3373 (.0103)**	**2.1887 (.0002)**	**1.1555 (.0175)**	.3746 (.4633)	**1.1044 (.0580)**
Race (white/non-white)						
Gender				.0415 (.9178)		
Alias	**-.5045 (.0006)**	.0696 (.8462)	**-.9980 (.0071)**	-.0695 (.8425)	**-1.4560 (.0001)**	-.4854 (.1334)
Phone	.1439 (.4920)	.7776 (.1123)	-.5495 (.3355)	.1405 (.7618)	.4812 (.3180)	-.7473 (.1764)
Most serious charge, current		.2938 (.7262)	.7537 (.4054)			
Serious property, current						
Theft charge, current	.0320 (.9199)				.7613 (.3685)	
Drug charge, current	**.8369 (.0060)**	.6698 (.5717)	**2.9576 (.0498)**	.9515 (.2022)	-1.0734 (.2021)	**1.1032 (.0246)**
Guilty comparison		-.2490 (.5553)				
Prior arrests						
Prior arrests (3 years)	**.8694 (.0000)**	**.8835 (.0396)**	**1.3340 (.0026)**	**.9466 (.0180)**	**1.0004 (.0227)**	**1.2074 (.0143)**
Pending arrests						
Prior serious person arrests						
Prior drug arrests		.4009 (.3254)	-.1447 (.7367)			
Prior drug poss. arrests						
Prior drug traffic arrests						
Prior felony arrests						
Prior misdemeanor arrests	.0532 (.7967)				-.2163 (.6534)	-.4884 (.3036)
Prior serious person convicts				-.3389 (.4832)		
Prior serious property convicts						
Prior drug convicts	.2075 (.2568)					
Prior drug traffic convicts				1.0048 (.0870)	-.1241 (.8420)	
Prior felony convicts						.0094 (.9815)
Prior FTAs	**.6606 (.0002)**				**1.4621 (.0008)**	
Prior FTAs (3 years)		.9495 (.0554)	.6069 (.2003)	.4215 (.2981)		.4190 (.2882)

*Tx vs. Comp. indicates drug court versus comparison group membership.

Table A6 Drug Court Participation as a Predictor of Lower Rearrest among Clark County Participants and Comparison Group Defendants, Controlling for Sample Differences and Risk: Rearrest (Two Years) (Cont.)

Predictors	1993-97	1993	1994	1995	1996	1997
Model Statistics						
Log likelihood	1,155.412	214.047	191.489	227.099	211.709	255.071
Goodness of fit (H&L)	6.1638	7.3469	12.8724	6.2222	2.2852	5.3769
GF significance	.6289	.4997	.0753	.6224	.9424	.7166
Chi square	198.678	59.145	64.840	38.047	54.126	29.758
DF	9	9	8	9	9	8
Significance	.0000	.0000	.0000	.0000	.0000	.0002
N	979	198	185	192	192	207
Non-Drug						
Model B (Sample, Control Sample Differences, Arrest Predictors)						
Tx vs. Comp.	.2310 (.2925)	**1.6618 (.0022)**	-.3484 (.5129)	.4348 (.4044)	-.3862 (.4273)	-.2694 (.4635)
Race (white/non-white)						
Gender				**-.9454 (.0239)**		
Alias	**-.5873 (.0000)**	**-.6731 (.0446)**	-.2566 (.4658)	**-.8248 (.0234)**	**-.7258 (.0258)**	**-.8089 (.0155)**
Phone	-.0964 (.6493)	**-1.0657 (.0448)**	.0387 (.9390)	.0664 (.8927)	.3401 (.4672)	
Most serious charge, current		-.2430 (.6787)	.2025 (.7615)			
Serious property, current						
Theft charge, current	-.2169 (.4918)				.1447 (.8151)	
Drug charge, current	**-.8039 (.0077)**			-1.0485 (.2084)		-.5192 (.2872)
Guilty comparison		-.4203 (.3130)				
Prior arrests						
Prior arrests (3 years)	**1.1999 (.0000)**	**1.2594 (.0017)**	**2.1449 (.0000)**	**1.3999 (.0003)**	.4930 (.1585)	**1.0440 (.0083)**
Pending arrests						
Prior serious person arrests		.2129 (.6255)	.1095 (.8006)	.6549 (.1783)	**1.3758 (.0063)**	.1835 (.6478)
Prior drug arrests			-.0974 (.9401)			
Prior drug possession arrests	**.7336 (.0002)**	.5973 (.1214)	.2502 (.8433)			.5412 (.1845)
Prior drug traffic arrests						
Prior felony arrests						
Prior misdemeanor arrests						
Prior serious person convicts				.5459 (.4106)		
Prior serious property convicts						
Prior drug convicts	-.3762 (.0801)					

*Tx vs. Comp. indicates drug court versus comparison group membership.

Table A6 Drug Court Participation as a Predictor of Lower Rearrest among Clark County Participants and Comparison Group Defendants, Controlling for Sample Differences and Risk: Rearrest (Two Years) (Cont.)

Predictors	1993-97	1993	1994	1995	1996	1997
Prior drug traffic convicts				-.8466 (.1138)	.3341 (.5899)	
Prior felony convicts						.0703 (.8768)
Prior FTAs	.1694 (.3318)				.6347 (.0919)	
Prior FTAs (3 years)						
Model Statistics						
Log likelihood	1,169.043	228.765	205.294	213.073	230.569	242.408
Goodness of fit (H&L)	4.9604	7.7386	4.5224	2.5875	6.8371	9.9453
GF significance	.7618	.4594	.8072	.9575	.4460	.2689
Chi square	181.757	45.641	50.733	48.997	33.909	41.528
DF	9	8	8	9	8	7
Significance	.0000	.0000	.0000	.0000	.0000	.0000
N	979	198	185	192	192	207

*Tx vs. Comp. indicates drug court versus comparison group membership.

Table A7 Drug Court Participation as a Predictor of Lower Rearrest among Multnomah County Participants and Comparison Group Defendants (Group A or Group B), Controlling for Sample Differences and Risk: Rearrest (One Year)

Predictors	1991-97 All TXA	1991-97 All TXB	1991-92 All TXA	1991-92 All TXB	1993-94 All TXA	1993-94 All TXB	1995-96 All TXA	1995-96 All TXB	1997 All TXA	1997 All TXB
Any										
Model B (Sample, Controlling for Sample Differences)										
Demographic										
Over or under 25 years old	.209 (.194)		.538 (.061)						.445 (.211)	
Hispanic	-.212 (.351)	.104 (.679)	**.706 (.006)**	.233 (.544)	.332 (.482)		**-1.144 (.047)**			
Race (white/non-white)	**.523 (.002)**	**.473 (.003)**		**.534 (.050)**	.221 (.581)	.585 (.064)	.440 (.230)	.106 (.722)	**.705 (.048)**	**.953 (.011)**
Current Case										
Alias	**1.005 (.000)**	**1.090 (.000)**	**.669 (.007)**	**.662 (.009)**	**1.441 (.000)**	**1.701 (.000)**	**1.103 (.001)**	**1.295 (.000)**	**1.377 (.000)**	**1.211 (.000)**
Phone							-.127 (.763)			-.249 (.495)
Detained at all pretrial	**.558 (.000)**	.202 (.152)	.134 (.574)		**.736 (.023)**	-.005 (.987)	**1.364 (.000)**	.236 (.453)	.476 (.160)	**.881 (.007)**
Criminal History										
Arrest in 3 years prior	**.599 (.000)**	**.366 (.035)**	**.807 (.002)**	**.817 (.002)**	.544 (.140)	**-.792 (.041)**	**1.084 (.002)**	**.795 (.016)**	-.111 (.779)	.295 (.458)
Pending arrest charge	.376 (.098)	.390 (.080)	.106 (.763)	.571 (.113)		**.917 (.041)**	1.032 (.106)		.824 (.171)	
Prior drug arrest		.250 (.141)								
Prior drug trafficking arrest						.634 (.340)				
Serious person conviction				-.074 (.858)						
Drug possession conviction									.223 (.643)	
Drug trafficking conviction						-.790 (.308)		.700 (.235)		.190 (.757)
Prior FTAs	.555 (.144)		.269 (.479)		.010 (.994)		.380 (.325)		**1.640 (.000)**	
Prior FTAs in 3 years	.136 (.742)	**.542 (.010)**		-.059 (.886)	-.237 (.862)	.163 (.768)		.704 (.080)		**1.070 (.019)**
Other										
*Tx vs. Comp A	-.221 (.161)		.165 (.568)		-.458 (.183)		-.364 (.328)		.052 (.887)	
*Tx vs. Comp B		-.273 (.061)		.178 (.532)		**-1.261 (.000)**		-.251 (.419)		.193 (.570)
Time at risk										

*Tx = Drug Court.

