Drug Court Review

Volume IV, Issue 1
Summer 2002

National Drug Court Institute
Alexandria, Virginia

DRUG COURT REVIEW

Volume IV, Issue 1
Summer 2002

NATIONAL DRUG COURT INSTITUTE
ALEXANDRIA, VIRGINIA

DRUG COURT REVIEW

EDITORIAL BOARD
Steven R. Belenko, Ph.D.
Judge Karen Freeman-Wilson (Ret.)
C. West Huddleston, III
Robin Kimbrough-Melton, Ph.D.
Barry Mahoney, Ph.D., J.D.
Douglas B. Marlowe, J.D., Ph.D.
Judge William G. Meyer (Ret.)
Roger H. Peters, Ph.D.
Kenneth D. Robinson, Ed.D.
Sally L. Satel, M.D.
Faye S. Taxman, Ph.D.
W. Clinton Terry, III, Ph.D.

EDITOR-IN-CHIEF
Judge Karen Freeman-Wilson (Ret.)

MANAGING EDITORS
Michael P. Wilkosz, M.A.
Carson L. Fox, Jr., J.D.

EDITORIAL STAFF
C. West Huddleston, III
Susan P. Weinstein, J.D.
Alec Christoff, J.D.

Volume IV, Issue 1
Summer 2002

NATIONAL DRUG COURT INSTITUTE
Judge Karen Freeman-Wilson (Ret.), Executive Director
C. West Huddleston, III, Director
4900 Seminary Road, Suite 320
Alexandria, Virginia 22311
Tel. (703) 575-9400
Fax. (703) 575-9402
www.ndci.org

Copyright © 2002, National Drug Court Institute

NDCI is supported by the Office of National Drug Control Policy, Executive Office of the President and the Bureau of Justice Assistance, U.S. Department of Justice.

This document was prepared under Cooperative Agreement Number 1999-DC-VX-K001 from the Bureau of Justice Assistance, U.S. Department of Justice. Points of view or opinions in this document are those of the authors and do not necessarily represent the official position of the U.S. Department of Justice.

All rights reserved. No part of this publication may be reproduced, stored in a retrieval system, or transmitted, in any form or by any means, electronic, mechanical, photocopying, recording, or otherwise, without the prior written permission of the National Drug Court Institute.

Printed in the United States of America.

Drug courts perform their duties without manifestation, by word or conduct, of bias or prejudice, including, but not limited to, bias or prejudice based upon race, gender, national origin, disability, age, sexual orientation, language or socioeconomic status.

INTRODUCTION

The Editorial Board is pleased to present the first issue of volume four of the *Drug Court Review* (Volume IV, 1). Volume IV takes a look at three important areas to the drug court field: the development and implementation of the nation's first campus drug court, drug court participants' satisfaction with treatment and the drug court experience, and the use of creatinine-normalized cannabinoid results to determine new marijuana use versus continuing drug excretion from previous exposure. Each of these areas represents a component of the future of the drug court movement, and each component has a role to play in furthering the institutionalization of drug courts throughout the United States.

These issues, and the information we are able to uncover about them, are important to the continued development and evolution of the drug court model.

In this issue:

- Cheryl L. Asmus, Ph.D., details the development and implementation of the nation's first campus drug court, established at Colorado State University. Dr. Asmus outlines the need for campus drug courts, program design, program personnel, involved campus departments and agencies, the evaluation process, and future directions.
- Christine A. Saum, Ph.D., Frank R. Scarpitti, Ph.D., Clifford A. Butzin, Ph.D., Victor W. Perez, M.A., Druretta Jennings, M.L.T., and Alison R. Gray, B.A., delve into drug court participants' perceptions of, and satisfaction with, the treatment and drug court experiences. The authors present data from 312 interviews with drug court clients conducted shortly after discharge from a Delaware drug treatment court.

Overall most drug court clients were satisfied with their treatment and courtroom experiences; however, statistically significant differences were detected between those who completed the drug court program and those who did not.

- Paul L. Cary, M.S., examines the use of creatinine-normalized cannabinoid results to differentiate between those participants who have engaged in new use of marijuana and those who have maintained abstinence yet evidence continuing drug excretion from previous exposure. Mr. Cary presents a list of fundamental considerations necessary for the proper use of creatinine-normalized cannabinoid results, reviews the calculations involved in this method, and also presents a non-normalized method for making these distinctions.
- Finally, this issue of the *Review* concludes with a "Research Update" on two recent drug court research evaluations, compiled from the executive summaries of those evaluations themselves.

THE DRUG COURT REVIEW

Published semi-annually, the *Review*'s goal is to keep the drug court practitioner abreast of important new developments in the drug court field. Drug courts demand a great deal of time and energy of the practitioner. There is little opportunity to read lengthy evaluations or keep up with important research in the field. Yet, our ability to marshal scientific and research information and "argue the facts" can be critical to a program's success and ultimate survival.

The *Review* builds a bridge between law, science and clinical communities, providing a common tool to all. A headnote and subject indexing system allows access to evaluation outcomes, scientific analysis and research on drug court related areas. Scientific jargon and legalese are interpreted for the practitioner into a common language.

Although the *Review*'s emphasis is on scholarship and scientific research, it also provides commentary from experts in the drug court and related fields on important issues to drug court practitioners.

THE NATIONAL DRUG COURT INSTITUTE

The *Drug Court Review* is a project of the National Drug Court Institute. NDCI was established under the auspices of the National Association of Drug Court Professionals and with the support of the Office of National Drug Control Policy, Executive Office of the President and the Bureau of Justice Assistance, U.S. Department of Justice.

The National Drug Court Institute's mission is to promote education, research and scholarship to the drug court field and other court-based intervention programs.

Historically, education and training in the drug court field have only been available at regional workshops and the annual national conference; analysis and scholarship were largely limited to anecdotes and personal accounts.

That situation has changed. Evaluations exist on dozens of drug court programs. Scholars and researchers have begun to apply the rigors of scientific review and analysis to the drug court model. The level of experience and expertise necessary to support an institute now exist.

Since its creation in December 1997, NDCI has launched a comprehensive practitioner training series for judges, prosecutors, public defenders, court coordinators, treatment providers, and community supervision officers; developed a research division responsible for developing a scientific research agenda and publication dissemination strategy for the field, as well as developing a series of evaluation workshops; and published a monograph series on relevant issues to drug court institutionalization and expansion.

ACKNOWLEDGEMENTS

I wish to thank all those who have contributed to this issue of the *Drug Court Review*: to the Office of National Drug Control Policy, Executive Office of the President, and the Bureau of Justice Assistance, U.S. Department of Justice, for the leadership, support, and collaboration that those agencies have offered to the National Drug Court Institute; and to Dr. Cheryl L. Asmus, Dr. Christine A. Saum, Dr. Frank R. Scarpitti, Dr. Clifford A. Butzin, Victor W. Perez, Druretta Jennings, Alison R. Gray, Paul L. Cary, Dr. Thomas B. Fomby, Vasudha Rangaprasad, and Dr. Amy Craddock for their contributions as authors.

Judge Karen Freeman-Wilson (Ret.)
Executive Director
National Drug Court Institute

CONTENTS

A Campus Drug Court: Colorado State University
Cheryl L. Asmus, Ph.D. 1

Drug Court Participants' Satisfaction with Treatment and the Court Experience
Christine A. Saum, Ph.D., Frank R. Scarpitti, Ph.D., Clifford A. Butzin, Ph.D., Victor W. Perez, M.A., Druretta Jennings, M.L.T., and Alison R. Gray, B.A. 39

***NDCI Commentary*: The Use of Creatinine-Cannabinoid Results to Determine Continued Abstinence or to Differentiate Between New Marijuana Use and Continuing Drug Excretion from Previous Exposure**
Paul L. Cary, M.S. 83

***Research Update:* Reports on Recent Drug Court Research**
Compilation 105

Subject Index 111

Headnote Index 137

A CAMPUS DRUG COURT: COLORADO STATE UNIVERSITY

By Cheryl L. Asmus, Ph.D.
Family & Youth Institute,
Colorado State University

There is a certain core of students on university campuses involved in high-risk drinking and illegal drug use for which even the most comprehensive prevention efforts are not making a difference. The serious and/or negative consequences of their alcohol or drug use commonly and repeatedly place them in the campus offices of judicial affairs, resulting in a high rate of disciplinary dismissals for this group. It is for this particular group that Colorado State University (CSU) has adapted, implemented, and currently evaluates the nation's first campus drug court.

Applying the drug court model to CSU's campus, the goals are (1) to reduce the number of serious incidents resulting from high-risk drinking and/or drug use at CSU; (2) through rehabilitation, to reduce the number of dismissals of students who reach that level of discipline due to their problematic behavior resulting from alcohol and/or drug (AOD) use; (3) by combining consequences for delinquent behavior and treatment in a therapeutic approach, to involve and coordinate the various offices and programs on campus involved in AOD prevention; and, (4) to adapt, implement, evaluate, and report on the feasibility of, and steps to, developing a campus drug court model for other campuses across the nation. This article outlines the need for campus drug courts, program design, program personnel, involved departments and agencies, the evaluation process, and future directions. After two years, CSU's dismissal rate for this population went from 100 percent to nine percent—a 91 percent success rate.

Cheryl L. Asmus, Ph.D., Coordinator of the Family and Youth Institute and Assistant Professor of Psychology at Colorado State University (CSU), is the evaluator of the Eighth Judicial District Juvenile Drug Court in Colorado. Dr. Asmus teaches Social Psychology, Introductory Psychology, and Drugs and Behavior at CSU. For several years she was a research associate and field director at the Tri-Ethnic Center for Prevention Research at CSU on a project funded by the National Institute on Drug Abuse (NIDA) that surveyed high school students in 260 rural communities across the United States regarding drug and alcohol issues, HIV, and economic impacts and opportunities for youth. Dr. Asmus is currently the project director and author of the nation's first campus drug court. In addition to contracting and working with communities on community issues, assisting agencies and CSU Cooperative Extension in evaluations, Dr. Asmus has authored and co-authored articles and book chapters, and has presented at numerous conferences both nationally and internationally.

Direct all correspondence to Cheryl L. Asmus, Ph.D., Coordinator, Family and Youth Institute, 201 Gibbons Building, Colorado State University, Fort Collins, CO, 80523-1501; E-mail: asmus@cahs.colostate.edu.

ARTICLE SUMMARIES

CRIME AND CAMPUS DRUG COURTS

[1] College campuses are seeing increases in alcohol and drug-related crime.

"HARD CORE" DRINKERS ON CAMPUS

[2] To address the increases in drug and alcohol incidents on campuses, alternatives must be found to engage the hard-core alcohol and drug-using students.

INCREASE IN SERIOUS STUDENT OFFENSES AT CSU

[3] Dramatic increases in campus hearings at CSU, many involving alcohol, also signal increases in associated negative behavior.

DRUG COURT AT CSU

[4] As an alternative to expulsion, CSU implements a campus drug court, based on the proven drug court model, for those students most seriously involved with alcohol and drugs.

CSU CAMPUS DRUG COURT PILOT SUCCESSFUL

[5] Seven students at dismissal level were taken into the CSU drug court, graduated, and remained crime free two years later.

CAMPUS DRUG COURT PROCESS AND DESIGN

[6] The campus drug court team assesses eligibility; following that the student participant is given an individualized treatment plan, intensive case management, regular judicial supervision with sanctions and incentives, and alcohol and/or other drug testing.

CAMPUS DRUG COURT TEAM (CDCT)

[7] The CDCT consists of the coordinator and evaluator, program director and hearing officers, case manager and clinicians, law enforcement, student representatives, and project advisors.

Campus Departments Involved

[8] The campus departments involved in drug court are the Family and Youth Institute, the Office of Judicial Affairs, the Center for Drug and Alcohol Education, the University Counseling Center, the CSU Police Department, and the Associated Students of Colorado State University.

Campus Drug Court Evaluation

[9] The campus drug court has a thorough MIS, which stores the basic information for the process, outcome, and impact evaluations.

Future of Campus Drug Courts

[10] The CSU Drug Court has shown success. Legislation is pending to fund pilot campus drug courts, at $15 million.

INTRODUCTION

There is a certain CORE of students on university campuses involved in high-risk drinking and illegal drug use for which even the most comprehensive campus prevention efforts are not making a difference. The serious and/or negative consequences of their alcohol or drug use commonly and repeatedly place them in campus or community offices of judicial affairs, resulting in an almost 100 percent expulsion rate for this group. It is for this particular group that a pilot project has been successfully implemented on the Colorado State University (CSU) campus by adapting the drug court model used by over 1,200 courts nationwide.

The author predicts that the application of a drug court model on campuses would reduce the recidivism rates of this difficult targeted population, making the campus and surrounding community a safer and more civil environment by reducing the negative behaviors and incidents caused by this population. The author also believes that it would be easily adapted to most campus settings. The findings of this application, to address the students involved in alcohol and drug use that results in serious consequences will benefit both the university campus and the students themselves.

NEED FOR A CAMPUS DRUG COURT

High-Risk Drinking and its Negative Consequences on Campus

[1] As most program directors for alcohol and other drug prevention programs on campuses know only too well, the number of students participating in high-risk drinking is a serious and increasingly complex problem. Campus offices of student and judicial affairs recognize that the situations that are bringing many students under their auspices are often

closely linked with alcohol and substance abuse. In addition, the nature of both the delinquent (e.g., criminal) acts and the dependency matters resulting from alcohol and other substance abuse (AOD) on campuses is frequently associated with more serious and/or violent criminal activity. A recent article in *The Chronicle of Higher Education* (2001, February 2) reported that arrests due to liquor-law violations at 6,300 campuses increased 0.4 percent from 1998-1999. *The Chronicle,* using a somewhat different sample of campuses, has been reporting on crime on campuses since 1993 with the trend indicating that this number increases every year. A recent federal law, the Clery Act (1989), requires the U.S. Department of Education to collect data pertaining to crimes occurring on campuses starting in 2000 and to begin reporting this information not only to students but also to Congress. The recent *Chronicle* report clearly indicates the number one cause of crime on campuses involves alcohol, either through referrals or arrests. The combination of these findings and the new reporting requirement (Clery Act) indicate the need to specifically address the serious incidences (e.g., crime) resulting from alcohol use on campuses.

The Drug-Free Schools and Campuses Act, codified as Part 86 of the United States Education Department General Administrative Regulations (EDGAR, 34 CFR) requires that every institution of higher education conduct a review of its alcohol and other drug prevention program every two years to determine its effectiveness. The CORE survey instrument consists of 39 items that can be broken down into the following categories: attitudes, perceptions and opinions about alcohol and other drugs, patterns of alcohol and drug use and consequences of use, and perceptions of campus climate and policy issues. The CORE survey was developed with funding from the U.S. Department of Education and is used widely nationwide, allowing a campus to use a large national comparison group as a reference to its own findings.