Table A7 Drug Court Participation as a Predictor of Lower Rearrest among Multnomah County Participants and Comparison Group Defendants (Group A or Group B), Controlling for Sample Differences and Risk: Rearrest (One Year) (Cont.)

Predictors	1991-97 All TXA	1991-97 All TXB	1991-92 All TXA	1991-92 All TXB	1993-94 All TXA	1993-94 All TXB	1995-96 All TXA	1995-96 All TXB	1997 All TXA	1997 All TXB
Model Statistics										
Log likelihood	1,236.556	1,264.820	415.623	406.982	258.201	271.649	262.361	280.699	250.049	242.570
Goodness of fit	11.758	8.508	6.653	9.705	7.751	5.724	2.479	7.235	4.477	4.296
GF significance	.162	.290	.575	.206	.458	.572	.929	.512	.724	.829
Chi square	212.725	183.831	48.999	44.717	49.702	60.383	75.119	53.926	76.031	62.779
DF	11	9	8	8	8	9	9	7	9	8
Significance	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000
N	1,053	1,062	335	327	233	250	245	245	236	224
Drug										
Model B (Sample, Controlling for Sample Differences)										
Demographic										
Over or under 25 years old	.050 (.765)		.447 (.108)						.223 (.547)	
Hispanic	-.027 (.903)	.290 (.231)		.585 (.115)	.646 (.188)		-1.249 (.026)			
Race (white/non-white)	**.801 (.000)**	**.711 (.000)**	**.775 (.004)**	**.564 (.048)**	.326 (.476)	**.883 (.012)**	**.959 (.009)**	**.881 (.006)**	**1.026 (.003)**	**.794 (.030)**
Current Case										
Alias	**.863 (.000)**	**.838 (.000)**	**.558 (.028)**	**.636 (.014)**	**1.591 (.000)**	**1.716 (.000)**	**.952 (.004)**	.515 (.126)	**.991 (.003)**	**.734 (.029)**
Phone							.167 (.698)			
Detained at all pretrial	**.615 (.000)**	.269 (.076)	.190 (.436)		.552 (.128)	-.035 (.924)	**1.206 (.001)**	.367 (.276)	**.845 (.014)**	**.899 (.009)**
Criminal History										
Pending arrest charge	**.524 (.011)**	**.692 (.001)**	.443 (.164)	**.862 (.007)**	.665 (.169)	.578 (.142)	**1.176 (.016)**	**1.240 (.020)**	.485 (.319)	.113 (.854)
Prior serious person arrest	.019 (.922)		-.408 (.207)		.513 (.286)		.248 (.522)		.126 (.761)	
Prior drug arrest		.101 (.593)								
Prior drug trafficking arrest		.464 (.062)		.218 (.514)		-.159 (.817)		**2.164 (.012)**		**1.325 (.028)**
Serious person conviction				-.625 (.187)						

*Tx = Drug Court.

Table A7 Drug Court Participation as a Predictor of Lower Rearrest among Multnomah County Participants and Comparison Group Defendants (Group A or Group B), Controlling for Sample Differences and Risk: Rearrest (One Year) (Cont.)

Predictors	1991-97 All TXA	1991-97 All TXB	1991-92 All TXA	1991-92 All TXB	1993-94 All TXA	1993-94 All TXB	1995-96 All TXA	1995-96 All TXB	1997 All TXA	1997 All TXB
Drug possession conviction									.757 (.054)	
Drug trafficking conviction						.628 (.426)		-1.618 (.101)		-1.161 (.149)
Weapon conviction	.606 (.111)									
Prior FTAs in 3 years	.384 (.051)				-.270 (.644)					
Other										
*Tx vs. Comp A	-.256 (.119)		-.160 (.575)		-.718 (.064)		-.347 (.361)		.065 (.862)	
*Tx vs. Comp B		-.305 (.050)		-.066 (.819)		-1.346 (.001)		-.064 (.852)		-.058 (.866)
Model Statistics										
Log likelihood	1,153.139	1,122.372	405.976	379.295	213.224	215.666	249.186	246.782	239.141	227.398
Goodness of fit	6.443	5.436	2.924	6.225	5.276	5.048	12.154	6.131	17.542	7.299
GF significance	.598	.710	.892	.514	.728	.752	.096	.525	.014	.505
Chi square	156.001	135.824	36.640	39.992	55.200	53.275	43.430	36.445	50.605	34.183
DF	10	8	7	7	8	7	8	7	8	8
Significance	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000
N	1,080	1,070	339	329	250	251	247	248	240	226
Non-Drug										
Model B (Sample, Controlling for Sample Differences)										
Demographic										
Over or under 25 years old	.250 (.138)		.526 (.086)						.051 (.892)	
Hispanic	-.679 (.004)	-.792 (.004)		-.359 (.392)	-.276 (.571)		-.889 (.123)			
Race (white/non-white)	.484 (.004)	.395 (.014)	.739 (.009)	.576 (.048)	.073 (.856)	.011 (.974)	.325 (.339)	-.391 (.216)	.525 (.117)	1.009 (.006)
Current Case										
Alias	.738 (.000)	.833 (.000)	.472 (.078)	.495 (.071)	1.219 (.000)	1.033 (.002)	.490 (.142)	.789 (.015)	1.214 (.000)	1.035 (.002)
Phone							-.238 (.581)			
Detained at all pretrial	.305 (.042)	.148 (.319)	.048 (.852)		.601 (.073)	-.419 (.216)	.360 (.290)	.142 (.662)	.098 (.765)	.622 (.072)

*Tx = Drug Court.

Table A7 Drug Court Participation as a Predictor of Lower Rearrest among Multnomah County Participants and Comparison Group Defendants (Group A or Group B), Controlling for Sample Differences and Risk: Rearrest (One Year) (Cont.)

Predictors	1991-97		1991-92		1993-94		1995-96		1997	
	All TXA	All TXB	All TXA	All TXB	All TXA	All TXB	All TXA	All TXB	All TXA	All TXB
Criminal History										
Pending arrest charge	.131 (.523)	.211 (.307)	-.274 (.423)	-.035 (.922)		.581 (.148)	.529 (.262)		.899 (.069)	
Prior drug arrest		.004 (.989)								
Prior drug trafficking arrest						.104 (.879)				
Prior felony arrest		.489 (.035)		.601 (.053)		-.334 (.414)		.753 (.044)		.871 (.038)
Prior misdemeanor arrest	.842 (.000)	.739 (.000)	1.430 (.000)	1.138 (.000)	.712 (.050)	-.035 (.918)	.963 (.004)	1.142 (.001)	.768 (.034)	.577 (.126)
Drug possession conviction	.117 (.542)	.061 (.783)	.005 (.986)	-.412 (.225)	-.271 (.620)	.667 (.293)	.064 (.879)	.243 (.549)	.474 (.238)	-.065 (.884)
Drug trafficking conviction						-1.156 (.245)		.106 (.850)		-.002 (.998)
Weapon conviction	.211 (.600)									
Prior FTAs in 3 years	.540 (.005)				.024 (.964)					
Other										
*Tx vs. Comp A	-.270 (.098)		.573 (.068)		-.606 (.091)		-.337 (.340)		-.570 (.105)	
*Tx vs. Comp B		-.277 (.070)		.140 (.656)		-.975 (.004)		-.225 (.487)		-.162 (.655)
Model Statistics										
Log likelihood	1,174.322	1,163.622	371.785	357.801	247.384	268.097	272.529	260.485	255.299	230.790
Goodness of fit	12.451	10.117	8.514	6.554	7.116	7.315	2.866	7.560	11.115	9.708
GF significance	.132	.257	.385	.585	.524	.503	.942	.478	.195	.286
Chi square	163.255	150.335	49.410	51.169	34.877	25.155	30.747	48.357	62.251	55.031
DF	11	10	8	9	8	10	9	8	8	9
Significance	.000	.000	.000	.000	.000	.005	.000	.000	.000	.000
N	1,080	1,070	339	329	250	251	247	248	240	226

*Tx = Drug Court.