Current Prevention Efforts and "Hard-CORE" High-Risk Drinkers

[2] The core of high-risk drinkers and drug users on campuses are the students who have been involved in repeated serious incidences while using alcohol or other substances, which caused them to be brought to the attention of the campus offices of judicial affairs, the surrounding community offices of judicial affairs, or both. Not only do the typical prevention and intervention programs not work for this group, but also very few attempts have been made to target this group beyond arrest and/or expulsion. It is for this particular group that prevention or intervention efforts must be developed, implemented, and evaluated to make campuses more civil communities conducive to learning and excellence. However, any prevention or intervention effort aimed at this group must also address the associated problems surrounding these students (both internal and external) if the escalating pattern of high-risk drinking on college campuses is to be arrested.

In the 1999-2000 school year at CSU, approximately 340 students were seen for the first time by the Center for Drug and Alcohol Education (CDAE) on campus due to an incident with alcohol and/or drug involvement. In addition, approximately 400 students, many of whom had already been sent at least once to the CDAE, were put in an extended program due to the seriousness or frequency of the incidents involving their AOD use. Even more alarming, 76 students were brought before the Office of Judicial Affairs (OJA) and faced at the least, suspension; and at the worst, expulsion from school because of their repeated involvement in problematic or serious incidents due to their AOD use. Students face consequences with the OJA, as well as other negative consequences. Table 1 shows results from the most recent CSU CORE survey. This table reflects self-reported negative consequences that a student has experienced in the

previous 30 days as a direct effect of alcohol or drug involvement.

Table 1
Negative Consequences, Public and Personal, from Alcohol Use One or More Times in Last 30 Days at Colorado State University, 1999

High-Risk Drinking Measures from CORE	Percent of those who Drank
Public	
Trouble with police	2.5
Trouble with college authorities	0.6
Physical fighting	4.4
Verbal argument	28.5
Drove a car while under the influence	29.1
Damaged property	1.9
Personal	
Medical treatment for alcohol overdose	0.6
Did something later regretted	44.2
Had unprotected sex	15.2
Had a memory loss	32.2
Passed out	20.5
Been hurt or injured	6.4
Had a hangover	60.3
Missed a class	28.0
Got behind in schoolwork	25.5
Performed poorly on a test/project	5.7

[3] The University's OJA also keeps detailed records of students who have been charged with infractions that require hearings. In the 1999-2000 school year, CSU saw a 70 percent increase in total number of hearings compared to the previous year; almost a third of those involved direct alcohol or drug charges (Colorado State University, Office of Judicial Affairs). These charges represent only repeat offenders or an underage charge in conjunction with a more

serious offense. The vast majority of underage drinking reports are handled by residence hall staff and do not appear in these statistics. They also do not include violations of stadium rules, typically involving students who have consumed alcohol for long periods of time before attending games. Almost 15 percent of the students at CSU that year were charged with under-aged drinking, and 18 were actually hospitalized due to an alcohol overdose (Colorado State University, Office of Judicial Affairs).

Students engaging in high-risk drinking, and the all too often resulting delinquent incidents, arrests, or referrals, not only affect the campus environment but also the larger community in which the campus exists. At minimum, the associated behaviors of students engaging in high-risk drinking and drug use include missed classes and poor grades; at worst, associated behaviors include expulsion from school or arrests by either campus or community police. Unfortunately, though expulsion of a particular student may make that campus a safer and more civil place, often the expelled student's alcohol-related problem and behavior simply will become the problem of either another university or college or the community at large.

Campuses across the nation typically have some type of programs, task forces, and other resources in place that individually deal with high-risk drinking. Almost every campus with an alcohol or drug (AOD) program implements general education as an intervention. Other common practices include: comprehensive approaches; environmental approaches/social norms campaigns; targeted approaches (specific groups [e.g., fraternities]); academic curriculum programs (e.g., courses dealing with alcohol and drug-related issues); peer-based initiatives; training for students, staff, and other campus leaders on dealing with intoxicated students; support services that include identification of students with alcohol problems, screening, interventions, support and

counseling services; university-wide drug and alcohol task forces; campus policies and university mission; enforcement; and evaluation of current efforts.

Many campuses across the nation are employing one or more of the above types of programs; still other campuses are combining their programs and using cross-college initiatives to address the problem: a systems approach (Weschler *et al.*, 1999). CSU is one of the many universities across the nation that is using a systems or comprehensive approach to address AOD use on the campus and in the nearby community.

SIGNIFICANCE OF ADAPTING A DRUG COURT TO A CAMPUS

[4] CSU and many other campuses employ systems approaches to address their AOD issues. One approach never implemented on a campus in the United States is the widely accepted drug court model. Drug courts take on the responsibility of handling cases involving drug-using offenders through comprehensive supervision, drug testing, treatment services, and immediate sanctions and incentives. Drug court programs bring together all intervenors (judges, prosecutors, defense counsel, substance abuse treatment specialists, probation officers, law enforcement and correctional personnel, educational and vocational experts, community leaders, and others) in coordination, forcing the offender to deal with his or her substance abuse problem (The Facts: Facts on Drug Court, 2002 November).

Systems approaches offer a campus the opportunity to deal comprehensively and systematically with high-risk drinking. A systems approach is based on the assumption that to change a behavior, both the individual and his or her environment must be addressed (Sallis, *et al.*, 1996). Research suggests that using a systems approach involving

the entire campus would have much promise (Upcraft and Welty, 1990). For the group of students involved in repeated serious incidences resulting from their AOD use, nothing but a systematic approach inclusive of both the campus and the surrounding community will be effective. Unfortunately, the "hard-core," high-risk drinkers and drug users seem to be addressed heretofore only by either law enforcement or expulsion. Very often the result has been similar to what the U.S. Judicial system experienced in the mid 1980's when the drug court model was first implemented: repeated incidences of referrals and arrests.

With the substantial success rate of drug courts, regardless of the context or the population it is surprising that, to the author's knowledge, no university or college has adapted the U.S. Department of Justice-supported systems approach, the drug court model, to address either substance abuse or high-risk drinking. As did many judges and courts across the country in the past two decades, the author decided to test the generalizability and success of drug courts by adapting, implementing, and evaluating a drug court model on the campus of CSU.

One of the most powerful functions of a drug court is the ability of the judge to use the power of the court to mandate treatment and to provide a format for graduated sanctions and incentives to reduce AOD use. Even though many AOD treatment providers are suspicious of mandatory treatment, several research studies have shown that, compared to voluntary treatment, court-ordered treatment outcomes are as good or better (Anglin and Hser, 1990; Collins and Allison, 1983; DeLeon, 1988; Hubbard, et al., 1989; Leukefeld and Timms, 1988). When a student is facing suspension or dismissal from college he or she is typically facing a judicial branch of the university. Like a drug court, the combination of the power of the OJA in mandating

treatment along with graduated sanctions and incentives is expected to be powerful in the campus setting.

Table 2

Goals and Objectives of the Colorado State University Campus Drug Court Project
Goal 1. Reduce the number of serious incidents resulting from alcohol and/or other drug (AOD) use at CSU, as measured by the CORE Alcohol and Drug Survey.
Goal 2. Through the rehabilitation process, reduce the number of expulsions of students who reach the level of dismissal due to their problematic behavior resulting from AOD use.
Goal 3. By combining consequences for delinquent behavior and treatment in a therapeutic approach, involve and coordinate the various offices and programs at CSU involved in AOD prevention.
Goal 4. Adapt, implement, evaluate, and report on the feasibility of, and steps to, developing a campus drug court model for university and college campuses across the nation.

PROJECT DESIGN

Beginnings

Colorado State University is located in northern Colorado on the Front Range of the Rocky Mountains in the City of Fort Collins. Fort Collins is a rapidly growing community of approximately 120,000 people, located in Larimer County. Colorado State University has a population of approximately 24,000 students, making up roughly one-quarter of the population of the City of Fort Collins. In 1998, a district judge started the State of Colorado's first juvenile drug court: the Eighth Judicial District of Colorado Juvenile Drug Court. The Eighth Judicial District's Justice Center is located in Larimer County. That district judge suggested to

the coordinator of the Family and Youth Institute (FYI) at CSU that the coordinator and the campus chief of police start the nation's first campus drug court. The coordinator of FYI then met with the newly formed CSU Drug Task Force Team and proposed the idea. The CSU Drug Task Force Team is comprised of the Chief of Police, staff from the Center for Drug and Alcohol Education (CDAE), the Director of the University Counseling Center (UCC), the Director of Housing, and the Director and Assistant Director of the Office of Judicial Affairs (OJA) at CSU. The team was given a presentation of the components and philosophy of a drug court on the campus by the district court drug court judge, the coordinator of FYI, and the juvenile drug court coordinator. Next, the CSU Drug Task Force Team attended, as observers, a staffing and a session of juvenile drug court at the Eighth Judicial District Justice Center. The team decided they would be interested and willing to pilot the idea. The coordinator of FYI began to look for funding to support the project.

Pilot

[5] The CDAE, in collaboration with the UCC and the OJA, piloted the campus drug court with seven students at the *dismissal* level in the fall semester of 2000. Students were referred to the program through the OJA and received an initial AOD assessment at the CDAE. The OJA, working with the student, set up individualized treatment plans which often included individual and group therapeutic sessions, random urinalysis (UA) or breath analysis (BA), and referral to receive additional testing and/or psychiatric evaluations either at the UCC or off-campus. Medical, learning disabilities, and academic support was provided in a case management-like approach. Two years later, of the original seven students, all have graduated from the campus drug court program, are still in school, and remain law-abiding. In comparison, in the previous five years, *all* similar students were dismissed from school. The first campus drug court

proved to be a great success. For the first time, campuses had an option at or prior to the point of dismissal for the AOD abusing student.

In the meantime, the coordinator of FYI was writing and sending proposals requesting support for funding to pilot the campus drug court idea on a larger scale at CSU. The coordinator of FYI designed the campus drug court to simulate a judicial drug court: assigning analogous campus staff to the roles of a typical drug court team. The coordinator also designed the process of the campus drug court, student and data monitoring, and the evaluation process to simulate a drug court that might be found in any courthouse across the country. In the fall of 2001, funding was received through the U.S. Department of Education, Safe and Drug-Free Schools' competition to Prevent High-Risk Drinking on College Campuses.

In January 2002, the coordinator and FYI held several day-long trainings with the campus drug court team to set up policies and procedures and to begin the project full scale. Because a campus is not a judicial court, many terminology changes and adjustments were made. The campus drug court was named DAY IV, or Drugs, Alcohol and You IV. CSU already had in place DAY I, II, and III to address AOD use on the campus. DAY I is an educational program, DAY II is AOD assessment and limited individual counseling, and DAY III is group counseling. The remainder of this article will describe the implementation of DAY IV. "DAY IV" will be used analogously with campus drug court.

Goals and Objectives

The overarching goal of the campus drug court is to decrease AOD involvement in a group of students not normally reached by the traditional interventions, through a collaborative systems model designed to encourage the

student to make the necessary lifestyle changes which will contribute to their success not only as a student, but also in their lives after they graduate. Four other goals were included in the project, and will be monitored continuously as indicators of the success of the project.

Goal 1: Reduce the number of serious incidents resulting from AOD use at CSU as measured by the CORE Alcohol and Drug Survey. Information from the CORE survey will measure student reports of negative consequences that the students caused or they knew happened as a result of drinking alcohol. In addition, a report normally kept by the OJA will sum the students arrested for AOD related crimes.

Goal 2: Through the rehabilitation process of DAY IV, reduce the number of expulsions of students who reach the level of dismissal due to their problematic behavior resulting from AOD use. The total number of students dismissed due to their AOD use for the two years preceding the implementation of DAY IV will be compared to the total number dismissed following DAY IV implementation. In addition, students in the DAY IV program will be tracked for graduation success in order to document which variables of the campus drug court are most effective such as the individual, social, cultural, and situational variables.

Goal 3: Involve and coordinate the various offices and programs on campus involved in the alcohol and drug programs into the creation of a campus drug court by combining consequences for delinquent behavior and treatment in a therapeutic approach. The identification of these offices and programs, extent of their involvement, and specific responsibilities of the OJA, CDAE, UCC, Ombudsmen, the Associated Students of Colorado State University (ASCSU), and the Family and Youth Institute (FYI) will be documented for evaluation and replication.

Goal 4: Adapt, implement, evaluate, and report on the feasibility of, and steps to develop, a campus drug court model for other campuses across the nation. A detailed record of each step in the adaptation, implementation, and evaluation of the first campus drug court will be kept. The steps replicate and adapt the steps taken by hundreds of drug courts across the country.

Target Population

At CSU, when an incident occurs that involves a student who either violates the law or CSU's written students' "rights and responsibilities," either on or off-campus, a range of interventions occur. At the lowest level, a resident hall staff or police officer talks to the student and a first level educational referral to the CDAE is made (DAY I). When this doesn't work, or if the incident was serious, the University OJA is brought into the picture. If the incident is determined to be AOD related, the CDAE becomes more involved providing an individual assessment (DAY II). Once the OJA becomes involved, the student must go through a series of steps. At the initial step of OJA involvement, if the incident is not serious, the student will be *warned*. If the student continues with the behavior, a *general discipline* (a lower level of probation and a letter to the student's parent(s)) would follow. If neither of these minor interventions has an effect, or if the incident was quite serious, the student is placed on *disciplinary probation*. The student is told that if there is one more complaint—"you're gone." The next step calls upon CSU's OJA is to *suspend* the student. Typically, this is in time increments. In other words, the student is sent away for a specified time and then allowed to return. This level is typically not used for AOD-related incidents because time alone will not rectify the student's issues. *Dismissal* is most commonly used, because it requires specific tasks, such as the completion of treatment, in order for a student to be eligible for readmission. *Expulsion* is reserved for the most

serious offenses involving crimes of violence or sex offenses with less evident opportunities for successful treatment. Separation from the university occurs for approximately15 to 40 students in a given year. In light of the OJA's disciplinary levels, the first criterion for inclusion in the campus drug court project was established: students would be admitted when facing disciplinary probation or above. On average, 121 students per year met this criterion in the last five years at CSU (with a range of 68 to 188).

When a student is involved in any AOD-related incident, through the DAY II assessment, the CDAE screens the student to place him or her at one of three levels. The first level is typically a developmentally normal student who is likely experimenting without any chronic problems. The second level involves students who may be beyond experimental; yet, with minor counseling and awareness programs, AOD use is diminished. The third level involves a student who is probably chemically dependent, all possible services at the CDAE have been exhausted and no progress is occurring. These are the students that are considered eligible for DAY IV. The second criterion for inclusion in the campus drug court project was established: the student has been through some combination of AOD education and assessment without success. Both criteria must be met for inclusion in the program.