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Table A8 Drug Court Participation as a Predictor of Lower Rearrest among Multnomah County Participants and Comparison Group Defendants (Group A or Group B), Controlling for Sample Differences and Risk: Rearrest (Two Years)

	1991-96		1991-92		1993-94		1995-96	
Predictors	All TXA	All TXB	All TXA	All TXB	All TXA	All TXB	All TXA	All TXB
Any								
Model B (Sample, Controlling for Sample Differences, Predictors of Rearrest)								
Demographic								
Over or under 25 years old	.036 (.840)		.373 (.204)					
Hispanic	-.180 (.473)	.327 (.241)		.350 (.374)	-.034 (.942)		-.967 (.084)	
Race (white/non-white)	**.398 (.034)**	.177 (.306)	**.555 (.033)**	.266 (.332)	.417 (.273)	.543 (.78)	.246 (.490)	-.056 (.853)
Current Case								
Alias	**1.061 (.000)**	**1.146 (.000)**	**.831 (.001)**	**.703 (.006)**	**1.302 (.000)**	**1.582 (.000**	**1.403 (.000)**	**1.654 (.000)**
Phone							-.379 (.355)	
Detained at all pretrial	.342 (.034)	-.077 (.625)	-.016 (.946)		.430 (.168)	-.027 (.931)	**.979 (.005)**	.004 (.989)
Criminal History								
Arrest in 3 years prior	**.587 (.001)**	**.549 (.004)**	**.740 (.006)**	**.639 (.016)**	.425 (.235)	-.533 (.140)	**.758 (.025)**	**1.048 (.002)**
Pending arrest charge	.385 (.149)	.607 (.017)	.171 (.648)	**.825 (.033)**		.915 (.042)	.658 (.298)	
Prior drug arrest		.046 (.814)						
Prior drug trafficking arrest						.747 (.253)		
Serious person conviction				.019 (.963)				
Drug trafficking conviction						-.490 (.467)		.392 (.531)
Weapon conviction	.288 (.460)							
Prior failures to appear	-.100 (.845)		.487 (.245)		-.678 (.589)		.472 (.225)	
Prior FTAs in 3 years	.606 (.272)	.113 (.618)		.041 (.920)	.484 (.717)	-.569 (.183)		.543 (.213)
Other								
*Tx vs. Comp A	-.109 (.538)		.191 (.516)		-.158 (.629)		-.316 (.383)	
*Tx vs. Comp B		-.304 (.063)		.355 (.210)		**-.934 (.004)**		-.411 (.193)
Model Statistics								
Log likelihood	995.468	1,013.488	409.619	410.526	285.509	292.509	275.265	273.265
Goodness of fit	8.407	12.605	4.063	2.552	3.109	4.698	9.610	2.246
GF significance	.395	.126	.851	.923	.922	.789	.293	.973
Chi square	132.682	123.489	48.173	40.560	36.978	53.808	62.187	63.804
DF	11	9	8	8	8	9	9	7
Significance	.000	.000	.000	.000	.000	.000	.000	.000
N	816	821	335	327	233	250	244	244

*Tx = Drug Court.

Table A8 Drug Court Participation as a Predictor of Lower Rearrest among Multnomah County Participants and Comparison Group Defendants (Group A or Group B), Controlling for Sample Differences and Risk: Rearrest (Two Years) (Cont.)

	1991-96		1991-92		1993-94		1995-96	
Predictors	All TXA	All TXB	All TXA	All TXB	All TXA	All TXB	All TXA	All TXB
Drug								
Model B (Sample, Controlling for Sample Differences, Predictors of Rearrest)								
Demographic								
Over or under 25 years old	-.087 (.634)		.301 (.282)					
Hispanic	.256 (.292)	**.683 (.009)**		**.808 (.034)**	.466 (.313)		-1.005 (.061)	
Race (white/non-white)	**.420 (.026)**	**.488 (.006)**	**.703 (.007)**	.356 (.207)	.170 (.679)	**.629 (.049)**	.499 (.152)	**.791 (.007)**
Gender								
Current Case								
Alias	**1.049 (.000)**	**.861 (.000)**	**.930 (.000)**	**.895 (.000)**	**1.387 (.000)**	**1.282 (.000)**	**1.249 (.000)**	**.800 (.010)**
Phone							.078 (.849)	
Detained at all pretrial	.275 (.092)	-.142 (.393)	.016 (.948)		.209 (.529)	.054 (.871)	**.843 (.013)**	.085 (.787)
Criminal History								
Arrest in 3 years prior	**.604 (.008)**	**.681 (.002)**	.435 (.174)	**.910 (.005)**	.833 (.064)	.545 (.144)	**1.117 (.022)**	.818 (.117)
Pending arrest charge	-.025 (.907)		-.432 (.173)		.162 (.724)		.279 (.448)	
Prior drug arrest		.307 (.141)						
Prior drug trafficking arrest								
Serious person conviction		.343 (.229)		.256 (.456)		.404 (.506)		1.552 (.061)
Drug trafficking conviction				**-.954 (.045)**				
Weapon conviction						.398 (.568)		-1.273 (.178)
Prior failures to appear	.330 (.400)							
Prior FTAs in 3 years	.299 (.154)				-.295 (.533)			
Other								
*Tx vs. Comp A	-.315 (.077)		-.187 (.511)		-.661 (.055)		-.398 (.264)	
*Tx vs. Comp B		**-.326 (.054)**		.192 (.513)		**-.811 (.020)**	-	-.513 (.098)
Model Statistics								
Log likelihood	975.720	944.191	416.036	387.654	254.034	257.184	274.789	284.102
Goodness of fit	6.061	2.886	4.532	7.520	4.691	7.831	4.641	3.091
GF significance	.533	.941	.806	.482	.790	.450	.704	.498
Chi square	114.785	113.164	42.121	48.288	46.142	38.029	42.371	35.176
DF	10	8	7	7	8	7	8	7
Significance	.000	.000	.000	.000	.000	.000	.000	.000
N	839	827	339	329	250	251	246	247

*Tx = Drug Court.

Table A8 Drug Court Participation as a Predictor of Lower Rearrest among Multnomah County Participants and Comparison Group Defendants (Group A or Group B), Controlling for Sample Differences and Risk: Rearrest (Two Years) (Cont.)

Predictors	1991-96 All TXA	1991-96 All TXB	1991-92 All TXA	1991-92 All TXB	1993-94 All TXA	1993-94 All TXB	1995-96 All TXA	1995-96 All TXB
Non-Drug								
Model B (Sample, Controlling for Sample Differences, Predictors of Rearrest)								
Demographic								
Over or under 25 years old	.122 (.506)		.251 (.392)					
Hispanic	**-.571 (.026)**	-.492 (.079)		-.256 (.521)	-.396 (.399)		-.874 (.116)	
Race (white/non-white)	.332 (.069)	.112 (.519)	.448 (.092)	.277 (.324)	.031 (.934)	.047 (.877)	.418 (.212)	-.403 (.190)
Gender								
Current Case								
Alias	**.772 (.000)**	**.815 (.000)**	**.550 (.031)**	**.588 (.025)**	**1.229 (.000)**	**1.111 (.000)**	**.634 (.054)**	**.804 (.013)**
Phone							-.364 (.384)	
Detained at all pretrial	.180 (.272)	.007 (.963)	-.069 (.777)		.357 (.260)	-.339 (.279)	.308 (.361)	.088 (.783)
Criminal History								
Arrest in 3 years prior	**.437 (.054)**	.406 (.071)	.310 (.345)	.542 (.117)		.503 (.197)	.771 (.121)	
Pending arrest charge		-.111 (.701)						
Prior drug arrest						.320 (.624)		
Prior drug trafficking arrest		.285 (.255)		.260 (.381)		-.624 (.110)		**.752 (.037)**
Serious person conviction	**.918 (.000)**	**.724 (.000)**	**1.098 (.000)**	**.846 (.002)**	**.764 (.021)**	.091 (.772)	**.997 (.002)**	**1.277 (.000)**
Drug trafficking conviction				.558 (.200)				
Weapon conviction	-.076 (.730)	.108 (.658)	-.059 (.838)	-.268 (.410)	-.428 (.405)	.441 (.472)	.140 (.743)	.177 (.676)
Prior failures to appear						-.973 (.276)		
Prior FTAs in 3 years	.182 (.666)							
Other	-.032 (.879)				-.368 (.398)			
*Tx vs. Comp A								
*Tx vs. Comp B	-.044 (.807)		.423 (.155)		-.207 (.532)		-.221 (.529)	
Model Statistics		-.291 (.077)		.083 (.778)		**-.707 (.025)**		-.319 (.312)
Log likelihood	978.429	995.052	404.344	392.839	276.676	300.447	282.650	273.348
Goodness of fit	7.038	5.968	6.577	16.730	3.260	10.764	6.860	4.965
GF significance	.533	.543	.583	.033	.860	.215	.552	.761
Chi square	109.648	96.979	43.030	42.084	33.669	24.757	40.452	57.605
DF	11	10	8	9	8	10	9	8
Significance	.000	.000	.000	.000	.000	.006	.000	.000
N	839	827	339	329	250	251	246	247

*Tx = Drug Court.

Table A9 Drug Court Participation as a Predictor of Lower Rearrest among Clark County Participants and Comparison Group Defendants, Controlling for Sample Differences, Risk, and Time at Risk: Rearrest (One Year)

Predictors	1993-97	1993	1994	1995	1996	1997
Any						
Model C (Sample, Control Sample Differences, Arrest Predictors, Time at Risk)						
Tx vs. Comp.	.9795 (.0002)	1.2940 (.0336)	1.3789 (.0492)	1.5342 (.0155)	.8376 (.2454)	1.1770 (.0737)
Time at risk	-.1142 (.0000)	-.3999 (.0000)	-.0959 (.0008)	-.1788 (.0003)	-.1726 (.0000)	-.0599 (.0000)
Race (white/non-white)	.4962 (.0059)	.6104 (.1866)	.8461 (.0915)	.2658 (.5585)	.5144 (.2812)	.7331 (.0413)
Gender				.6272 (.2265)		
Alias	-.6084 (.0003)	-.8089 (.0604)	-.4079 (.2980)	-.2010 (.6610)	-.9911 (.0311)	-.6700 (.0604)
Phone	-.2003 (.4363)	-.7460 (.2234)	-.8587 (.2090)	-.2237 (.7095)	.4345 (.4964)	-.5393 (.3995)
Most serious charge, current		-.9338 (.2843)	.3627 (.6139)			
Serious property, current						
Theft charge, current	-.1775 (.6237)				1.2213 (.1886)	
Drug charge, current	-.1618 (.1202)			-.1649 (.5063)		-.3720 (.0906)
Guilty comparison		-1.4411 (.6909)				
Prior arrests						
Prior arrests (3 years)	.9505 (.0000)	.7726 (.0838)	1.0995 (.0181)	1.2923 (.0132)	.4926 (.3260)	.6606 (.1043)
Pending arrests						
Prior serious person arrests						
Prior drug arrests		.0540 (.9147)	-.0563 (.9084)	.4661 (.3616)	.8950 (.1229)	.2417 (.5964)
Prior drug poss. arrests						
Prior drug traff. arrests						
Prior felony arrests						
Prior misdemeanor arrests						
Prior serious pers. convicts				.8757 (.2061)		
Prior serious prop. convicts						
Prior drug convicts	.0618 (.7870)					
Prior drug traffic convicts		-.0274 (.9856)	6.0395 (.7556)	.2728 (.7822)	.0701 (.9346)	
Prior felony convicts						-.4144 (.4222)
Prior FTAs	.1771 (.3971)				.7971 (.1629)	
Prior FTAs (3 years)						

*Tx vs. Comp. indicates drug court versus comparison group membership.

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Table A9 Drug Court Participation as a Predictor of Lower Rearrest among Clark County Participants and Comparison Group Defendants, Controlling for Sample Differences, Risk, and Time at Risk: Rearrest (One Year) (Cont.)

Predictors	1993-97	1993	1994	1995	1996	1997
Model Statistics						
Log likelihood	868.655	148.501	162.126	142.512	127.106	210.039
Goodness of fit (H&L)	507.0177	6.0542	15.6512	11.4175	7.3667	70.6655
Prior FTAs	**.4481 (.0181)**					
Prior FTAs (3 years)		.7887 (.1563)	.4760 (.3691)	.2536 (.5681)	**1.3965 (.0030)**	.1257 (.7687)
Model Statistics						
Log likelihood	987.734	166.346	157.005	203.279	171.384	214.117
Goodness of fit (H&L)	10.4634	41.9042	32.4472	11.0859	8.1335	9.5044
GF significance	.2340	.0000	.0001	.1969	.4205	.2184
Chi square	327.885	96.387	98.242	57.531	87.994	49.400
DF	10	10	9	10	9	9
Significance	.0000	.0000	.0000	.0000	.0000	.0000
N	979	198	185	192	192	207
Non-Drug						
Model C (Sample, Control Sample Differences, Arrest Predictors, Time at Risk)						
Tx vs. Comp.	.4266 (.0652)	.9161 (.0808)	.0201 (.9687)	.9446 (.1011)	.2225 (.6824)	-.1370 (.6861)
Time at risk	**-.0188 (.0000)**	**-.0331 (.0033)**	**-.0165 (.0066)**	**-.0159 (.0010)**	**-.0258 (.0002)**	**-.0124 (.0089)**
Race (white/non-white)						
Gender				-.5442 (.2281)		
Alias	**-.6139 (.0001)**	-.5727 (.1018)	-.2126 (.5390)	**-.8344 (.0377)**	**-.8019 (.0283)**	**-.6725 (.0398)**
Phone	-.2638 (.2412)	-.6250 (.2353)	-.2633 (.5919)	-.7404 (.1770)	.1242 (.8122)	
Most serious charge, current		-.8035 (.2643)	.2640 (.6735)			
Serious property, current						
Theft charge, current	-.0711 (.8145)				-.0050 (.9941)	
Drug charge, current	**-.3438 (.0002)**			**-.6462 (.0033)**		-.3511 (.0704)
Guilty comparison		1.3675 (.2894)				
Prior arrests						
Prior arrests (3 years)	**1.0680 (.0000)**	**.9445 (.0269)**	**1.2632 (.0041)**	**1.7912 (.0002)**	**.7756 (.0439)**	.6334 (.1176)
Pending arrests						
Prior serious person arrests		.3405 (.4441)	.2729 (.5038)	.0219 (.9650)	**1.2048 (.0149)**	.2152 (.5766)
Prior drug arrests			-.0629 (.9634)			
Prior drug poss. arrests	**.6817 (.0007)**	.1038 (.7963)	.2981 (.8238)			-.2870 (.4612)
Prior drug trafficking arrests						

*Tx vs. Comp. indicates drug court versus comparison group membership.

Table A9 Drug Court Participation as a Predictor of Lower Rearrest among Clark County Participants and Comparison Group Defendants, Controlling for Sample Differences, Risk, and Time at Risk: Rearrest (One Year) (Cont.)

Predictors	1993-97	1993	1994	1995	1996	1997
Prior felony arrests						
Prior misdemeanor arrests						
Prior serious person convicts				1.4645 (.0362)		
Prior serious property convicts						
Prior drug convicts	-.6866 (.0015)					
Prior drug traffic convicts				-1.3834 (.0393) -	.2192 (.7187)	
Prior felony convicts						-.2930 (.4890)
Prior FTAs	.0111 (.9503)				.2003 (.6133)	
Prior FTAs (3 years)						
Model Statistics						
Log likelihood	1,088.461	213.365	209.448	185.505	200.769	247.642
Goodness of fit (H&L)	12.9434	10.1191	10.2273	10.6464	7.4951	13.5200
GF significance	.1138	.2568	.2494	.2226	.4843	.0604
Chi square	250.597	54.540	43.061	79.642	62.874	34.037
DF	10	9	9	10	9	8
Significance	.0000	.0000	.0000	.0000	.0000	.0000
N	979	198	185	192	192	207

*Tx vs. Comp. indicates drug court versus comparison group membership.

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Table A10 Drug Court Participation as a Predictor of Lower Rearrest among Clark County Participants and Comparison Group Defendants, Controlling for Sample Differences, Risk, and Time at Risk: Rearrest (Two Years)

Predictors	1993-97	1993	1994	1995	1996	1997
Any						
Model C (Sample, Control Sample Differences,						
Arrest Predictors, Time at Risk)						
Tx vs. Comp.	.9800 (.0007)	2.5781 (.0005)	1.6646 (.0523)	1.1478 (.1030)	.3026 (.6481)	.4442 (.5707)
Time at risk	-.0833 (.0000)	-.2557 (.0000)	-.0979 (.0020)	-.0810 (.0008)	-.1137 (.0000)	-.0491 (.0000)
Race (white/non-white)	.4657 (.0177)	-.0879 (.8684)	1.0054 (.1350)	.6359 (.1733)	.5078 (.2655)	1.0501 (.0152)
Gender				.6145 (.2320)		
Alias	-.5836 (.0011)	-.7446 (.1124)	-.3953 (.3779)	-.6327 (.1667)	-.3504 (.4266)	-.7340 (.0730)
Phone	-.0234 (.9345)	-.8775 (.2161)	-1.1187 (.1804)	.2179 (.7499)	.5533 (.3607)	.3096 (.6896)
Most serious charge, current		-.2587 (.7698)	.3699 (.6449)			
Serious property, current						
Theft charge, current	-.1601 (.6916)				.7681 (.4279)	
Drug charge, current	-.1485 (.1820)			-.2225 (.3734)		-.6101 (.0180)
Guilty comparison		-5.5325 (.7916)				
Prior arrests						
Prior arrests (3 years)	1.1114 (.0000)	.7982 (.1129)	1.8403 (.0009)	.8848 (.1005)	.5599 (.2465)	1.1251 (.0189)
Pending arrests						
Prior serious person arrests						
Prior drug arrests		.7543 (.3208)	-.1495 (.8035)	.6264 (.2722)	.1654 (.7688)	.1802 (.7541)
Prior drug possession arrests						
Prior drug trafficking arrests						
Prior felony arrests						
Prior misdemeanor arrests						
Prior serious person convicts				.2592 (.7291)		
Prior serious property convicts						
Prior drug convicts	-.0860 (.7372)					
Prior drug traffic convicts		-.8770 (.3036)	5.4886 (.7843)	.4659 (.6645)	-.2821 (.7450)	
Prior felony convicts						-.4527 (.4894)
Prior FTAs	.1732 (.4558)				.7788 (.1662)	
Prior FTAs (3 years)						
Model Statistics						
Log likelihood	768.721	128.650	128.778	137.767	131.753	168.962
Goodness of fit (H&L)	4,979.8432	7.4221	52.3087	20.4504	1,887.4807	6,741.4981

*Tx vs. Comp. indicates drug court versus comparison group membership.