Campus Drug Court Process and Design

[6] The following narrative adapts the drug court language to be relevant and conducive to a university setting. When necessary, the corresponding language of drug court follows in parentheses for clarification. The process of the project is illustrated by the steps and stages a student goes through as a participant in CSU's DAY IV.

The Campus Drug Court Team (CDCT)

The CDCT's responsibilities are described in detail in the "Project Personnel" section.

Screening and Eligibility

The team meets on a weekly basis to staff the students. At the staffing, the potential participants are discussed along with the students already in DAY IV (the drug court). Once a student is identified as fitting both criteria, the student is considered eligible for review by the CDCT. Students found guilty of the following infractions are not eligible for inclusion in DAY IV: violent or sexual offenses, child abuse, or any Class 3 felonies. Eligibility for DAY IV includes the following underlying types of infractions: alcohol overdose; possession of alcohol (if underage); possession of illegal drugs; possession of drug paraphernalia; cases in which the student is under the influence of AOD at the time of the offense; cases in which the student is known to have a significant involvement with AOD; and, cases in which AOD is known to be a causative factor in the offense.

At this time, a screening (if not already completed) will define and record the types of problems or characteristics that may occur in and around the student. The screening consists of a Minnesota Multiphasic Personality Inventory (MMPI) at the UCC; an individual session with a clinician at the CDAE; a baseline urinalysis drug screen; a meeting with the case manager to get a thorough family, physical, psychological, and social history; and a criminal records search (Chief of Police).

Acceptance to DAY IV

At the first review of a potential DAY IV student, the CDCT will make one of three decisions: accept, reject, or pending more information. Often, the team does not have enough information to accept or reject the student. After discussion, the team will decide what additional information they may need. This information may include AOD screening (see above), information from the student's previous school, information from parents, or a criminal records screen. If the team decides to accept the student, the student is now offered participation in DAY IV. The CDCT then goes over, as a group, the terms and conditions of each student's participation in DAY IV. Conditions may include: number of random breathalyzers, times per week to meet with case manager, type and frequency of treatment, possibly moving from current living area, attendance in class, increasing GPA, etc. Participation is completely voluntary. The student must understand and agree to the conditions and terms of the DAY IV, as explained both verbally and in writing by the hearing officer. A signed copy is given to the student. If the student decides to accept, two release forms are collected from the student at that time, in addition to the terms and conditions form. One of the release forms is an informed consent form. This form is in compliance with Federal Regulations CFR 42, or informed and voluntary consent to do research with the information collected in regard to the student, in other words: evaluation. The second release form is a release of information that specifies the various people their information can be shared with. Both forms are explained verbally and in writing with one copy given to the student upon obtaining their signature. If the student is under 18, a parent must also sign the consent forms.

Once accepted, the student is advised of his or her rights according to the regulations of the University's disciplinary guidelines, and again admits the elements of the

offense. According to Prochaska, et al., (1982), this is important for an individual to openly acknowledge his or her problem. If the student successfully completes DAY IV, the probationary status is terminated and the student is allowed to continue at the University without sanction. If unsuccessful, the student will be processed according to University discipline systems depending on what level of discipline he or she was at before participation in DAY IV. The students who either self-select out of the program or are dropped from the program are followed for a period of one year to compare recidivism rates to program graduates.

Treatment Plan

Based upon the assessment and advisement of the screening by CDAE (treatment provider), the CDCT develops an individual strengths-based treatment and case management intervention plan for the student. A student or staff member from either the UCC or the CDAE is assigned to the student along with a case manager. DAY IV uses the term "clinician" in lieu of treatment provider. DAY IV has two clinician roles: Primary Clinician and Secondary Clinician. The primary clinician meets on a routine basis with the student providing individual counseling at the CDAE. The secondary clinician performs the psychological assessments when required at the UCC and serves on the DAY IV team as advisor regarding clinical decisions. Often students in the psychology counseling masters or doctoral program, or the social work department at CSU, will do their internships at the UCC. With the supervision of faculty, these graduate students provide treatment and case management for the students.

The treatment plans are individualized; therefore the number and type of treatment sessions vary. Interventions may include: an eight-week assessment, education, and treatment program; individual therapy; family therapy; stress

management; anger management; peer or group therapy; intensive outpatient treatment; or, inpatient treatment or detoxification (the last two would be referred off campus). The clinicians keep track of specified information to monitor and evaluate the student's treatment plan both to assist the decision-making process at the CDCT's staffing and for evaluation purposes.

Case Management

The Director of the CDAE is responsible for the overall case management of the student. Individual case managers (typically supervised students) are responsible for providing timely and consistent information to the Director of the CDAE about the student for both team decision-making at staffing and evaluation. The case manager monitors the intervention plans, coordinates information and resources between the drug court team and other University departments or programs, regularly meets with the student, requests and monitors drug screens, and reports information to the CDCT to ensure the student is complying with all DAY IV requirements.

Judicial Supervision

Upon acceptance into DAY IV, the student meets with the hearing officer (Director of Judicial Affairs, or "Judge"). At this time in DAY IV's testing of a model campus drug court, the student never appears in "court." The student meets in private with the hearing officer, case manager, treatment provider, etc. The Family Educational Rights and Privacy Act (FERPA), commonly known as the Buckley Amendment, severely restricts access to a student's records of any kind without consent. An appearance in a court, discussing the student's information in the presence of other students would violate FERPA. It would be possible to have a "hearing" with other students in DAY IV present with

specific signed consent. DAY IV is not doing this currently, but it is being considered for the near future.

At the meeting with the hearing officer, the student will again be made aware of the criteria for success in the program, the incentives of program compliance, and the conditions and procedure for expulsion from the program. The student meets in private with the hearing officer every two weeks. The DAY IV individual team members, such as the case managers or clinicians (treatment providers) report information specific to each student on a weekly basis to the hearing officer at the staffings. This information typically includes, but is not to be limited to: attendance at clinician appointments, compliance with sanctions, breathalyzer or urinanalysis results, school performance, and other current issues impacting the student's life.

Alcohol and/or Drug Testing

Depending on the individual plan developed by the DAY IV team, students may be required to submit to random breath or urine AOD analyses several times a week for the first several weeks of participation in the program. If the student is found to be sober or drug-free consistently, collection will be reduced gradually. Students are placed on a collection schedule involving randomly selected days on which the student must appear at a local drug analysis agency for assessment. Students are responsible for the expenses associated with the tests.

Interventions (Sanctions and Incentives)

Current research states that the most successful intervention programs use graduated sanctions as part of the intervention process (Lipsey and Wilson, 1998). The campus drug court imposes graduated interventions for both non-compliance and compliance with program guidelines. The

interventions employed are meaningful to the individual with the intent to have the best chance of impacting his or her behavior. Sanctions include: AOD education, ethics workshop, additional counseling, letters of apology, restitution, restorative justice, community service, relocation in residence halls, no-trespass orders, anger management classes, the writing of papers, and conflict workshops. These interventions are imposed by the hearing officer in a graduated fashion and recorded by the case manager, upon DAY IV team recommendations.

One new program, "Weekend Nights at CSU," was deemed important enough by the DAY IV team to be partially supported by the campus drug court. The campus drug court pays the stipend and tuition of a graduate student charged with running the program. "Weekend Nights at CSU" is a cross-campus effort involving, faculty, students, administration, and staff members for late-night programming designed to provide innovative and safe alternative weekend activities on the CSU campus. Using the "Weekend Nights at CSU" program, both incentives and sanctions are implemented in a graduated fashion. A student may have to work at an event (sanction) or take charge of running a program (incentive). This program's existence as a "place" to send students where they are not with the typical partying crowd allows the students to learn that there are other ways to spend their nights and other things to do that do not involve drinking or drug use. Students in DAY IV have provided feedback regarding the importance of these programs and that feedback has been very positive and very powerful. One student said, "I had no idea that there were so many things I could do if I wasn't drunk all the time! I have been wasting my life." "Weekend Nights at CSU" provides an alternative environment for students trying to terminate AOD use.

The intervention application of drug courts is extremely important to the success of the participant because

it is fundamentally based on a seminal theory of behavioral psychology: instrumental conditioning. According to the psychological principles of instrumental conditioning, a behavior can be expected to occur when it is reinforced, and not occur when it is not. This is one of the strengths of drug court and the relevance behind the interventions, or sanctions and incentives. An additional principle of instrumental conditioning that drug court applies very well is the immediacy of actions to a behavior. That is, if a student goes out and gets drunk and causes some type of incident, the DAY IV program will immediately apply a reinforcer (sanction) within one week at the latest. Another principle of instrumental conditioning used by drug courts is the use of graduated reinforcers. A behavior consistently rewarded with a reinforcer can be gradually "trained" to still occur as the reinforcers are less consistently offered. For example, a student who is sanctioned to attend and work at "Weekend Nights at CSU" one night a week could eventually be required to simply attend the program and not work at it. The student would be gradually reinforced less and less with the positive behavior still expected to occur. Incentives include donated tickets to athletic events, food or clothing coupons, etc. A list of incentives is generated by the team on an individual basis.

Graduation Requirements

Graduates of the DAY IV program receive certificates signed by the whole team. The Director of Judicial Affairs will announce students' graduation in front of the entire team and any others present. The adult drug court judge often comes to campus and "robes up" to congratulate the students. Students who meet the following criteria are eligible to graduate from the program: achieve intervention plan goals; participate in the program no less than four months; remain law-abiding; remain alcohol or drug-free continuously while in the program; complete AOD education

program; participate in an exit interview; and perform according to their abilities in school (measured by grades and letters sent to instructors).

Expulsion Criteria

Students who fail to comply with the program goals are terminated from the program. This criterion includes failure to comply with treatment requirements; refusal to attend case management, clinician, or drug testing appointments; unsuccessful discharge by any treatment provider; and/or failure to remain law-abiding. If the student is out of compliance with the DAY IV requirements, the CDCT will meet to determine whether the student will be allowed to remain in the program. If allowed to remain in the program, the CDCT will impose immediate consequences. If removed from the program, the student's case will be transferred to the regular adjudication process in the OJA.

PROJECT PERSONNEL AND CAMPUS DEPARTMENTS

[7] One of drug court's ten key components states: "A coordinated strategy governs drug court responses to participants' compliance." The campus of Colorado State University, as well as most campuses across the country, is ideally positioned to meet this criterion. The components of a drug court already exist at Colorado State University and at many of the colleges and universities across the nation.

The following description identifies key team members and involved departments of the CSU campus drug court, DAY IV. Team members are identified by campus drug court roles, with the typical analogous drug court team role found in the parentheses.

Personnel

Project Director and Evaluator (Coordinator and Evaluator). The project director is responsible for the day-to-day supervision and coordination of all aspects and activities of DAY IV in close collaboration with the Assistant Director of OJA. The project director's responsibilities include: organizing, coordinating and monitoring campus drug court; evaluating DAY IV and supervising the evaluation; arranging training and conferences; staff development; public relations; monitoring budgets; approving expenditures; preparing yearly and final reports; maintaining administrative and technical responsibility for establishing and meeting goals and objectives of the drug court and the project; organizing and coordinating training for the clinicians and case managers; maintaining cooperative relationships with treatment, community, probation, and other campus and non-campus agencies that may be involved in a student's case; attending conferences, meetings and other training; and working toward sustainability.

Program Director and Hearing Officers (Judge). In the first months of the project, it was clear that the director of judicial affairs would need assistance in order to take on the extra duties of the drug court. To meet this need, the assistant director of judicial affairs was hired by the OJA and the campus drug court to take over as the main hearing officer of DAY IV. The assistant director of judicial affairs has taken on the role of developing the campus drug court terminology and data collection forms to fit the specific campus of CSU, and has the official responsibility of chairing each DAY IV staffing. In hearings the assistant director advises the student and the student's family (if applicable) of their rights and responsibilities. The hearing officer's responsibilities include: day-to-day supervision and coordination of all aspects and activities of DAY IV in close collaboration with the project director; chairing each DAY IV staffing; working

closely on policy issues with the project director and other DAY IV team members; meeting with students; retention decisions involving the student; review of compliance issues; imposition of interventions; implementation of policies and procedures; and listening to recommendations of the DAY IV team members.

Case Manager and Primary Clinician. As the director of case management for DAY IV, the CDAE director's responsibilities include: monitoring intervention plans; monitoring student progress and compliance; coordinating information between the DAY IV staffings, students, and other resources on campus; input at staffing as to creative and appropriate sanctions and incentives, including weekend programming options for the students; and supervision of the primary clinician, who is also the assistant director of CDAE.

Clinicians (Treatment Providers). The primary clinician is responsible for initial AOD screens; one-on-one individual counseling; development of a treatment plan for each student; alcohol and drug evaluations; and family, mental, and medical histories. The primary clinician works very closely with both the secondary clinician and the case manager to insure or provide strengths-based treatment and rehabilitation to the DAY IV students.

The director of the UCC serves as the secondary clinician of DAY IV. The director of the UCC oversees the operation of a comprehensive mental health center that provides direct services to approximately 4,000 students each year. The responsibilities of the secondary clinician include: psychological testing of potential or ongoing DAY IV students; supervision of psychology students at the UCC in any treatment intervention; and DAY IV team "treatment" consultation. The secondary clinician works very closely with the primary clinician in the development of the students'

treatment plan and progress. Both clinicians are members of the DAY IV team and attend all staffings or report directly to the case manager with information prior to each staffing.

Law Enforcement (District Attorney). The Chief of Campus Police serves as the law enforcement entity for the DAY IV project. The chief of police's responsibilities include: attending all staffings or sending a police liaison; providing criminal background checks on all potential DAY IV participants; and providing campus safety advice in regards to particular students to the team. The chief of police also provides a crucial link to law enforcement representatives in the community and the State of Colorado.

Student Representation (Public Defender). Either or both the University Ombudsman's Office and the Associated Students of CSU may serve to represent some of the DAY IV students who may request representation. At the staffings, they will advocate for the legal rights of the students, monitor interventions imposed by the CDCT, and act as consultants to the student.

Project Advisors. The Larimer County drug court judge, district attorney, and assistant deputy district attorney have served as key advisors of the first campus drug court: DAY IV at CSU.

Campus Departments

[8] The ***Family and Youth Institute (FYI)*** is a collaborative undertaking between CSU, CSU Cooperative Extension, and the College of Applied Human Sciences. One purpose of the FYI is to provide links between departments, colleges, and faculty on campus in issues facing families and youth. As such, the FYI is the administrative center of DAY IV providing leadership, coordination, research, and evaluation.

Student hearings are held in the ***Office of Judicial Affairs (OJA)***. CSU expects students to maintain standards of personal conduct in harmony with the University's educational goals; to observe national, state, and local laws; and to respect the rights, privileges, and property of others. The OJA is charged with education, consultation, and support to the campus community regarding due process protections. They also respond to alleged violations of behavioral standards of conduct established for CSU students.