Table A10 Drug Court Participation as a Predictor of Lower Rearrest among Clark County Participants and Comparison Group Defendants, Controlling for Sample Differences, Risk, and Time at Risk: Rearrest (Two Years) (Cont.)

Predictors	1993-97	1993	1994	1995	1996	1997
GF significance	.0000	.4919	.0000	.0088	.0000	.0000
Chi square	438.232	127.258	90.329	93.338	106.744	83.767
DF	10	10	9	11	10	9
Significance	.0000	.0000	.0000	.0000	.0000	.0000
N	973	194	184	191	192	207
Drug						
Model C (Sample, Control Sample Differences, Arrest Predictors, Time at Risk)						
Tx vs. Comp.	1.2716 (.0000)	2.0030 (.0040)	2.0763 (.0009)	1.1059 (.0364)	.5009 (.3579)	2.0696 (.0013)
Time at risk	-.0170 (.0000)	-.1562 (.0000)	-.0144 (.0067)	-.0137 (.0001)	-.0153 (.0001)	-.0182 (.0000)
Race (white/non-white)						
Gender				.3444 (.4197)		
Alias	-.4363 (.0054)	.4157 (.3584)	-.9252 (.0170)	.1553 (.6776)	-1.2599 (.0007)	-.3974 (.2607)
Phone	.2483 (.2719)	.5998 (.3063)	-.4830 (.4221)	.3667 (.4689)	.9233 (.0886)	-.8640 (.1594)
Most serious charge, current		-6.1090 (.7198)	.8958 (.3306)			
Serious property, current						
Theft charge, current	-.5581 (.0920)				.1996 (.7726)	
Drug charge, current	.2535 (.0057)	9.2140 (.5928)	3.8509 (.0202)	.0579 (.7718)	.3950 (.0673)	.1963 (.3301)
Guilty comparison		7.6849 (.8309)				
Prior arrests						
Prior arrests (3 years)	.7245 (.0011)	.5424 (.3253)	1.1584 (.0125)	.6848 (.1037)	.7216 (.0705)	.7841 (.1211)
Pending arrests						
Prior serious person arrests						
Prior drug arrests		-.4070 (.4587)	-.1137 (.7994)			
Prior drug possession arrests						
Prior drug trafficking arrests						
Prior felony arrests						
Prior misdemeanor arrests	-.0555 (.8048)					-.5148 (.3042)
Prior serious person convicts				-.6988 (.2054)		
Prior serious property convicts						
Prior drug convicts	.0930 (.6394)					
Prior drug traffic convicts				.9213 (.1431)	.5861 (.3780)	
Prior felony convicts						-.3605 (.4363)

*Tx vs. Comp. indicates drug court versus comparison group membership.

Table A10 Drug Court Participation as a Predictor of Lower Rearrest among Clark County Participants and Comparison Group Defendants, Controlling for Sample Differences, Risk, and Time at Risk: Rearrest (Two Years) (Cont.)

Predictors	1993-97	1993	1994	1995	1996	1997
Prior FTAs	.4346 (.0216)					
Prior FTAs (3 years)		.3605 (.5587)	.3424 (.5009)	.0246 (.9554)	.9460 (.0381)	.2202 (.6076)
Model Statistics						
Log likelihood	1,027.093	130.910	178.500	205.031	192.944	223.433
Goodness of fit (H&L)	20.8778	17.6388	22.1328	11.7613	12.3596	13.6907
GF significance	.0075	.0241	.0047	.1622	.1359	.0902
Chi square	318.430	135.965	76.382	58.866	72.891	61.396
DF	10	10	9	10	9	9
Significance	.0000	.0000	.0000	.0000	.0000	.0000
N	973	194	184	191	192	207
Non-Drug						
Model C (Sample, Control Sample Differences, Arrest Predictors, Time at Risk)						
Tx vs. Comp.	.2485 (.2970)	1.5207 (.0067)	-.6650 (.2502)	.2812 (.6270)	-.0812 (.8764)	.1377 (.7189)
Time at risk	-.0199 (.0000)	-.0257 (.0007)	-.0223 (.0049)	-.0140 (.0006)	-.0189 (.0001)	-.0266 (.0000)
Race (white/non-white)						
Gender				-.9131 (.0391)		
Alias	-.5590 (.0003)	-.5622 (.1091)	-.1280 (.7309)	-.9313 (.0171)	-.4520 (.1958)	-.8681 (.0167)
Phone	-.1085 (.6412)	-1.3125 (.0214)	.1760 (.7470)	-.0046 (.9933)	.4008 (.4231)	
Most serious charge, current		-.9800 (.1954)	.2998 (.6692)			
Serious property, current						
Theft charge, current	-.2723 (.3939)				-.1911 (.7687)	
Drug charge, current	-.2486 (.0073)			-.4444 (.0357)		-.3767 (.0891)
Guilty comparison		.5343 (.7269)				
Prior arrests						
Prior arrests (3 years)	1.0576 (.0000)	1.1333 (.0083)	1.9974 (.0000)	1.0257 (.0136)	.3394 (.3559)	.8066 (.0693)
Pending arrests						
Prior serious person arrests		.2533 (.5817)	-.0334 (.9421)	.8569 (.0940)	1.0436 (.0564)	.0481 (.9171)
Prior drug arrests			-2.0915 (.1709)			
Prior drug poss. arrests	.6805 (.0014)	.4564 (.2631)	2.1154 (.1527)			.4669 (.3071)
Prior drug trafficking arrests						
Prior felony arrests						

*Tx vs. Comp. indicates drug court versus comparison group membership.

Table A10 Drug Court Participation as a Predictor of Lower Rearrest among Clark County Participants and Comparison Group Defendants, Controlling for Sample Differences, Risk, and Time at Risk: Rearrest (Two Years) (Cont.)

Predictors	1993-97	1993	1994	1995	1996	1997
Prior misdemeanor arrests						
Prior serious person convicts				.3867 (.5873)		
Prior serious property convicts						
Prior drug convicts	-.5713 (.0143)					
Prior drug traffic convicts				-1.2881 (.0350)	.5262 (.4068)	
Prior felony convicts						-.3286 (.5304)
Prior FTAs	-.0590 (.7518)				.3705 (.3574)	
Prior FTAs (3 years)						
Model Statistics						
Log likelihood	1,042.045	206.811	186.471	190.921	207.262	202.370
Goodness of fit (H&L)	22.0062	4.6241	6.5344	4.1844	19.3982	11.0150
GF significance	.0049	.7969	.5876	.8401	.0129	.1380
Chi square	301.338	61.800	68.259	70.032	57.216	81.566
DF	10	9	9	10	9	8
Significance	.0000	.0000	.0000	.0000	.0000	.0000
N	973	194	184	191	192	207

*Tx vs. Comp. indicates drug court versus comparison group membership.

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Table A11 Drug Court Participation as a Predictor of Lower Rearrest among Multnomah County Participants and Comparison Group Defendants (Group A or Group B), Controlling for Sample Differences, Risk, and Time at Risk: Rearrest (One Year)