The ***Center for Drug and Alcohol Education (CDAE)*** provides campus-wide education for prevention of AOD misuse with strong emphasis on promoting alternative activities. Some of their responsibilities include: assessments and evaluations for chemical dependency; referrals for treatment and support groups; programs for residence halls and Greek houses; class presentations; weekly AOD education classes; screenings and assessments; and resource materials.

The ***University Counseling Center (UCC)***, as a comprehensive mental health agency, assists students in acquiring the skills, attitudes, and resources necessary to succeed in college and pursue satisfying and productive lives. The UCC staff is comprised of psychologists, social workers, consulting psychiatrists, counselors, psychology and social work interns, graduate students, and paraprofessionals. Some of the services the UCC provides include: individual and group counseling; 24-hour emergency services; daytime walk-in services; stress management programs; study skills training; learning disabilities evaluation; and psychological testing.

The ***CSU Police Department*** is a full-service law enforcement and human resource agency. All members of the department share as equal partners in their efforts to serve the university community and work cooperatively with

others. Their mission—to respond to the public safety and law enforcement needs of the CSU community—grows out of the department's concern for people and the CSU environment.

The ***Associated Students of Colorado State University (ASCSU)*** envisions a campus united. They work to ensure that residence halls, Greek life, campus programming, advocacy offices, and individual students are all equally and effectively represented by the union and voice of ASCSU.

The ***University Ombudsman*** at CSU ensures that students, staff, and faculty receive fair and equitable treatment within the University system.

PROJECT EVALUATION

[9] The evaluation was developed by the project director (and evaluator) at the FYI. Because drug courts are information-driven, a thorough and efficient management information system must be in place from the very beginning. DAY IV has developed an ACCESS data base used by the entire team to both drive decisions at staffings and to record information for evaluation purposes. The case managers, judicial affairs officers, law enforcement, and clinicians have specific data entry forms available that automatically inserts information into the main database. Within 24 hours prior to each staffing, an FYI graduate student accesses the main database and prepares a report for the staffings. This timely report is used for decision making in individual cases, overall management of the caseload, and evaluation record-keeping.

Logic Model

This evaluation applies the logic model as the framework to develop and achieve a *process, outcome,* and

impact evaluation (see Table 3).

Table 3
DAY IV Logic Model/Linking Program Design and Evaluation

Inputs	**Outputs**		**Outcome-Impact**		
	Activities	**Participation**	**Immediate**	**Short Term**	**Long Term**
What is needed to achieve DAY IV's goals?	What has to be done to ensure DAY IV's goals are met?	Who needs to: -participate? - be involved? - be reached?	What immediate changes are expected?	What short term changes are desired?	What impact is hoped for?
Staff Volunteers Time Money Materials Equipment Technology Partners	Meetings Publications Programs Media Outreach	Number Characteristics Reactions	Learning Awareness Knowledge Attitudes Skills Aspirations	Action Behavior Practice Decisions Policies Social Action	Impact Social Economic Civic Environmental

Process Evaluation

For the process evaluation, the focus is on Goals 3 and 4. Goal 3 involves coordinating the various offices and programs on campus that already address AOD use and its consequences to form a campus drug court. The identification of, extent of involvement, and specific responsibilities of the OJA, ASCSU, CDAE, UCC, and the FYI will be documented for evaluation and replication. Evaluating the success of Goal 4 will record, in detail, the process the team used to adapt and implement the drug court model in a campus setting. A detailed record of each step in the adaptation, implementation, and evaluation of the first campus drug court will be kept.

Applying the Logic Model, the typical information recorded for the process evaluation includes, but is not limited to: number and demographics of staff members and volunteers; amount of time spent on programs, resource development, trainings, etc.; sources of money to support the program, staff, equipment, buildings; materials needed to sustain programs and sources for this material; equipment needed to sustain programs and sources for the equipment; use of technology and technology needs; partners and collaborators on campus and in the community; workshops and trainings attended by program staff and costs of workshops; meetings among staff and community; media work; and how participants are admitted into the program.

Additional information to be recorded for the process evaluation includes the following: demographic characteristics of the participants; frequency and type of drug testing and treatment provided; number found eligible for the program, admitted, accepted, rejected, declined, graduated and failed, along with the characteristics around each; current charges; educational status; criminal/problem history; AOD history; mental health history; medical history; family

history; severity of drug abuse problem; sanctions and incentives imposed on each participant and the conditions around which those occurred; record of attendance; and a record of social, academic, personal, and treatment progress throughout the program.

Outcome and Impact Evaluation

For the outcome and impact evaluation, the focus is on Goals 1 and 2. Goal 1, reducing the number of serious incidents resulting from high-risk drinking or other substance use, was measured by the use of CORE survey results in the fall of 2002 and the yearly OJA report. The CORE survey will provide student reports of negative consequences that either they caused or negative consequences they knew happened as a result of drinking alcohol, while the OJA report will count the number of students arrested for AOD related crimes and the number of expulsions of students who reach the level of dismissal due to their problematic behavior resulting from AOD use (Goal 2). Additionally, for Goal 2 a count of students over the past two years pre-existence of the campus drug court getting expelled due to AOD use will be compared to post-existence of the campus drug court.

Since the overarching goal of this project is to reduce high-risk drinking and other substance abuse through a systems-based approach using rehabilitation of the student through treatment and mandated sanctioning, it is important to measure *which* parts of the drug court model had the most impact on the individual. Typical information to be recorded for the outcome and impact evaluation includes, but is not limited to: number of persons accepted, graduated, active in program, length of time in program, and terminated from or dropped out of the program; impact of DAY IV on short-term outcomes such as: awareness, knowledge, attitudes, skills, opinions, aspirations, and motivations, evidenced by increases in these noted by the use of pre-tests/post-tests;

impact of DAY IV on intermediate outcomes such as: behavior, practice, decision-making, policy changes, and possible social action taken as evidenced by real measurements in any changes in the same from the participants, community, and state; impact of DAY IV on long-term impacts such as any changes in the social and economic status of the participant, the community and the state; and the impact of DAY IV on long term impacts such as the participant's life circumstances as evidenced by the ability of the participant to function in the community (remain in college), and successfully advance in goals set by the staff member(s) and the participant.

Additional information to be recorded for the outcome evaluation will include the following: impact of DAY IV on criminal behavior, as evidenced by involvement of participants in new negative behaviors due to AOD while in the program and after graduation from the program; and the impact of the program on high-risk drinking and substance abusing behavior as evidenced by drug tests and successful graduation and maintenance.

FUTURE DIRECTIONS

[10] To date, the CSU campus drug court has had 32 participants. Nine have graduated, one has withdrawn, and four were expelled from the program for DAY IV non-compliance. There have been three females and 29 males; one graduate student, three juniors, seven sophomores, and 21 freshmen. The academic standing of all but four of the DAY IV students was dismissal. In other words, 28 students would have been dismissed from CSU if not for the mechanism of a campus drug court. Almost 40 percent of the freshmen were out-of-state tuition paying students. The cost-benefit of retaining a first-year, out-of-state tuition paying student is approximately $10,000 per year, per student. In one year,

CSU has gone from a 100 percent dismissal rate for this population to a nine percent dismissal rate.

On September 17, 2002, Senator Ben Nighthorse Campbell of Colorado introduced Congressional bill S. 2941 to establish resources for pilot campus drug courts modeled after state drug court programs and CSU's program in the amount of $15 million. This funding would allow CSU's National Center for Campus Drug Courts, to collaborate with the National Association of Drug Court Professionals/ National Drug Court Institute (NADCP/NDCI) and the National Judicial College (NJC). This funding would also provide resources to support four to five pilot campus drug court programs for four years.

Through this bill, the U.S. Department of Justice would launch a pilot project to continue the successful operation and evaluation of the CSU drug court and to provide training and technical assistance to the other four to five pilot campus drug court programs. The Center for Campus Drug Courts would provide, with NADCP/NDCI and NJC, training and technical assistance modeled on the established and effective NADCP/NDCI training workshops that train federal government grantees to effectively plan, implement, and operate a drug court. The CSU trainings would be tailored to meet the special needs of a program on a particular campus. The participants would include teams of people comprised of, but not limited to, the university office of judicial affairs, local law enforcement and campus police, local treatment providers, the office of student affairs, an evaluator, the university counsel, the local district attorney and public defender, and a student representative. Once cross-trained on issues ranging from the basics of treatment to team building to incentives and sanctions, the participants would return to their campuses with an action plan and the Center would conduct follow-up technical assistance. The Center for Campus Drug Courts at CSU would provide

evaluation for the pilots and a clearing house for campus drug court technical assistance and resources.

REFERENCES

Anglin, M.D. & Hser, Y. (1990). The treatment of drug abuse. In M. Terry & J.Q. Wilson (Eds.), *Drugs and Crime*. Chicago, IL: The University of Chicago Press. 393-460.

Chronicle of Higher Education. (2001, February 2). Arrest rates on campus. Vol. XLVII(no. 21).

Clery Act 20 U.S.C § 1092 (f) et seq. (1990, 1998, 2000) (34 CFR § 668).

Collins, J.J. & Allison, M. (1983). Legal coercion and retention in drug abuse treatment. *Hospital community psychiatry, 34*, 1145-1149.

DeLeon, G. (1988). Legal pressure in therapeutic communities. *Journal of drug issues*, *18*, 625-640.

Drug-Free Schools and Campuses Act (34 CFR Part 86) (1989).

Hubbard, R.L., Marsden, M.E., Rachal, J.V., Harwood, H.J. Cavanaugh, E.R., & Ginsburg, H.M. (1989). *Drug abuse treatment: A national study of effectiveness*. Chapel Hill, NC: The University of North Carolina Press.

Luekefeld, C.G., & Timms, F.M. (Eds.). (1988). *Compulsory treatment of drug abuse: Research and clinical practice.* Rockville, MD: National Institute on Drug Abuse, National Institutes of Health.

National Association of Drug Court Professionals. (2002, November). *The facts: Facts on drug courts*. Alexandria, VA: Author.

Prochaska, J.O., & DiClemente, C.C. (1982). Transtheoretical therapy: Toward a more integrative model of change. *Psychotherapy, 20,* 161-173.

Sallis, J.J., & Owen, N. (1996). Ecological models. In K. Glanz, F.M. Lewis, & B.K. Rimer (Eds.), *Health behavior and health education: Theory, research, and practice.* San Francisco: Jossey-Bass. 403-424.

Taylor-Powell, E. (2000, June). *The logic model/linking program design and evaluation*. Paper presented at the 1999 UWEX Evaluation Conference, Vail, CO.

Upcraft, M., & Welty, J. (1990). *A guide for college presidents and governing boards: Strategies for eliminating alcohol and other drug abuse on campuses*. Washington, DC: Office of Educational Research and Improvement, U.S. Department of Education.

Weschler, H., Kelley, K., Weitzman, E.R., San Giovanni, J.P., & Seibring, M. (1999). *What colleges are doing about student binge drinking: A survey of college administrators* [on-line]. Available: http://www.hsph.harvard.edu/cas/alcohol/surveyrpt2.html

DRUG COURT PARTICIPANTS' SATISFACTION WITH TREATMENT AND THE COURT EXPERIENCE[1]

By Christine A. Saum, Ph.D.,
Frank R. Scarpitti, Ph.D., Clifford A. Butzin, Ph.D.,
Victor W. Perez, M.A., Druretta Jennings, M.L.T.,
and Alison R. Gray, B.A.
Center for Drug and Alcohol Studies
University of Delaware

This paper examines clients' opinions of their treatment and courtroom experiences in a Delaware drug treatment court. There is a scarcity of research assessing the impact of drug court programs on the participants, yet learning what works and what doesn't for clients may relate to retention and to a myriad of drug court outcomes. Moreover, programming in drug courts can be improved to meet the needs of the participants if the specific program components that they believe to be effective and the components that require change are more completely understood.

The authors present data from 312 interviews with drug court clients which were conducted shortly after discharge. Questions were designed to examine general satisfaction with drug court, reasons for drug court entry, and to elicit participants' opinions of logistical issues, treatment staff and service delivery, judicial interactions, and a variety of program components. Overall, most drug court clients were satisfied with their treatment and courtroom experiences; however, statistically significant differences were appreciable between those who completed the drug court program and those who did not. For example, graduates were more likely to enter drug court to avoid criminal justice consequences, to feel that treatment staff were supportive, to trust the judges, and to

[1] This research was supported by grant R01 DA 12424 "Drug Court Offenders in Outpatient Treatment," from the National Institute on Drug Abuse (NIDA).

believe that the program would reduce their likelihood of relapse and recidivism. Data were also used to examine factors associated with a satisfying drug court experience. The authors found that marital status, frequency of drug use, and treatment history were related to level of satisfaction. The implication of these findings for drug court programming and client outcomes is discussed.

Christine A. Saum, Ph.D., is an Associate Scientist with the Center for Drug and Alcohol Studies at the University of Delaware. She is currently Co-Principal Investigator of a NIDA study of drug court offenders in outpatient treatment.

Clifford A. Butzin, Ph.D., is a Scientist with the Center for Drug and Alcohol Studies. He taught in the University's Psychology and Mathematics departments before joining the Center. He was previously a member of the faculty of Duke University.

Frank R. Scarpitti, Ph.D., is the Edward and Elizabeth Rosenberg Professor of Sociology in the Department of Sociology and Criminal Justice at the University of Delaware.

Victor W. Perez, M.A., is a Ph.D. student in the Department of Sociology and Criminal Justice, and is a project assistant for the Drug Court Project at the Center for Drug and Alcohol Studies.

Druretta Jennings, M.L.T., is a Research Associate at the Center for Drug and Alcohol Studies and is an interviewer on the Drug Court Project.

Alison R. Gray, B.A., is a Research Associate at the Center for Drug and Alcohol Studies and a graduate student in the Department of Sociology and Criminal Justice. She is currently the project director of the Drug Court Project.

The authors would like to thank Grant Bacon for his successful locating efforts with hard-to-find respondents, his

excellent interviewing skills, and his contribution with research tasks. The authors also would like to recognize Greg Postle for his valuable assistance on the project.

Direct all correspondence to Christine A. Saum, Ph.D., Associate Scientist, Center for Drug and Alcohol Studies, University of Delaware, 77 East Main Street, Newark, DE, 19711-2582; E-mail: csaum@udel.edu.

ARTICLE SUMMARIES

OTHER STUDIES

[11] Past studies examine participants' perceptions of drug court efficacy.

CDAS/NIDA DRUG COURT PARTICIPANT STUDY

[12] The CDAS/NIDA study tracks 720 outpatient clients, 540 of whom come from drug court and 180 of whom come from a control group, for two years post program.

CDAS STUDY FORMAT

[13] The researchers developed a 49 question survey on client satisfaction in treatment and court-related functions of drug court.

BASIC CLIENT INFORMATION

[14] The study creates a profile of clients through demographic and behavioral characteristics. Therefore, client perceptions may be compared to profile characteristics.

MOTIVATION FOR DRUG COURT

[15] More clients entered drug court to avoid jail or prison, as opposed to seeking treatment, or for other reasons.

CLIENTS' THOUGHTS ON TREATMENT

[16] Most program completers and non-completers had favorable responses in relation to treatment and would recommend drug court to others.

CLIENTS' OPINIONS ON THE COURT

[17] Most clients had positives views of the court, but within groups, specifics differed; more non-completers wanted additional time with the judge than completers.

CLIENT PERCEPTIONS

[18] Differences in demographics, behavior, and perceptions show that characteristics such as marital status, history in treatment, and frequency of substance abuse were better indicators of satisfaction than other demographics and behaviors.

CONCLUSIONS ON

INTRODUCTION

Though research on drug treatment courts is proliferating, little of this work has focused on participants' opinions of their experiences. To date, most drug court research has involved assessing outcomes such as criminal recidivism in efforts to determine the overall effectiveness of the programs. However, these impact studies need to be complemented by examining factors which may contribute to a drug court's success or failure. Thus, it is important to determine what specific components of drug court programs' clients believe are most effective (Cresswell and Deschenes, 2001).

By tapping the perceptions of drug court participants, assumptions underlying the drug court model can be tested. Exploring how experiences, attitudes, and opinions of clients correspond to the goals intended by those who operate drug courts is vital (Goldkamp, 2002). Indeed, if one better understands offender perceptions of drug court, one may determine whether program models meet participants' expectations and thus whether theoretical concepts are being implemented correctly (Turner, et al., 1999).

It is believed that levels of participant satisfaction with drug court can influence motivation to change, program participation, and treatment retention rates (Johnson, Shaffer, and Latessa, 2000). Learning what works and what doesn't for participants may relate to a myriad of drug court outcomes. Moreover, by examining drug court client perceptions more comprehensively, one may do a better job of evaluating the legitimacy of the drug court as a model of therapeutic jurisprudence.

In his most recent report, Belenko (2001) found that

eighteen of the 37 drug court evaluations he reviewed included interviews with drug court participants or staff. These evaluations "yielded useful suggestions for improving drug court operations or identifying strong or weak points of the drug court program" (Belenko, 2001:10). For example, program graduates indicated that the most important components of drug court were the judicial interaction and monitoring, staff support, urine testing, sanctions, and the opportunity to have charges dismissed. However, Belenko (2001) noted that overall, relatively few of the evaluations formally surveyed participants or used a quantitative approach to their studies of client perceptions. In addition, the majority of studies utilized small sample sizes, and most limited their study to successful participants: either those who had graduated or active clients who were progressing through the program.

CONTRIBUTION OF THIS RESEARCH

The primary focus of this article involves an investigation of clients' opinions of treatment program components and clients' opinions of courtroom experiences and their relationship to drug court outcome. After being discharged from drug court, 312 participants were interviewed using surveys which asked for their perspectives on their treatment and courtroom experiences. Clients who graduated from the program, as well as those who did not complete the program, were interviewed. Thus, this study is among the first to examine a large and inclusive sample of drug court clients in the post drug court period. This is also the first study of which the authors are aware that investigates the association between participants' satisfaction and success in drug court. In this regard, this study examines client opinions about their drug court experience related to their drug court completion status. The authors also analyze participants' reasons for drug court entry and their association with completion of the program. In addition, the demographic, substance use, treatment experience

and criminal history characteristics of the clients which relate to satisfaction in drug court are examined.

LITERATURE REVIEW

[11] Studies which examine drug court clients' perceptions of their programs are briefly reviewed here. Most of these studies are designed to elicit participants' general ratings of the effectiveness of the programs. Clients are asked to discuss strengths and weakness of drug court treatment programs and offer recommendations for improvement. Only a few evaluations have asked participants about their satisfaction with the specific elements of the drug court experience. These studies are not generalizable to the larger drug court population: bias likely results from insufficiently large samples and from the typical exclusion of failed clients or program dropouts.

Clients' opinion of their drug court experience was examined across a national sample by the Drug Court Clearinghouse and Technical Assistance Project at American University. Two surveys of over 400 participants in the final treatment phases of more than 50 different programs indicated that the close supervision and encouragement provided by the judge, along with the treatment services and on-going monitoring, were the critical factors which promoted their success (Cooper, et al.,1997).

Other drug court program evaluations have found similar results regarding the importance of the judge and treatment, as well as the sanctions and rewards for progress. For example, focus groups with drug court clients in six cities were held to examine their experiences and impressions of drug court. Participants confirmed the judge to be a critical element of the treatment experience. Participants also indicated that drug testing and accountability were key elements of the treatment process and that they were strongly motivated by incentives and penalties employed by the court (Goldkamp, 2002). The author of this study suggests that although focus

groups are a less systematic method of gaining feedback on the drug court experience, they are a useful way to gather knowledge on the actual, rather than the intended effects of these programs.

In Kentucky, 22 active drug court clients and 47 key drug court personnel (judges, treatment providers, etc.) were interviewed as to differences between previous treatment programs and their drug court program. Respondents believed that drug courts facilitated success through the judges' supervision, sanctions for noncompliance with program rules, and the reinstatement of criminal proceedings for not completing the program (Logan, et al., 2000). The researchers indicated the importance of updating process evaluations on an annual basis so that changes may be tracked over time.

Three years after beginning their program, 29 participants in the Maricopa County, Arizona drug court were asked about strengths and weaknesses of the program. The greatest strengths were thought to be shortened probation, urine monitoring, and being required to appear before the judge once per month (Turner, et al., 1999). Overall, both graduates and those who did not complete the program were very positive in their evaluations of the program. The majority indicated that they would recommend the program to others and that the program was helpful in remaining crime free. Less positive perceptions were found regarding the impact of drug court on other life areas, including remaining drug free and helpfulness in getting a job.

In the Orange County, California drug court, the majority of the 227 participants who were surveyed indicated that the program was helpful in keeping them drug, alcohol, and crime free (Cresswell and Deschenes, 2001). However, the drug court was ranked less effective in helping the clients to obtain a job or remain employed. Drug testing and the

provision of drug treatment were determined to be the strongest program components.

A drug court participant survey was also conducted in the Hennepin County, Minnesota drug court. Almost 300 active clients (nearly half of whom had been in the program over 6 months) completed a survey which asked them to rate various components of the drug court. Two-thirds indicated that meetings with the judge and random drug testing were effective in keeping them from using drugs. Over 80 percent of those who completed their program believed that the treatment they received was effective (Minnesota Supreme Court, 1999).

Program satisfaction among 99 participants across eight drug courts in Ohio was measured using self-report questionnaires. Overall satisfaction was very high: 97 percent of respondents reported being either satisfied or very satisfied with the drug court process (Johnson, Shaffer, and Latessa, 2000). Most agreed that appearing in court regularly was beneficial and that attending treatment on a regular basis was helpful. Almost the entire sample believed that their participation in drug court would help them avoid drug use in the future.

An international study examined client satisfaction as part of a larger project evaluating the health and well-being of drug court participants. Clients (N=110) in a New South Wales drug court diversion program were interviewed four months after beginning drug court. Results indicated that the majority of participants were very satisfied with their treatment services (Freeman, 2001). Respondents' satisfaction with the program was related to their health and well being: clients who experienced greater difficulties with their general health, social functioning, mental health, or emotional problems were more likely to find drug court difficult than were participants in a better state of health.

Overall, research on drug court participants' opinions has been limited. To date, clients primarily have been asked to rate the strongest components of the drug court program, but have not been questioned about specific drug court components or their levels of satisfaction. When satisfaction has been measured, it has generally been very high. As stated earlier, however, these studies have involved active clients who are successfully proceeding through the program or those who have graduated, and they often utilize small sample sizes.

Consequently, in terms of clients' perceptions of their experiences, the drug court field has been exposed to a myopic view of drug courts. Undoubtedly, the opinions of drug court graduates are important so that we know what it is about the drug court that is working, but the perceptions and experiences of non-graduates are critical. Programming in drug courts can be enhanced if the needs of participants more closely match the aims of the drug court model.

RESEARCH DESIGN AND PROCEDURE

The Larger Project

[12] In 1999 the Center for Drug and Alcohol Studies (CDAS) at the University of Delaware received a grant from the National Institute on Drug Abuse (NIDA) to examine drug court offenders in outpatient treatment. This five-year study is designed to measure the influence of drug courts on treatment retention and post drug court outcomes. The project aims to interview 720 outpatient clients: 540 of whom have been ordered to treatment by the Delaware Superior Court's drug court and a control group of 180 who are attending treatment but have not been ordered to do so by the drug court.

Study participants are assigned to one of two drug court tracks: a diversion program for first-time offenders arrested for

drug offenses not carrying mandatory sentences or a post-adjudicatory program for probation violators who are arrested for a new offense. Clients in each program attend treatment at one of five state-contracted providers located in New Castle County, Delaware. Treatment for most clients includes psychoeducational programming (which consists primarily of substance abuse education), urine monitoring, group therapy, and individual counseling if required. Clients must remain in the program for a minimum of six to nine months. All participants attend bi-weekly or monthly status hearings with their regular drug court judge. Graduation from the drug court program is contingent upon successful completion of treatment and the approval of the drug court judge. For a more complete description of the Delaware Superior Court drug court programs please see Butzin, Saum and Scarpitti (2002).

Clients eligible for the study are recruited by treatment program staff upon entry into the drug court program. At this time, those who are interested in participating in the project sign a consent form so that, upon discharge, CDAS staff can gather data from their treatment files, which includes the Addiction Severity Index (ASI), admission and discharge reports, program details and locating information. At the end of their program participation, treatment records are collected, clients are contacted, and CDAS researchers conduct the Client Satisfaction Survey (CSS) interview with the respondents. The CSS contains questions that elicit participants' opinions regarding their treatment and courtroom experiences. One- and two-year follow-up interviews are scheduled 12 and 24 months after treatment discharge. Multiple post-program outcomes (including relapse, recidivism, employment, relationships, and health status) are assessed at these follow-up periods.

All the interviews are voluntary and were conducted by trained CDAS interviewers. Clients are protected by a grant of confidentiality from NIDA. Participants are paid $20.00 for the CSS interview and $35.00 for each of the follow-up interviews.

An additional $15.00 is paid to respondents who submit urine samples at follow up.

The Current Study

[13] This article presents findings from the first 312 drug court study participants to be interviewed with the Client Satisfaction Survey (CSS). These clients entered the drug court program beginning in January 2000 and were discharged as of September 2002. All interviews included in the data for this article were completed between March 2000 and October 2002.

The CSS is a 49 question instrument developed by CDAS researchers and designed to elicit the opinion of drug court treatment program clients. Most of the questions were formatted using a five-item scale ranging from Strongly Agree to Strongly Disagree. The survey is divided into two sections: the first section contains questions related to the treatment program components and the second section contains questions related to the status hearings and courtroom experiences.

There are five categories of questions on the CSS in the treatment program section: Location and Time, Program Staff, Parts of the Program, General Satisfaction, and Help from the Program. There are three categories of questions on the CSS in the drug court section: Reasons for Drug Court Entry, the Drug Court Judge, and the Drug Court Experience. The CSS also contains several questions which asked clients about personal background and previous treatment experience. In addition, demographic and behavioral data gathered from the treatment center files of project participants were utilized for this study.

Two primary outcome variables are examined in this study: satisfaction with drug court and completion of drug court. Clients' demographic, substance use, previous treatment experience, criminal history, and current program variables are

examined in relation to their overall drug court satisfaction. Overall drug court satisfaction was conceptualized by a broad measure utilized to capture participants' general impression of their experience. After a series of questions asking about specific program components, clients were asked to, in effect, sum up their overall experience. Thus, general drug court satisfaction was conceptualized by the following question on the CSS survey: Overall, I was satisfied with what happened to me at drug court. Agree and Strongly Agree responses were combined to provide the measure of percent satisfied. Chi-square statistics were utilized to determine any statistically significant differences between variables.

Participants' opinions of the drug court program were examined in relation to their completion status. Clients who graduated from the drug court program are referred to as graduates or completers, and clients who are terminated from the drug court program and those who are out on capias are referred to as non-completers[2]. Agree and Strongly Agree responses to the client opinion questions were combined and percentages are provided for the total sample and separately for completers and non-completers. Again, chi-square statistics were utilized to determine any statistically significant differences between variables.

FINDINGS

Client Characteristics

[2] Clients who fail to appear in court for a status hearing are issued a capias or warrant for their arrest. At that point, these participants are not officially considered to be terminated from drug court because the client must be physically present at the termination hearing (which is also attended by defense lawyers and state prosecutors). However, when clients are no longer active in the drug court treatment program and remain on an unreturned capias they are included in the non-completers group.

[14] The first column of Table 1 presents information on the demographic and behavioral characteristics of the drug court participants. With the exception of the treatment outcome data (length of stay and graduation status), all data were self-reported at program entry.

Most participants are male (73.7%), the average age is 28, and the sample contains more non-whites (53.5%) than whites. About two-thirds (66.8%) of the respondents are employed either full or part-time and about three-fifths (59.2%) have a high school diploma or more. With regard to marital status, 11.9 percent of the sample is married and 88.1 percent of the sample is single, divorced, or separated.

The most common primary drug of choice is marijuana (48.2%), followed by alcohol (20.5%), cocaine/crack (17.8 %) and heroin (8.3%). Slightly over one-fifth of the clients reported that they used these drugs daily, about 13 percent used drugs weekly and the majority (65.6%) indicated their drug use frequency to be monthly or less. Nearly equivalent proportions of the clients interviewed believed that they had a substance abuse problem at the point of program entry (46.9%) as believed that they did not have a problem (46.5%), while the remaining (6.5%) were not sure. For most of the respondents (62.5%), the drug court program was their first experience with substance abuse treatment.

The majority (63.7%) of the program clients reported to have had at least one criminal conviction prior to drug court entry. The mean number of lifetime convictions for this group was 1.81. Almost one-third (31.4%) of the respondents had a history of incarceration, with the average length of time spent incarcerated being just under one year (11.3 months).

Program outcome data were collected from the

participants' files upon program discharge. The mean length of stay in the drug court treatment program was about seven months (203.6 days). Slightly over two-thirds (67.3%) of the drug court clients graduated (completed) the program.

Relationships between participants' characteristics and overall drug court satisfaction were examined and the results are presented in the second column of Table 1. Four of the participant characteristics: marital status, drug use frequency, treatment experience, and completion status were significantly related to satisfaction. More specifically, clients who were not married, those who used drugs daily, those who had previous treatment experience, and those who did not complete the program were less satisfied with drug court. There were no significant differences in terms of drug court satisfaction based on gender, age, race, employment status, education, primary drug of choice, perceived need for treatment, or criminal history.