	1991-97		1991-92		1993-94		1995-96		1997	
Predictors	All TXA	All TXB	All TXA	All TXB	All TXA	All TXB	All TXA	All TXB	All TXA	All TXB
Any										
Model C (Sample, Controlling for Sample Differences, Predictors of Rearrest, Time at Risk)										
Demographic										
Over or under 25 years old	.210 (.221)		.557 (.059)						.395 (.284)	
Hispanic	-.228 (.328)	.046 (.858)		.137 (.725)	.254 (.600)		-1.060 (.075)			
Race (white/non-white)	**.423 (.014)**	**.445 (.005)**	**.631 (.017)**	**.544 (.048)**	.145 (.722)	.573 (.070)	.313 (.401)	.030 (.921)	.643 (.084)	**.924 (.014)**
Current Case										
Alias	**.957 (.000)**	**1.103 (.000)**	**.643 (.012)**	**.689 (.007)**	**1.251 (.000)**	**1.683 (.000)**	**1.034 (.003)**	**1.304 (.000)**	**1.310 (.000)**	**1.159 (.001)**
Phone							.006 (.988)			-.234 (.523)
Detained at all pretrial	**.388 (.010)**	.105 (.466)	-.115 (.648)		**.644 (.053)**	-.009 (.977)	**1.123 (.002)**	.024 (.941)	.466 (.177)	**.846 (.010)**
Criminal History										
Prior arrest										
Arrest in 3 years prior	**.495 (.003)**	.277 (.116)	**.755 (.006)**	**.700 (.011)**	.461 (.222)	**-.794 (.041)**	**.901 (.012)**	.644 (.058)	-.214 (.600)	.295 (.457)
Pending arrest charge	.339 (.143)	.359 (.109)	.053 (.882)	.503 (.169)		**.876 (.054)**	.974 (.130)		.691 (.265)	
Prior drug arrest		.195 (.256)								
Prior drug trafficking arrest						.483 (.496)				
Serious person conviction				-.205 (.635)						
Drug possession conviction									.250 (.607)	
Drug trafficking conviction						-.799 (.305)		.641 (.277)		.108 (.862)
Weapon conviction	.271 (.476)									
Prior failures to appear	.551 (.154)		.231 (.552)		-.181 (.893)		.272 (.495)		**1.373 (.003)**	
Prior FTAs in 3 years	.025 (.953)	**.524 (.014)**		-.097 (.815)	-.086 (.952)	.179 (.746)		.777 (.059)		**.928 (.047)**
Other										
*Tx vs. Comp A	-.138 (.396)		.263 (.378)		-.181 (.621)		-.311 (.411)		.334 (.395)	
*Tx vs. Comp B		-.237 (.108)		.184 (.523)		**-1.197 (.001)**		-.191 (.548)		.214 (.530)
Time at Risk	**-.012 (.000)**	**-.007 (.000)**	**-.009 (.001)**	**-.006 (.012)**	**-.017 (.014)**	-.003 (.543)	**-.012 (.016)**	**-.008 (.040)**	**-.022 (.004)**	-.006 (.217)

*Tx = Drug Court

Table A11 Drug Court Participation as a Predictor of Lower Rearrest among Multnomah County Participants and Comparison Group Defendants (Group A or Group B), Controlling for Sample Differences, Risk, and Time at Risk: Rearrest (One Year) (Cont.)

	1991-97		1991-92		1993-94		1995-96		1997	
Predictors	**All TXA**	**All TXB**	**All TXA**	**All TXB**	**All TXA**	**All TXB**	**All TXA**	**All TXB**	**All TXA**	**All TXB**
Model Statistics										
Log likelihood	1,189.746	1,244.293	400.305	400.073	250.974	271.273	254.477	273.818	237.042	240.821
Goodness of fit	15.678	15.300	4.912	17.741	3.646	5.995	9.576	4.666	23.242	5.967
GF significance	.047	.054	.767	.023	.888	.648	.296	.793	.003	.651
Chi square	253.131	200.936	62.526	51.626	56.928	60.759	79.796	57.396	87.506	64.528
DF	12	10	9	9	9	10	10	8	10	9
Significance	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000
N	1,049	1,060	334	327	233	250	243	243	235	224
Drug										
Model C (Sample, Controlling for Sample Differences, Predictors of Rearrest, Time at Risk)										
Demographic										
Over or under 25 years old	.040 (.812)		.459 (.105)						.208 (.584)	
Hispanic	-.012 (.956)	.274 (.265)		.516 (.170)	.571 (.250)		-.115 (.053)			
Race (white/non-white)	**.710 (.000)**	**.669 (.000)**	**.718 (.009)**	**.586 (.042)**	.336 (.466)	**.835 (.019)**	**.817 (.031)**	**.772 (.018)**	**.917 (.009)**	**.763 (.040)**
Current Case										
Alias	**.819 (.000)**	**.838 (.000)**	**.542 (.036)**	**.662 (.012)**	**1.402 (.000)**	**1.688 (.000)**	**.820 (.016)**	.439 (.203)	**.870 (.013)**	.625 (.070)
Phone							.380 (.388)			-.357 (.369)
Detained at all pretrial	**.448 (.004)**	.174 (.262)	-.030 (.907)		.462 (.215)	-.047 (.899)	**.975 (.010)**	.229 (.514)	**.793 (.023)**	**.834 (.017)**
Criminal History										
Pending arrest charge	**.492 (.018)**	**.667 (.001)**	.394 (.219)	**.738 (.023)**	.653 (.189)	.496 (.213)	**1.080 (.027)**	**1.297 (.014)**	.408 (.409)	.090 (.884)
Prior serious person arrest	-.012 (.950)		-.445 (.174)		.333 (.505)		.249 (.526)		.099 (.817)	
Prior drug arrest		-.013 (.945)								
Prior drug trafficking arrest		.459 (.069)		.135 (.697)		-.542 (.466)		**2.281 (.008)**		**1.217 (.048)**
Serious person conviction				-.800 (.101)						
Drug possession conviction									.659 (.104)	
Drug trafficking conviction						.613 (.442)		-1.759 (.076)		-1.162 (.151)

*Tx = Drug Court

Table A11 Drug Court Participation as a Predictor of Lower Rearrest among Multnomah County Participants and Comparison Group Defendants (Group A or Group B), Controlling for Sample Differences, Risk, and Time at Risk: Rearrest (One Year) (Cont.)

	1991-97		1991-92		1993-94		1995-96		1997	
Predictors	All TXA	All TXB	All TXA	All TXB	All TXA	All TXB	All TXA	All TXB	All TXA	All TXB
Weapon conviction	-.628 (.104)									
Prior FTAs in 3 years	.219 (.279)				-.288 (.628)					
Other										
*Tx vs. Comp A	-.201 (.229)		-.101 (.728)		-.455 (.268)		-.286 (.464)	–	.273 (.480)	
*Tx vs. Comp B		-.286 (.068)		-.074 (.801)		-1.191 (.004)		-.054 (.879)		.021 (.952)
Time at Risk	-.009 (.000)	-.006 (.000)	-.007 (.004)	-.005 (.016)	-.013 (.036)	-.008 (.133)	-.011 (.008)	-.006 (.115)	-.013 (.009)	-.008 (.070)
Model Statistics										
Log likelihood	1,114.383	1,104.340	395.217	373.523	208.523	213.411	237.340	239.608	229.268	223.575
Goodness of fit	6.875	17.327	9.289	7.755	5.226	12.981	12.557	27.198	10.739	5.154
GF significance	.550	.027	.319	.458	.632	.113	.145	.001	.217	.741
Chi square	184.940	148.679	43.317	45.764	59.901	55.529	50.133	38.154	58.004	38.006
DF	11	9	8	8	9	8	9	8	9	9
Significance	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000
N	1,076	1,068	338	329	250	251	245	246	239	226
Non-Drug										
Model C (Sample, Controlling for Sample Differences, Predictors of Rearrest, Time at Risk)										
Demographic										
Over or under 25 years old	.228 (.178)		.492 (.114)						-.037 (.837)	
Hispanic	**-.722 (.003)**	**-.813 (.000)**		-.287 (.282)	-.304 (.535)		-.842 (.149)			
Race (white/non-white)	**.432 (.010)**	.114 (.113)	**.706 (.013)**	**.718 (.000)**	.066 (.870)	-.270 (.064)	.228 (.509)	**-.653 (.000)**	**.690 (.000)**	**.930 (.000)**
Current Case										
Alias	**.713 (.000)**	**.753 (.000)**	.432 (.112)	**.522 (.001)**	**1.178 (.001)**	**1.265 (.000)**	.465 (.171)	**.467 (.000)**	**.938 (.000)**	**.872 (.000)**
Phone							-.163 (.708)			.707 (.000)
Detained at all pretrial	.201 (.194)	**.169 (.014)**	-.128 (.638)		.578 (.087)	-.069 (.642)	.217 (.537)	-.064 (.603)	**.380 (.010)**	**.674 (.000)**
Criminal History										
Pending arrest charge	.107 (.604)	**.407 (.000)**	-.335 (.330)	-.090 (.679)		**.862 (.000)**	.504 (.287)		**.760 (.003)**	
Prior drug arrest		.062 (.595)								
Prior drug trafficking arrest						**1.064 (.003)**				

*Tx = Drug Court

Table A11 Drug Court Participation as a Predictor of Lower Rearrest among Multnomah County Participants and Comparison Group Defendants (Group A or Group B), Controlling for Sample Differences, Risk, and Time at Risk: Rearrest (One Year) (Cont.)