Reasons for Drug Court Entry

[15] Drug court clients in this study were asked why they agreed to enter the drug court program (Table 2). The highest percentage of respondents indicated that their decision was based on the avoidance of criminal justice consequences. For example, 89.1 percent of the clients entered the program to avert prison or jail and 86.0 percent entered for the chance to have their charges dropped. Getting treatment for their drug problem (79.4%), keeping their driver's license (73.4%), and getting back with family (61.2%) were chosen by fewer clients as reasons for drug court entry.

Table 2 also examines reasons for drug court entry broken down by whether or not participants completed the drug court program. There are statistically significant differences between graduates and non graduates for all five entry reasons. Overall, program completers were more likely to indicate that they entered the program to get back with family, obtain

treatment, and keep their driver's licenses in addition to avoiding criminal justice consequences, than were non completers.

Participants' criminal background was examined to explore the relationship between having any convictions prior to drug court entry and the desire to have charges dropped as a reason for program entry. This analysis (not reported here) revealed that clients who graduated were significantly more likely to be first-time offenders than clients who did not complete the program. Thus, there may be an important association between having a criminal record, motivation for program entry, and drug court outcomes.

Clients' Opinions of Treatment Components

[16] Study participants were asked their opinions of the treatment program they attended. Table 3 contains the statements posed to the drug court clients and the percent who responded affirmatively. In general, results indicate that clients were satisfied with their treatment experience. Transportation, session times, and safety were not problematic for most program participants. The majority of clients appear to be pleased with the quality and fairness of treatment staff and believed that the treatment they received was good. For example, most of the clients (82.0%) indicated that the program helped to improve their lives and a large majority indicated that they would recommend the treatment agency to a friend or family member with a substance abuse problem.

When the authors examined any divergence in opinion between clients who completed the treatment program versus clients who did not, in almost all cases, there were statistically significant differences. With regard to logistical issues, it is apparent that transportation and the timing of treatment sessions were problematic for many of those who did not complete the program. Other concerns for non-completers included less

confidence in the quality, fairness, and supportiveness of the staff. Non-completers also placed less importance on the drug education, individual and group counseling, and urine monitoring than did their successful counterparts.

In general, program graduates believed that the treatment program helped to improve areas of their lives which included family and employment and taught them to deal better with problems. It is interesting, however, that few participants expressed a desire to have been in the program sooner. Indeed, only a very small percentage (6.3%) of program graduates agreed with this statement. Finally, it is a positive finding for the treatment programs that there were no statistical differences between completers and non-completers in terms of clients' perceptions of how they were treated with regard to gender, race/ethnicity, and safety issues. For example, both women and men indicated a belief that they were respected by the treatment program staff regardless of their outcome in the program.

Clients' Opinions of Courtroom Components

[17] Respondents also were asked their opinions of their experiences in the courtroom. Table 4 contains the statements posed to participants and the percent who responded affirmatively. In general, it appears that clients believed the drug court to be worthwhile. Results indicate that the majority of drug court participants were satisfied with the judge and the courtroom processes. Most clients indicated that the judge was fair, respectful, and trustworthy. Moreover, the judge was believed by the majority to be influential in terms of their progress. For example, praise and warnings from the judge were found to be helpful by a large percentage of the participants. However, despite the noted positive influence of the judge, only one-third of respondents indicated that they would have preferred to spend more time with the judge.

When the authors compared drug court opinions

between clients who completed drug court versus clients who did not, it was apparent that non-graduates were less satisfied with their drug court experience than were graduates. This is perhaps not surprising, but the more specific questions posed to the respondents about program components help to shed light on the discrepancy in levels of satisfaction between these clients.

For example, over half of the participants who did not complete the program reported that things that happened to them at drug court did not make sense to them, compared with less than one-fifth of the completers. Moreover, about three times as many non-completers as completers believed that the judge was biased against them and that the judge was too hard on them. Further, almost all of the graduates believed the judge to have treated them fairly, compared with about 20 percent fewer of the non-graduates.

Several other interesting findings should be noted. Over 95 percent of the completers indicated that praise from the judge for their progress was helpful, while only 71 percent of non-completers answered similarly. Thus, it is somewhat surprising that upwards of half of the non-completers expressed that they would have liked to spend additional time with the judge, while only about one-quarter of the completers expressed a comparable interest. Finally, the only question which did not result in statistically different responses from the completers and non-completers involved advice to friends or relatives regarding drug court. It appears that even the majority of clients who did not complete the program would still recommend participation in drug court to others.

DISCUSSION AND CONCLUSIONS

[18] This research contributes to a gap in the drug court research literature: that of the participants' opinions of their

drug court experience. Evaluating clients' perceptions of drug court, including their treatment and courtroom experiences, as well as examining demographic, drug use, treatment, criminal history, and other characteristics will help the field do a better job of identifying participant needs and factors which may facilitate engagement, program compliance, retention, and other positive drug court outcomes.

This study takes a step in that direction by interviewing 312 drug court participants about their drug court experience shortly after discharge. Unlike other drug court evaluations, clients were included in the project regardless of whether or not they completed the drug court program. As a result, the sample reflects a diversity of opinion on the drug court experience. Indeed, opinions differed and satisfaction levels varied according to program outcomes and client characteristics.

Clients who were most satisfied with drug court were married, infrequent substance users for whom the drug court program was their first experience with treatment. The stability and support within the context of a marital relationship may contribute to a more satisfying drug court experience. The fact that drug court was found to be least satisfying for daily substance abusers with prior treatment experience indicates that the program did not meet the needs and/or expectations of the more serious drug user who likely requires more intensive treatment and/or services than were available. Increased regular interaction with the drug court judge, so that the progress of chronic drug users is more closely monitored, could prove beneficial. However, it is difficult to surmise how modifications of this sort would alter participants' levels of satisfaction.

Logistical issues, which included transportation and program timing, were more likely to negatively affect non-completers than completers. Remedying transportation problems and untimely program sessions is a relatively simple

(though likely costly) modification that a court system could implement in order to improve program access, retention, and other outcomes. These same logistical issues relate to attendance problems at status hearings. While attending numerous drug court hearings, CDAS project staff have observed multiple clients pleading with the judges to excuse their absence in court due to transportation obstacles or to court sessions which conflicted with work schedules.

Probing clients as to why they entered the drug court program uncovered some meaningful information. The authors found that avoiding jail/prison and having charges dropped were the primary reasons for program entry, while fewer participants indicated getting treatment as an important reason to enter drug court. These results generally pattern those of other studies which have also questioned drug court offenders on this issue (Goldkamp, 2002). In the Minnesota drug court participant survey (Minnesota Supreme Court, 1999) discussed earlier, two-thirds of those surveyed indicated that they participated in order to stay out of jail or prison, about 62 percent indicated a hope to have their drug charges dropped, and only 18 percent of the clients chose to participate to receive drug treatment. Similarly, in Kentucky, (Logan, et al., 2000) the main reasons cited for drug court entry were to avoid jail time, get charges dropped, or have probation sentences shortened; only a small percentage entered to get help for their substance abuse problems.

Going a step further, the authors examined reasons for drug court entry based on completion status. It appears that graduates had more incentive than did non-completers for entering the program: program completers were more likely to cite the importance of retaining their driver's licenses, getting back with their families, obtaining treatment, and especially avoiding criminal charges or jail time (recall the finding that graduates were likely to have had clean criminal records at drug

court entry). This suggests that participants who have more of an investment in society, and thus have more to lose if they do not complete the program, are more likely to be successful in drug court.

Along these lines, although most of the respondents believed that the treatment they received while in drug court helped to improve areas of their lives, including family, employment, and dealing with problems, graduates were more likely to indicate this type of belief. As well, most participants felt that going through drug court made it more likely that they will not use drugs or commit crimes in the future, but graduates were more likely to support this statement. Thus, there is some evidence that for completers, their incentive to do well along with their satisfaction with the program, may relate to positive drug court outcomes.

It may be that because the non-completers had less impetus for success, they did not take the program as seriously as did the completers and did not actively engage in the recovery process. For example, drug court graduates indicated that they had believed in the staff and placed much importance on the various components of treatment, including education, group and individual therapy, and urine monitoring. On the contrary, non-completers were more likely to indicate that they had misgivings about treatment staff and to dismiss the importance of the treatment components.

Research on drug courts points towards the central role of the judge in the success of drug court participants (Satel, 1998; Goldkamp, 2002). Indeed, almost all of the respondents in the authors' study who graduated indicated that praise from the judge for their progress was helpful and almost 90 percent believed that warnings from the judge were helpful as well. Though significantly less, upwards of 70 percent of the non-completers also indicated the helpfulness of both the judge's praise and warnings. It may be that participants appreciate the feedback, regardless of whether it is positive or negative in

content. For example, Harrell, Cavanagh, and Roman (2000) found, through focus groups with participants in court-based drug intervention programs, that knowing penalties ahead of time gave participants a feeling of control and a sense that they were treated fairly when sanctions were imposed.

In consideration of the above findings, it is interesting that 20 percent more of the non-completers wished to have spent more time with the judge than did the graduates. Perhaps clients who were doing favorably in the program did not benefit from repeated meetings with the judge as did those who were having trouble. It is conceivable that clients who were progressing slowly through the program were most in need of the therapeutic role played by the judge and could have profited from more of these types of interactions (see Goldkamp, 2002, for more on participants' perceptions of the judge). Indeed, since these findings indicate that non completers may be poorly invested in society and/or may have little stability in their lives, they may necessitate continued exposure to the judge as an authority figure.

To better understand participants' perceptions of their interactions with the judge and of their overall courtroom experience, drug court researchers may want to explore studies of procedural justice. Procedural justice research indicates that individuals who believe they play an important role in their own courtroom proceedings, and agree that the processes are fair, are more content with the outcomes. Indeed, studies have found that procedural justice has a major influence on a participant's satisfaction and evaluation of courtroom events (Tyler, 1988).

In the present study, clients' perceptions of courtroom experiences, particularly with regard to the judge, appear to coincide with the notions of procedural justice. For example, three times as many of the non-completers thought that the judge was biased against them. In contrast, graduates rather

than non-completers were more likely to indicate that the judge gave them a chance to tell their side of the story before making any decisions in their case. As well, those who completed drug court more often believed the judge to be fair and respectful.

It is evident that the majority of drug court participants in this study were satisfied with what happened to them in treatment and in the courtroom, with the program graduates significantly more satisfied than those who did not complete the program. The authors' data indicate that the majority of participants believed that 1) they were treated fairly and with respect by both treatment staff and the drug court judges, 2) the program helped to improve their lives in terms of family and employment, and 3) as a result of their participation, they will not use drugs or commit crimes in the future. These findings lead the authors to infer that the drug court experience was, overall, a worthwhile endeavor for most of the participants.

Given this assessment, it is surprising that few participants wished they had been in the program sooner. Thus, even though clients were satisfied with the program, this finding suggests that they would not have decided to enter into treatment on their own (e.g., without having been arrested and/or court-ordered). These results support the utility of coercive treatment programs such as drug courts. Indeed, exposure to treatment under any conditions appears to have beneficial consequences, whether the result of drug court or otherwise (Satel, 2000). More specifically, it appears that study participants did not necessarily need to participate willingly in treatment in order for the drug court experience to be satisfying and to produce positive outcomes. At the same time, due to the fact that drug courts are criminal justice-based, not having control over program entry may have resulted in low levels of drug court satisfaction and low levels of motivation to do well for some participants.

As part of the larger project, the authors are collecting

information on the participants' specific incentives for treatment (e.g., personal, legal) which is measured upon drug court treatment program entry. As such, the authors will be better able to gauge how motivation, as well as different life circumstances and levels of readiness for treatment, may influence progress in the drug court program.

The authors are also examining drug court outcomes and their association and interaction with participant characteristics, program experiences, and satisfaction with drug court. Preliminary analyses indicate that education, employment status, and level of drug court satisfaction are statistically related to drug court completion at the bivariate level, while there were no differences by gender, race, or age. More precisely, participants who were employed on a full-time basis, who had more than a high school education, and who were satisfied with the program were more likely to graduate from drug court than were their less educated, less than full-time employed, and dissatisfied counterparts (Butzin, Saum, and Scarpitti, 2002). These data lend support to the present discussion of how level of investment in society may be associated with drug court satisfaction and may influence outcomes while in the program and in the post-drug court period.

The authors are beginning to examine data gathered from study participants one year after discharge from the drug court program. In addition to obtaining information on relapse, recidivism, and several other social and behavioral indicators, the authors' 12-month follow-up interviews continue to measure satisfaction with drug court. Post-program information of this sort allows participants to inform the drug court field of the lasting impact of the drug court experience. The possibility, nonetheless, of a "halo effect," that clients will remember their experiences as being more positive than they were and/or that clients will give socially desirable answers to questions, is a

noted limitation to this type of research.

Just as follow-up interviews of drug court clients will almost certainly become an important research component of all drug court evaluations (Goldkamp, 2002), so too will the need to be aware of the perceptions of its participants (Turner, et al., 1999). Indeed, in order to advance programming in drug courts, criminal justice planners need to have information from the clients themselves about what worked for them and what requires improvement. Knowledge which informs the drug court field of participants' needs is crucial to the success of future drug court programs.

REFERENCES

Belenko, S. (2001). *Research on drug courts: A critical review 2001 update.* The National Center on Addiction and Substance Abuse at Columbia University.

Butzin, C.A., Saum, C.A., & Scarpitti, F.R. (2002). Factors associated with completion of a drug treatment court diversion program. *Substance use and misuse, 37* (12 & 13), 1615-1633.

Cooper, C.C., Bartlett, S.R., Shaw, M.A., & Yang, K.K. (1997). *1997 Drug court survey report, volume IV: Participant perspectives.* Drug Court Clearinghouse and Technical Assistance Project at American University. A project of the Drug Courts Program Office, Office of Justice Programs, U.S. Department of Justice.

Cresswell, L.S., & Deschenes, E.P. (2001). Minority and non-minority perceptions of drug court program severity and effectiveness. *Journal of drug issues, 31*(1), 259-292.

Freeman, K. (2001). New South Wales drug court evaluation: Interim report on health and well-being of participants. *Crime and justice bulletin: Contemporary issues in crime and justice, 53*.

Goldkamp, J. (2002). *An honest chance: Perspectives on drug courts*. Findings from participant focus groups in Brooklyn, Las Vegas, Miami, Portland, San Bernardino and Seattle. Washington, DC: U.S. Department of

Justice.

Harrell, A., Cavanagh, S., & Roman, J. (2000). Evaluation of the D.C. Superior Court drug intervention programs. *National Institute of Justice research in brief*. Washington, DC: U.S. Department of Justice.

Johnson, S., Shaffer, D.K., & Latessa, E.J. (2000). A comparison of male and female drug court participants. *Corrections compendium, 25*(6), 1.

Logan, T.K., Williams, K., Leukefeld, C., & Minton, L. (2000). A drug court process evaluation: Methodology and findings. *International journal of offender therapy and comparative criminology, 44*(3), 369-394.

Minnesota Supreme Court. (1999). *Hennepin drug court participant survey*. Hennepin County, MN: Author.

Satel, S.L. (1998). Observational study of courtroom dynamics in selected drug courts. *National drug court institute review, I*(1), 43-72.

_____. (2000). Drug treatment: The case for coercion. *National drug court institute review, 111*(1), 1-56.

Turner, S., Greenwood, P., Fain, T., & Deschenes, E. (1999). Perceptions of drug court: How offenders view ease of program completion, strengths and weaknesses, and the impact on their lives. *National drug court institute review, II*(1), 61-85.

Table 1
Drug Court Study Participant Characteristics (N=312) and Program Satisfaction by Participant Characteristics (Percent Agreeing or Strongly Agreeing)

Demographics	**Percent**[1]	**Percent Satisfied with Drug Court**[2]
Gender		
Males	73.7	88.1
Females	26.3	88.6
Age (mean)	28	
18-24	51.9	85.2
25-65	48.1	91.4
Race		
White	46.5	90.4
Nonwhite	53.5	86.3

Employment		
Employed	66.8	87.7
Not Employed	33.2	89.7
Education		
High school diploma or more	59.2	89.6
Less than high school degree	40.8	84.8
Marital Status		
Married	11.9	100*
Single, divorced, separated	88.1	86.53*
Substance Use/Treatment		
Primary Drug of Choice		
Marijuana	48.2	86.4
Alcohol	20.5	88.3
Cocaine/Crack	17.8	92.0
Heroin	8.3	90.9
Other	5.2	84.6

Drug Use Frequency		
Daily	21.3	78.0*
Weekly	13.1	88.6*
Monthly or less	65.6	91.8*
Self-perceived treatment need at Drug Court entry		
Yes	46.9	89.3
No	46.5	88.3
Don't Know	6.5	88.2
Treatment Experience		
First experience with treatment	62.5	91.1*
One or more previous treatment entries	37.5	81.6*

Criminal History		
No prior conviction	36.3	91.7
At least one prior conviction	63.7	87.2
Total lifetime convictions (mean)	1.81	
Never incarcerated	68.6	91.0
History of incarceration	31.4	86.3
Months incarcerated in lifetime (mean)	11.3	
Drug Court Treatment Program		
Graduates	67.3	98.5***
Non graduates	32.7	64.8***
Average length of stay (mean days)	203.6	

*$p<.05$, **$p<.01$, ***$p<.001$

[1] Demographic, Substance Use/Treatment, and Criminal History information was self-reported at program entry. Drug court treatment program data were collected from participants' files at program discharge.

[2] Satisfaction data were collected shortly after program discharge.

Table 2
Drug Court Participants' Reasons for Drug Court Entry
By Program Completion Status (Percent Agreeing or Strongly Agreeing)

	Total Sample: (N = 312)	**Completers: (N = 210)**	**Non-Completers: (N = 102)**
CSS Questions: **I agreed to enter the Drug Court because it was very important to me to…**			
…get them to drop the charges against me.	86.0%	93.1%***	71.1%***
…keep my driver's license.	73.4%	85.1%***	49.5%***
…avoid being sent to prison or jail.	89.1%	93.6%***	79.8%***

…get treatment for my drug problem.	79.4%	83.1%*	72.2%*
…get back with my family.	61.2%	68.5%***	47.4%***

*$p<.05$, **$p<.01$, ***$p<.001$

Table 3
Drug Court Participants' Opinions of Treatment Components
By Program Completion Status (Percent Agreeing or Strongly Agreeing)

	Total Sample (N = 312)	**Completers** (N = 210)	**Non-Completers** (N = 102)
CSS Questions:			
Location and Time			
Transportation to the program was a problem.	27.0%	18%***	45.1%***
Program session times were good for me.	81.2%	89.5%***	64.3%***
Sometimes I did not feel safe at the program.	12.5%	11.8%	14.0%

Program Staff			
Staff believed that I could grow, change, and recover.	94.9%	97.0%*	90.3%*
Staff knew a lot and did their jobs well.	91.3%	95.4%***	82.4%***
The staff was very supportive.	92.7%	97.6%***	82.3%***
Staff treated women andmen with the same respect.	95.9%	97.1%	93.5%
Staff treated people of different races/ethnicities with the same respect.	97.0%	97.1%	96.8%
Staff treated me fairly.	95.7%	97.6%*	91.8%*

Parts of the Program			
I learned a lot from the drug education.	88.2%	93.5%***	77.3%***
The group sessions were very important.	89.9%	95.3%***	77.3%***
The individual sessions were very important.	86.8%	92.3%***	75.8%***
The urine monitoring was very important.	91.7%	94.4%*	85.9%*
General Satisfaction			
Overall, I think the program was very good.	89.3%	95.6%***	75.5%***

If a friend/ family member had a drug problem, I would recommend this agency.	84.9%	92.3%***	69.8%***
The program was a waste of my time.	16.1%	8.4%***	32.6%***
I wish I had been in the program sooner.	6.0%	6.3%	5.6%
Help From the Program			
The program helped me improve my life.	82.0%	93.5%***	58.3%***
Because of the program I am I am getting along better with my family.	70.9%	81.0%***	50.5%***
The program helped me deal better with problems.	77.6%	85.3%***	62.6%***

Because of the program I am doing better at work.	66.5%	77.0%***	44.9%***

*$p<.05$, **$p<.01$, ***$p<.001$

Table 4
Drug Court Participants' Opinions of Courtroom Components
By Program Completion Status (Percent Agreeing or Strongly Agreeing)

	Total Sample (N = 312)	**Completers** (N = 210)	**Non-Completers** (N = 102)
CSS Questions:			
Drug Court Judge			
I would have preferred more time with the judge	33.1%	25.2%***	45.9%***
The judge was biased against me.	12.8%	7.4%***	23.9%***

Praise from the judge for my progress was very helpful to me.	87.7%	95.4%***	70.5%***
A warning from the judge about my progress was very helpful to me.	80.9%	87.2%***	69.5%***
The judge gave me a chance to tell my side of the story before making any decisions in my case.	72.7%	77.3%*	64.6%*
The judge was too hard on me.	14.1%	8%***	26.8%***
The judge tried hard to be fair to me.	90.7%	94.9%***	81.9%***

The judge treated me with respect.	94.9%	98.5%***	87.8%***
I trusted the judge.	85.0%	90.8%***	72.8%***
Overall, the judge treated me fairly.	92.3%	98%***	80.2%***
The judge was a very important influence on how well I did in the program.	81.9%	91.4%***	62.6%***
Drug Court Experience			
Sometimes the things that happened to me at Drug Court made no sense to me.	29.6%	17.7%***	50.5%***

Going through Drug Court made it more likely that I will not commit a crime in the future.	87.6%	92.6%***	77.1%***
Going through Drug Court made it more likely that I will not use drugs in the future.	84.3%	91.1%***	70.8%***
If a friend or relative got sent to Drug Court, I would recommend that they refuse to participate.	16.7%	14.4%	21.7%
Overall, I was satisfied with what happened to me at Drug Court.	88.1%	98.5%***	64.8%***

*$p<.05$, **$p<.01$, ***$p<.001$

NDCI COMMENTARY

THE USE OF CREATININE-NORMALIZED CANNABINOID RESULTS TO DETERMINE CONTINUED ABSTINENCE OR TO DIFFERENTIATE BETWEEN NEW MARIJUANA USE AND CONTINUING DRUG EXCRETION FROM PREVIOUS EXPOSURE

By Paul L. Cary, M.S.
Toxicology and Drug Monitoring Laboratory
University of Missouri Hospital
and Health Care System

The use of creatinine-normalization of marijuana drug test results by drug courts in order to establish either continued participant abstinence or to differentiate between new drug exposure and residual drug excretion appears widespread. However, confusion may exist regarding the application of this approach in a drug court setting. Based upon a review of the scientific and medical literature associated with creatinine-normalized cannabinoid results, this article provides guidance to drug courts on the use of this technique in a forensic environment.

A list of fundamental considerations necessary for the proper use of creatinine-normalized cannabinoid results is provided. Calculations for determining both continued participant abstinence and for differentiating between new drug exposure and residual drug excretion are reviewed, and examples given. It is recommended that if creatinine-normalized cannabinoid results are to be utilized in a forensic context (drug court case management), that a 1.5 specimen ratio threshold be employed for the determination of new drug exposure. A non-normalized method for making these differentiations, using only qualitative drug test results (positive/negative), is also presented.

Paul L. Cary, M.S., is scientific director of the Toxicology and Drug Monitoring Laboratory at the

University of Missouri Hospital and Health Care System in Columbia, Missouri. For the past twenty-five years, Mr. Cary has been actively involved in the management of a nationally-recognized toxicology laboratory (SAMHSA certified) that performs drug testing for drug courts, hospitals, mental health facilities, attorneys, coroners and medical examiners, athletic programs, and public and private employers. He has authored numerous scientific publications and monographs, has served on a variety of clinical and technical advisory committees, teaches at the university, is involved in drug testing research, and serves as a consultant in toxicology-related matters. Mr. Cary has been a resource to drug court teams throughout the nation and overseas and serves as visiting faculty for the National Association of Drug Court Professionals, the National Council of Juvenile and Family Court Judges and the National Drug Court Institute.

Direct all correspondence to Paul L. Cary, M.S., Toxicology and Drug Monitoring Laboratory, 2703 Clark Lane – Suite B, Columbia, MO, 65202; E-mail: carypl@health.missouri.edu.

ARTICLE SUMMARIES

NON-NORMALIZED METHOD FOR DETECTING DRUG USE

[19] Drug urine concentrations are not a reliable method of detecting use.

CONSIDERATIONS IN CREATININE-NORMALIZED CANNABINOID DRUG TESTS

[20] Remember that only cannabinoid can be tested with this method; only identical, consecutive testing methods should be compared, establish elimination benchmarks, and do not dilute normalized samples.

CREATININE-NORMALIZED CALCULATIONS

[21] The test involves the quantitative results of the urine cannabinoid test and the urine creatinine test and a simple mathematical formula.

INTERPRETING CREATININE-NORMALIZED RATIOS

[22] Drug courts should use a specimen ratio of 1.5 when comparing periods of cannabinoid/creatinine ratios.

INTRODUCTION

There are numerous factors that influence both the concentration and the duration of detectability of marijuana metabolites in urine. These factors include the frequency and chronicity of use, potency of drug, individual physiological characteristics, timing of specimen collection, testing methodologies and degree of urine dilution (Schwartz and Hawks, 1985; Bell, et al., 1989). As a result of these variables, the monitoring of absolute cannabinoid concentrations in urine in an effort to establish continued abstinence (falling concentrations) or to determine new drug intake (rising concentrations) is inappropriate and can lead to incorrect result interpretations. Increases in absolute cannabinoid concentrations resulting from changes in urinary output are often mistakenly interpreted as new drug use rather than carryover from previous drug exposure. Decreases in absolute cannabinoid concentrations, which can also result from urine volume changes, may be misinterpreted as proof of continued abstinence. Consequently, the use of absolute drug concentrations produced by qualitative testing methods for determining a participant's drug use patterns is without scientific foundation and should be avoided (Chiang and Hawks, 1986). Nonetheless, many drug courts find it necessary to use the results of drug testing in determining either continued abstinence or to differentiate between new drug exposure and continuing excretion from previous drug use.

In the mid-1980's, toxicologists proposed the creatinine normalization of urine drug test results in an effort to correct for variations that occurred in urine volume (Bell, et al., 1989; J.E. Manno, 1986; J.E. Manno, Ferslew, and B.R. Manno, 1984). Quantitative manipulations using creatinine concentrations have been used for decades in the field of toxicology (Levine and Fahy, 1945). Creatinine is a waste product of muscle metabolism that is excreted into the urine at a relatively constant rate throughout the day in healthy individuals (Spencer, 1986; Narayanan and Appleton,

1980; Bingham and Cummings, 1985). Urine volume, on the other hand, is highly variable and is influenced by a variety of factors including; liquid, salt and protein intake, exercise and age (Huestis and Cone, 1998 October). The goal of normalization is to reduce the apparent variability of drug excretion due to changes in urine volume by creating a ratio of drug concentration to creatinine concentration (expressed as nanogram of drug per milligram of creatinine). Thus, drug/creatinine ratios of specimens collected over time can be compared to determine if new drug use has occurred or to validate continued participant abstinence (Huestis and Cone, 1998 October; Lafolie, et al., 1994 January; Smith-Kielland, Skuterud, and Morland, 1999 September; Fraser and Worth, 1999 October).

The guidance provided herein is designed neither to encourage nor discourage the use of the normalization technique as an aid in the interpretation of drug testing results. The purpose of this document is to describe the normalization method and to provide direction for its proper administration in a drug court setting. Scientific research indicates that even under the most controlled conditions creatinine-normalization of cannabinoid results accurately predicts new drug use in 83 percent of cases and can have a false-negative (predicting residual drug excretion when new marijuana use had occurred) rate of 24 percent (Huestis and Cone, 1998 October; Fraser and Worth, 1999 October). Therefore, it is essential for each drug court to evaluate the forensic acceptability of this technique prior to instituting its practice with participants.

THE NON-NORMALIZED METHOD

[19] While the primary focus of this guidance document is to discuss using creatinine-normalized cannabinoid results to make the differentiation between new marijuana use and continuing residual drug excretion, it is worthwhile nonetheless to review the non-normalized approach for accomplishing the same goal. The use of urine

drug concentrations, even under the best of circumstances, is not without risk and is by no means absolutely conclusive in all cases. Additionally, there are some drug courts that may not wish to employ mathematical formulas in the business of dispensing justice. Finally, the non-normalized method for distinguishing between re-use and continuing excretion can be used with all of the drugs of abuse, not just cannabinoids.

The non-normalized approach relies solely on the qualitative drug test results (positive or negative) to make the distinction between new drug use and continued excretion of drug from a previous exposure. A drug court participant is deemed "drug-free" following two consecutive drug tests both yielding negative results, where the two tests are separated by at least five days. Subsequent positive drug tests would be considered new use. In other words, the two negative drug tests – at least five days apart – establish a participant's abstinence baseline for the drugs being tested. Any positive drug test result following the establishment of this abstinence baseline indicates new/recent drug exposure. For cannabinoids, the non-normalized technique can be used with assays that test for marijuana at either the 20 or 50 ng/mL cutoff concentration.

If the design of qualitative drug testing methods is simply the determination of the presence or the absence of drugs and their metabolites in urine, then the non-normalized approach represents a simple, effective and reliable method for differentiating new drug use from residual drug excretion. This "two-negative test" approach is consistent with manufacturer's recommendations for the proper use of their products and results; and requires no arithmetic calculations.