Predictors	1991-97 All TXA	1991-97 All TXB	1991-92 All TXA	1991-92 All TXB	1993-94 All TXA	1993-94 All TXB	1995-96 All TXA	1995-96 All TXB	1997 All TXA	1997 All TXB
Prior felony arrest		.349 (.000)		.442 (.018)		-.255 (.164)		.695 (.000)		.745 (.000)
Prior misdemeanor arrest	.818 (.000)	.705 (.000)	1.468 (.000)	1.345 (.000)	.691 (.059)	-.100 (.517)	.880 (.010)	1.094 (.000)	.528 (.001)	.185 (.291)
Serious person conviction				.507 (.054)						
Drug possession conviction	.042 (.828)	.281 (.006)	-.050 (.872)	-.295 (.145)	-.333 (.552)	.674 (.025)	-.089 (.840)	.413 (.010)	.669 (.000)	.392 (.071)
Drug trafficking conviction						-1.165 (.004)		-.091 (.732)		-.012 (.967)
Weapon conviction	.251 (.537)									
Prior FTAs in 3 years	.457 (.021)				.024 (.964)					
Other										
*Tx vs. Comp A	-.247 (.134)		.609 (.055)		-.543 (.150)		-.324 (.365)		-.275 (.170)	
*Tx vs. Comp B		-.209 (.031)		.159 (.526)		-.965 (.000)		-.044 (.813)		-.032 (.899)
Time at Risk	-.006 (.000)	-.007 (.000)	-.005 (.014)	-.003 (.020)	-.003 (.580)	.006 (.035)	-.006 (.145)	-.017 (.000)	-.009 (.000)	-.004 (.041)
Model Statistics										
Log likelihood	1,157.491	5,885.225	365.604	993.395	247.079	1,425.723	267.155	2,090.022	1,240.276	1,055.559
Goodness of fit	14.560	68.212	7.931	30.177	5.868	58.211	12.984	139.308	24.553	21.210
GF significance	.068	.000	.440	.000	.662	.000	.112	.000	.002	.007
Chi square	172.307	850.946	54.840	181.748	35.182	162.050	31.317	478.899	275.543	220.196
DF	12	11	9	10	9	11	10	9	9	10
Significance	.000	.000	.000	.000	.000	.000	.001	.000	.000	.000
N	1,076	1,068	338	329	250	251	245	246	239	226

*Tx = Drug Court

Table A12 Drug Court Participation as a Predictor of Lower Rearrest among Multnomah County Participants and Comparison Group Defendants (Group A or Group B), Controlling for Sample Differences, Risk, and Time at Risk: Rearrest (Two Years)

Predictors	1991-96		1991-92		1993-94		1995-96	
	All TXA	All TXB	All TXA	All TXB	All TXA	All TXB	All TXA	All TXB
Any								
Model C (Sample, Controlling for Sample Differences, Predictors of Rearrest, Time at Risk)								
Demographic								
Over or under 25 years old	.020 (.912)		.384 (.205)					
Hispanic	-.220 (.389)	.277 (.326)		.263 (.509)	-.088 (.851)		-.903 (.114)	
Race (white/non-white)	.326 (.088)	.163 (.348)	.456 (.091)	.267 (.333)	.373 (.331)	.543 (.078)	.168 (.642)	-.097 (.751)
Current Case								
Alias	**.999 (.000)**	**1.154 (.000)**	**.784 (.003)**	**.723 (.005)**	**1.169 (.000)**	**1.583 (.000)**	**1.350 (.000)**	**1.649 (.000)**
Phone							-.285 (.492)	
Detained at all pretrial	.150 (.369)	-.169 (.296)	-.300 (.238)		.359 (.257)	-.027 (.932)	**.795 (.026)**	-.148 (.661)
Criminal History								
Arrest in 3 years prior	**.482 (.009)**	**.467 (.015)**	**.691 (.012)**	**.524 (.053)**	.372 (.305)	-.533 (.140)	.622 (.075)	**.968 (.004)**
Pending arrest charge	.344 (.204)	**.582 (.026)**	.078 (.838)	**.764 (.050)**		**.917 (.043)**	.606 (.342)	
Prior drug arrest		-.007 (.972)						
Prior drug trafficking arrest						.754 (.276)		
Serious person conviction				-.085 (.843)				
Drug trafficking conviction						-.490 (.467)		.320 (.611)
Weapon conviction	.338 (.390)							
Prior failures to appear	-.102 (.842)		.440 (.305)		.017 (.961)		-.243 (.510)	
Prior FTAs in 3 years	.517 (.354)	.128 (.577)		.025 (.953)	.581 (.669)	-.570 (.184)		.579 (.189)
Other								
*Tx vs. Comp A	-.037 (.838)		.307 (.317)		.017 (.961)		-.243 (.510)	
*Tx vs. Comp B		-.260 (.116)		.364 (.204)		**-.938 (.006)**		-.325 (.311)
Time at Risk	**-.012 (.000)**	**-.006 (.001)**	**-.012 (.000)**	**-.006 (.025)**	-.012 (.079)	.000 (.975)	**-.011 (.036)**	-.007 (.090)
Model Statistics								
Log likelihood	963.499	1,001.362	390.385	404.790	281.990	292.508	270.236	270.697
Goodness of fit	8.019	16.581	11.130	5.981	3.751	6.315	5.271	6.341
GF significance	.432	.035	.194	.649	.879	.612	.728	.609
Chi square	164.652	135.615	67.408	46.296	40.497	53.809	67.216	66.968
DF	12	10	9	9	9	10	10	8
Significance	.000	.000	.000	.000	.000	.000	.000	.000
N	816	821	335	327	233	250	244	244

*Tx = Drug Court

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Table A12 Drug Court Participation as a Predictor of Lower Rearrest among Multnomah County Participants and Comparison Group Defendants (Group A or Group B), Controlling for Sample Differences, Risk, and Time at Risk: Rearrest (Two Years) (Cont.)

Predictors	1991-96 All TXA	1991-96 All TXB	1991-92 All TXA	1991-92 All TXB	1993-94 All TXA	1993-94 All TXB	1995-96 All TXA	1995-96 All TXB
Drug								
Model C (Sample, Controlling for Sample Differences, Predictors of Rearrest, Time at Risk)								
Demographic								
Over or under 25 years old	-.108 (.561)		.287 (.315)					
Hispanic	.229 (.352)	.665 (.011)		.762 (.047)	.406 (.383)		-.948 (.081)	
Race (white/non-white)	.390 (.042)	.478 (.007)	.653 (.014)	.366 (.196)	.166 (.687)	.600 (.687)	.449 (.201)	.781 (.008)
Current Case								
Alias	.998 (.000)	.860 (.000)	.908 (.000)	.911 (.000)	1.244 (.000)	1.254 (.000)	1.176 (.000)	.790 (.011)
Detained at all pretrial	.094 (.582)	-.201 (.235)	-.215 (.397)		.130 (.702)	.041 (.902)	.691 (.048)	.065 (.840)
Criminal History								
Pending arrest charge	.549 (.017)	.655 (.003)	.353 (.275)	.822 (.013)	.833 (.069)	.489 (.194)	1.026 (.037)	.818 (.116)
Prior serious person arrest	-.101 (.640)		-.496 (.124)		.015 (.975)		.233 (.529)	
Prior drug arrest		.259 (.219)						
Prior drug trafficking arrest		.316 (.270)		.197 (.569)		.160 (.806)		1.563 (.060)
Serious person conviction				-1.071 (.027)				
Drug trafficking conviction						.399 (.569)		-1.294 (.172)
Weapon conviction	.365 (.358)							
Prior FTAs in 3 years	.204 (.342)				-.319 (.504)			
Other								
*Tx vs. Comp A	-.278 (.124)		-.156 (.591)		-.471 (.195)		-.324 (.371)	
*Tx vs. Comp B		-.304 (.074)		.188 (.522)		-.703 (.052)		-.500 (.110)
Time at Risk	-.008 (.000)	-.004 (.041)	-.008 (.001)	-.004 (.096)	-.010 (.083)	-.006 (.280)	-.007 (.053)	-.001 (.758)
Model Statistics								
Log likelihood	952.950	940.136	404.599	384.927	250.807	256.015	270.793	284.008
Goodness of fit	14.787	15.271	7.036	7.135	12.029	7.763	9.237	6.904
GF significance	.063	.054	.533	.522	.150	.457	.323	.547
Chi square	137.555	117.219	53.578	51.015	49.368	39.197	46.367	35.270
DF	11	9	8	8	9	8	9	8
Significance	.000	.000	.000	.000	.000	.000	.000	.000
N	839	827	339	329	250	251	246	247

*Tx = Drug Court

Table A12 Drug Court Participation as a Predictor of Lower Rearrest among Multnomah County Participants and Comparison Group Defendants (Group A or Group B), Controlling for Sample Differences, Risk, and Time at Risk: Rearrest (Two Years) (Cont.)

Predictors	1991-96		1991-92		1993-94		1995-96	
	All TXA	All TXB	All TXA	All TXB	All TXA	All TXB	All TXA	All TXB
Non-Drug								
Model C (Sample, Controlling for Sample Differences, Predictors of Rearrest, Time at Risk)								
Demographic								
Over or under 25 years old	.100(.587)		.226 (.447)					
Hispanic	**-.609 (.019)**	-.534 (.059)			-.301 (.452)	-.421 (.373)		-.874 (.118)
Race (white/non-white)	.308 (.092)	.104 (.550)	.408 (.131)	.288 (.309)	.025 (.947)	.110 (.721)	.386 (.251)	-.456 (.143)
Current Case								
Alias	**.741 (.000)**	**.818 (.000)**	**.519 (.044)**	**.602 (.022)**	**1.196 (.000)**	**1.173 (.000)**	.597 (.072)	**.749 (.022)**
Detained at all pretrial	.074 (.660)	-.042 (.796)	-.229 (.372)		.339 (.288)	-.321 (.312)	.215 (.535)	-.094 (.778)
Criminal History								
Pending arrest charge	.409 (.074)	.384 (.088)	.266 (.422)	.500 (.151)		.624 (.120)	.719 (.149)	
Prior drug arrest		-.112 (.699)						
Prior drug trafficking arrest						.752 (.288)		
Prior felony arrest		.231 (.359)		.195 (.520)		-.606 (.123)		**.711 (.052)**
Prior misdemeanor arrest	**.903 (.000)**	**.716 (.000)**	**1.124 (.000)**	**.849 (.002)**	**.749 (.024)**	.067 (.832)	**.942 (.003)**	**1.240 (.000)**
Serious person conviction				.509 (.249)				
Drug possession conviction	-.140 (.531)	.094 (.701)	-.112 (.701)	-.262 (.424)	-.477 (.363)	.450 (.472)	.143 (.739)	.182 (.671)
Drug trafficking conviction						-.957 (.282)		.098 (.870)
Weapon conviction	.236 (.580)							
Prior FTAs in 3 years	-.085 (.693)				-.372 (.393)			
Other								
*Tx vs. Comp A	-.015 (.934)		.459 (.126)		-.155 (.657)		-.175 (.621)	
*Tx vs. Comp B		-.266 (.108)		.084 (.777)		**-.898 (.007)**		-.229 (.477)
Time at Risk	**-.005 (.005)**	-.003 (.060)	**-.005 (.022)**	-.003 (.224)	-.003 (.632)	.010 (.076)	-.005 (.210)	**-.009 (.034)**
Model Statistics								
Log likelihood	970.453	991.569	399.073	391.415	276.447	296.980	281.031	.268.424
Goodness of fit	4.205	9.231	11.372	19.860	7.624	5.980	5.192	7.089
GF significance	.838	.323	.182	.011	.471	.649	.737	.527
Chi square	117.624	100.462	48.302	43.508	33.898	28.224	42.071	62.529
DF	12	11	9	10	9	11	10	9
Significance	.000	.000	.000	.000	.000	.000	.000	.000
N	839	827	339	329	250	251	246	247

*Tx = Drug Court

Table A13 Drug Court Participation as a Predictor of Lower Rearrest among Clark County Participants and Comparison Group Defendants, Controlling for Sample Differences, Risk, and Time Free: Rearrest (545 Days Time Free)

Predictors	1993-97	1993	1994	1995	1996	1997
Model D (Sample, Control Sample Differences, Arrest Predictors, Time at Risk)						
Tx vs. Comp.	.8614 (.0004)	1.8195 (.0016)	1.5999 (.0173)	1.7020 (.0076)	-.0882 (.8671)	.3236 (.5875)
Race (white/non-white)	.6241 (.0002)	.6764 (.0987)	1.3091 (.0298)	.6140 (.1344)	.2822 (.4464)	.9014 (.0126)
Gender				.2172 (.6367)		
Alias	-.5754 (.0002)	-.4386 (.2324)	-.5635 (.1580)	-.3631 (.3721)	-1.3199 (.0003)	-.7111 (.0496)
Phone	-.0938 (.6951)	-.2060 (.7179)	-.7279 (.2690)	-.1256 (.8359)	.2501 (.6254)	-.5547 (.3451)
Most serious charge, current		-.6785 (.2640)	.0672 (.9257)			
Serious property, current						
Theft charge, current	.3402 (.3003)				.8736 (.2375)	
Drug charge, current	-.1636 (.0762)			-.4462 (.0411)		-.4403 (.0316)
Guilty comparison		1.0655 (.3943)				
Prior arrests						
Prior arrests (3 years)	1.4256 (.0000)	1.1473 (.0059)	1.6952 (.0002)	1.4813 (.0021)	.9190 (.0280)	1.1343 (.0046)
Pending arrests						
Prior serious person arrests						
Prior drug arrests		1.1468 (.0132)	.5495 (.2793)	1.0800 (.0249)	.9793 (.0369)	.3514 (.4540)
Prior drug possession arrests						
Prior drug trafficking arrests						
Prior felony arrests						
Prior misdemeanor arrests						
Prior serious person convicts				.6464 (.2929)		
Prior serious property convicts						
Prior drug convicts	.2704 (.2189)					
Prior drug trafficking convicts		-1.3035 (.2782)	5.2281 (.8231)	-.0842 (.9202)	-.7932 (.2750)	
Prior felony convicts						-.3050 (.5450)
Prior FTAs	.4108 (.0359)				.9367 (.0366)	
Prior FTAs (3 years)						

*Tx vs. Comp. indicates drug court versus comparison group membership.

Table A13 Drug Court Participation as a Predictor of Lower Rearrest among Clark County Participants and Comparison Group Defendants, Controlling for Sample Differences, Risk, and Time Free: Rearrest (545 Days Time Free) (Cont.)

Predictors	1993-97	1993	1994	1995	1996	1997
Model Statistics						
Log likelihood	1,035.714	198.642	162.289	177.115	195.727	223.462
Goodness of fit (H&L)	4.9764	4.4522	3.2911	2.0841	4.2880	7.2847
GF significance	.7601	.8142	.9148	.9783	.8302	.3999
Chi square	218.289	65.984	62.877	65.897	53.868	37.195
DF	9	9	8	10	9	8
Significance	.0000	.0000	.0000	.0000	.0000	.0000
N	979	198	185	192	192	207

*Tx vs. Comp. indicates drug court versus comparison group membership.

Table A14 Drug Court Participation as a Predictor of Lower Rearrest among Multnomah County Participants and Comparison Group Defendants (Group A or Group B), Controlling for Sample Differences, Risk, and Time Free: Rearrest (545 Days Time Free)

Predictors	1991-96		1991-92		1993-94		1995-96	
	All TXA	All TXB	All TXA	All TXB	All TXA	All TXB	All TXA	All TXB
Model B (Sample, Controlling for Sample Differences, Predictors of Rearrest)								
Demographic								
Over or under 25 years old	.199 (.272)		.608 (.043)					
Hispanic	.100 (.692)	.536 (.057)		.438 (.271)	.560 (.236)		-.894 (.114)	
Race (white/non-white)	.218 (.250)	.081 (.645)	.514 (.052)	.260 (.351)	-.083 (.835)	.361 (.253)	.196 (.590)	-.022 (.943)
Current Case								
Alias	.990 (.000)	1.141 (.000)	.714 (.006)	.629 (.016)	1.389 (.000)	1.619 (.000)	1.331 (.000)	1.737 (.000)
Phone							-.220 (.593)	
Detained at all pretrial	.421 (.010)	-.036 (.821)	-.051 (.833)		.577 (.070)	.040 (.902)	1.213 (.001)	.189 (.554)
Criminal History								
Prior arrest								
Arrest in 3 years prior	.579 (.002)	.348 (.070)	.654 (.016)	.576 (.033)	.331 (.370)	-.733 (.049)	.901 (.009)	.735 (.030)
Pending arrest charge	.404 (.123)	.673 (.008)	.237 (.526)	.829 (.031)		1.034 (.022)	.912 (.154)	
Prior drug arrest		.126 (.525)						
Prior drug trafficking arrest						.365 (.577)		
Serious person conviction				.147 (.730)				
Drug trafficking conviction						-.491 (.482)		.509 (.396)
Weapon conviction	.378 (.349)							
Prior failures to appear	-.035 (.945)		.287 (.485)		-.078 (.951)		.367 (.350)	
Prior FTAs in 3 years	.467 (.396)	.128 (.574)		-.012 (.977)	-.175 (.897)	-.463 (.301)		.572 (.177)
Other								
*Tx vs. Comp A	-.064 (.721)		.262 (.380)		-.294 (.387)		-.125 (.734)	
*Tx vs. Comp B		-.322 (.051)		.312 (.275)		-1.219 (.000)		-.161 (.614)
Model Statistics								
Log likelihood	967.507	985.937	397.381	396.312	268.069	280.894	265.843	271.942
Goodness of fit	8.447	9.358	4.392	3.721	4.766	8.990	8.971	1.306
GF significance	.391	.313	.820	.811	.214	.253	.255	.995
Chi square	120.649	116.935	39.878	36.212	39.173	56.545	65.143	58.172
DF	11	9	8	8	8	9	9	7
Significance	.000	.000	.000	.000	.000	.000	.000	.000
N	786	798	316	312	227	247	239	239

*Tx = Drug Court

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