FUNDAMENTAL CONSIDERATIONS

[20] Before discussing the specifics of using creatinine-normalized cannabinoid results to determine continued abstinence or to differentiate between new marijuana use and continuing residual excretion, it is necessary to review some essential rules for accomplishing these comparisons. Using a solid scientific foundation enables drug courts to employ normalization with the confidence that this approach will withstand legal scrutiny. Failure to follow the guidance detailed below can result in incorrect interpretation of testing results and inappropriate court decisions.

1. **Cannabinoids Only**. While the scientific community has researched the creatinine-normalization of drugs other than marijuana (Huestis and Cone, 1998 October), it is recommended that the technique of creatinine-normalization be applied only to cannabinoid results. Marijuana is ideally suited for normalization because the drug is more fat-soluble than most of the other drugs of abuse tested in drug court (J.E. Manno, 1986). In fact, it is the very extended excretion of marijuana metabolites in urine that has prompted the concept of creatinine-normalization of cannabinoid results. Attempts to creatinine-normalize drugs with more rapid elimination rates (i.e. cocaine) can be misleading and is generally ineffective in a drug court environment.

2. **Compare Only Identical Methods**. In order to correctly compare creatinine-normalized results, it is essential that cannabinoid values from identical drug testing methods be utilized. In other words, EMIT cannabinoid results must be compared with EMIT cannabinoid results; GC/MS cannabinoid concentrations must be compared with GC/MS cannabinoid concentrations, and so on. Never attempt to compare results obtained from dissimilar cannabinoid methodologies. This is also true for the

creatinine methods, which are used in calculating the ratios.

In addition, request the laboratory use only quantitative cannabinoid concentrations (i.e. GC/MS) or automated methods that produce "semi-quantitative" cannabinoid results (such as the Abbott TDx method). Semi-quantitative results are derived from assays that employ multiple calibrators to establish a standard curve. The comparison of results from different laboratories is not recommended. On-site (i.e. hand-held, point-of-care) testing devices are not appropriate for producing creatinine-normalized results.

NOTE: Only urine samples separated by a minimum of 24 hours between collections should be used for comparison purposes.

3. **Compare Consecutive Tests**. For creatinine normalization to be useful in the interpretation of urine cannabinoid results, it is important that comparisons be made on consecutive testing results. For example, if a participant has been drug tested on five separate days in the last two weeks (Days #2, 5, 8, 11 & 12) compare creatinine-normalized results consecutively, in the order in which the tests were collected – compare Day #2 with Day #5, compare Day #5 with Day #8, and so on. Comparing creatinine-normalized results from non-sequential tests such as comparing Day #2 with Day #11, for example, is problematic and should be avoided.

   It is however appropriate to make consecutive comparisons of creatinine-normalized results if there is a single intervening negative test result. Using the collection schedule in the example above, if on Day #8 that drug test produced a negative result and Days #5 and #11 produced positive results, it is legitimate

to compare the creatinine-normalized results of Day #5 with Day #11.

4. **Establish Elimination Benchmarks**. While it is true that the presence of marijuana metabolites persists in urine long after use (Huestis, Mitchell, and Cone, 1996 October; Kelly and Jones, 1992 July-August; Ellis, et al., 1985; Dackis, et al., 1982), it is inappropriate to attempt to use creatinine-normalized cannabinoid comparisons after the time period cannabinoids would have been expected to be eliminated from the body, assuming abstinence. In other words, programs must adopt elimination benchmarks that define the period after which a continued positive cannabinoid result is indicative of new use – regardless of the creatinine-normalized profile.

   Example: A drug court establishes an elimination benchmark for cannabinoids of 30 days (i.e. Regardless of past chronic or occasional marijuana use patterns, an abstinence participant's urine should drug test negative for cannabinoids after 30 days in the program.). A drug court participant has been in the program for 32 days and is continuing to test positive for cannabinoids. It is inappropriate to use creatinine-normalized cannabinoid comparisons beyond the 30-day period to determine new use versus continued elimination. New use is established based upon the elimination benchmark, not the creatinine-normalized results.

5. **Do Not Normalize Dilute Samples**. Dilute urines (with creatinine values of less than 20 mg/dL) most likely represent samples influenced by excessive participant hydration prior to specimen collection (Cook, et al., 2000 October). Dilute samples should be handled (sanctioned) as tampered specimens based upon existing drug court policies. Due to the

potential for inaccurate normalization and incorrect result interpretation, drug courts are advised not to use creatinine-normalized cannabinoid results that have been calculated from urine samples with creatinine measurements of less than 20 mg/dL or drug test samples that have been reported as "dilute".

THE CREATININE-NORMALIZED CALCULATIONS

[21] At first glance, the calculations detailed below may appear daunting. **Do not panic**! The calculations presented are quite simple and are described primarily for educational purposes only. The reference laboratory providing drug testing services to the drug court often performs the actual calculations. That said, understanding the basic principles outlined in this section will assist drug court teams in utilizing normalized urine cannabinoid results appropriately.

The calculation for normalizing (correcting) urine cannabinoid results for creatinine concentrations is relatively straightforward. Regardless of whether the creatinine-normalized calculation is determined by the laboratory or is performed by drug court staff, the mathematics involves the results of two analyses: the quantitative or semi-quantitative result from the urine cannabinoid test (usually expressed as urine cannabinoids or THC or THC-COOH in nanograms per milliliter – ng/mL) AND the quantitative result from the urine creatinine test (usually expressed as either creatinine in milligrams per deciliter – mg/dL or creatinine in milligrams per milliliter – mg/mL).

1. Normalization of urinary cannabinoid excretion to urine creatinine concentration (if creatinine is expressed in mg/dL) proceeds as follows:

$$\frac{\text{urine cannabinoid (ng/mL)}}{\text{creatinine (mg/dL)}} \times 100 = \text{"normalized" cannabinoid urine (ng/mg creatinine)}$$

EXAMPLE #1: urine cannabinoid result = 150 ng/mL
urine creatinine result = 200 mg/dL

150 ÷ 200 = 0.75 X 100 = 75 ng cannabinoid/mg of creatinine

2. Normalization of urinary cannabinoid excretion to urine creatinine concentration (<u>if creatinine is expressed in mg/mL</u>) proceeds as follows:

urine cannabinoid (ng/mL) / creatinine (mg/mL) = "normalized" cannabinoid urine (ng/mg creatinine)

EXAMPLE #2: urine cannabinoid result = 150 ng/mL
urine creatinine result = 2.0 mg/mL

150 ÷ 2.0 = 75 ng cannabinoid/mg of creatinine

The examples cited above represent the preferred approach to expressing the cannabinoid/creatinine ratio and the method used in most of the scientific research associated with this subject matter. However, it is not uncommon for laboratories to simply calculate the ratio without regard for the units of measure (i.e. ng/mL or mg/dL). In those circumstances the normalized test results may simply be expressed as a ratio.

EXAMPLE #3: urine cannabinoid result = 150 ng/mL
urine creatinine result = 200 mg/dL

150 ÷ 200 = 0.75 (cannabinoid/creatinine ratio)

NOTE: All of the examples presented to illustrate the calculations for normalizing urine cannabinoid results for creatinine concentrations demonstrate the necessity for

strictly adhering to Fundamental Consideration #2 – Compare Only Identical Methods. Do not attempt to compare creatinine-normalized results from different drug testing methods. Also, do not attempt to compare ratios from different laboratories.

INTERPRETING CREATININE-NORMALIZED RATIOS

[22] Determining continued participant abstinence using creatinine normalized ratios is quite simple. Following marijuana smoking, dividing the urinary cannabinoid excretion by creatinine concentration produces a cannabinoid/creatinine ratio that should continue to decrease until either a new episode of drug use occurs or the cannabinoid test becomes consistently negative. Example A provides such a participant scenario:

Example A.

Test	**Collection Date**	**Cannabinoid**	**Creatinine**	**THC/ CR ratio**	**THC/ CR ratio**
		Result (ng/mL)	**Result (mg/dL)**	**(in ng/mg)**	**(no units)**
Test #1	Day 1	450	193	233	2.33
Test #2	Day 3	264	254	104	1.04
Test #3	Day 6	107	171	63	0.63
Test #4	Day 7	115	267	43	0.43
Test #5	Day 9	32	186	17	0.17
Test #6	Day 13	negative	192	***	***
Test #7	Day 15	negative	215	***	***

A review of the cannabinoid/creatinine ratio from Day 1 through Day 9 indicates a steadily decreasing profile – what would be expected in a continuing abstinence participant. This conclusion is further supported by the two consecutive negative test results on Days 13 and 15. Note that on Day 7 (Test #4), the absolute cannabinoid

concentration (115) actually increases from the previous sample (Day 6). However, following normalization the continued abstinence pattern is established suggesting that the increase in absolute cannabinoid concentration on Day 7 is not indicative of new marijuana use.

Differentiating between new marijuana use and continuing residual drug excretion using creatinine-normalized cannabinoid results is somewhat more complicated than determining continued participant abstinence. The primary difference being that the cannabinoid/creatinine ratios must not only be compared to one another, but the change between two ratios must be calculated. The calculation of the ratio from two positive urine cannabinoid tests (defined as the specimen ratio) proceeds as follows:

cannabinoid/creatinine ratio ÷ cannabinoid/creatinine ratio of an earlier positive sample = the specimen ratio

Test	**Collection Date**	**Cannabinoid**	**Creatinine**	**THC/ CR ratio**	**THC/ CR ratio**
		Result (ng/mL)	**Result (mg/dL)**	**(in ng/mg)**	**(no units)**
Test #1	Day 1	410	253	162	1.62
Test #2	Day 3	219	217	101	1.01
Test #3	Day 6	158	189	84	0.84
Test #4	Day 7	217	227	96	0.96
Test #5	Day 9	95	183	52	0.52

Example B.

Using test results from Example B, the calculation of the specimen ratio for comparing Day 3 to Day 1 would be expressed as:

101 ÷ 162 = 0.62 (specimen ratio)

The calculation returns a value of less than 1.0 because the cannabinoid/creatinine ratio for Day 3 is lower than that of Day 1.

If we determined the specimen ratio for Day 7 compared to Day 6 the calculation would be:

$$96 \div 84 = 1.14 \text{ (specimen ratio)}$$

Since the cannabinoid/creatinine ratio for Day 7 is greater than that of Day 6, the specimen ratio is also greater than 1.0.

In differentiating between new drug use and continuing drug excretion from previous exposure, only those specimen ratios of greater than 1.0 are of interest; because in almost all cases the only time a specimen ratio will be calculated is when the most recent cannabinoid/creatinine ratio is greater than the cannabinoid/creatinine ratio from a preceding positive sample.

While scientific researchers have evaluated the use of a variety of specimen ratios for predicting new marijuana use (including specimen ratios of less than 1.0), forensic scientists are in general agreement that a specimen ratio of 1.5 is the most appropriate standard for legal applications (Huestis and Cone, 1998 October; Fraser and Worth, 1999 October)**. Therefore, in drug court proceedings an increase in the specimen ratio of equal to or greater than 1.5 for two consecutive positive urine samples is indicative of new marijuana intake. When using this 1.5 specimen ratio standard, research indicates that new marijuana usage will be accurately predicted approximately 75 percent of the time, with a false positive rate (falsely predicting a participant had smoked marijuana when continued elimination was the true reason for the positive test) of less than one percent** (Huestis and Cone, 1998 October; Fraser and Worth, 1999 October)**. Put another way, one in four participants will**

be able to avoid "new use" detection using the 1.5 specimen ratio threshold, but virtually no one will be falsely accused.

A variety of issues can be examined by reviewing the data in Example C, including the calculation for differentiating between new marijuana use and continuing residual drug excretion.

Example C.

Test	**Collection Date**	**Cannabinoid**	**Creatinine**	**THC/ CR ratio**	**THC/ CR ratio**
		Result (ng/mL)	**Result (mg/dL)**	**(in ng/mg)**	**(no units)**
Test #1	Day 1	507	243	209	2.09
Test #2	Day 3	314	187	168	1.68
Test #3	Day 5	258	244	106	1.06
Test #4	Day 6	217	162	134	1.34
Test #5	Day 9	228	191	119	1.19
Test #6	Day 11	183	138	133	1.33
Test #7	Day 13	149	50	298	2.98

On Day 6 the cannabinoid/creatinine ratio (134) increases from the previous positive sample (106). Determination of the specimen ratio,

$$134 \div 106 = 1.26 \text{ (specimen ratio)}$$

indicates a change of 1.26, which is insufficient to document new marijuana usage utilizing the 1.5 specimen ratio threshold.

On Day 9 the absolute cannabinoid concentration (228) increases from the previous positive sample, however the cannabinoid/creatinine ratio decreases from Day 6 (134) to Day 9 (119) which is indicative of continued drug excretion.

On Day 11 the cannabinoid/creatinine ratio (133) increases from the previous positive sample (119). Determination of the specimen ratio,

$$133 \div 119 = 1.11 \text{ (specimen ratio)}$$

verifies this change (1.11) is also not sufficient to make the determination of new marijuana use employing the 1.5 specimen ratio threshold.

On Day 13, the cannabinoid/creatinine ratio (298) increases significantly from Day 11 (133) even though the absolute concentration (149) decreased from the previous test. Calculation of the specimen ratio,

$$298 \div 133 = 2.24 \text{ (specimen ratio)}$$

indicates a change of 2.24 between these two consecutive positive urine samples and clearly indicates new marijuana exposure – specimen ratio greater than the 1.5 threshold. Also note the significant drop in creatinine concentration on Day 13 which may suggest increased fluid intake by the participant in an effort to dilute the urine sample.

While the calculation examples listed in this section were all performed using the cannabinoid/creatinine ratios expressed in ng/mg, the computations using the cannabinoid/creatinine ratio with no units of measure are performed in exactly the same manner and yield the same interpretations.

Some drug courts may regard the 1.5 specimen ratio standard as overly conservative (i.e. allows too many participants to engage in new drug use without being detected by creatinine-normalized cannabinoid result comparison). As noted earlier, researchers have used specimen ratio thresholds as low as 0.5 in an effort to differentiate new drug use from continuing excretion (Huestis and Cone, 1998 October).

Drug courts are cautioned about the consequences associated with utilizing lower specimen ratio criteria. For example, at a specimen ratio of 1.0 the scientific literature indicates that the ability to accurately discriminate new marijuana use only increases to 80 percent, while the false positive rate jumps ten fold (Huestis and Cone, 1998 October; Fraser and Worth, 1999 October). This research indicates the lower the specimen ratio, the greater the incidence of incorrectly identifying a participant of engaging in new drug use when none has occurred.

SUMMARY

The need for drug court teams to use drug test results to establish either continued participant abstinence or to differentiate between new drug exposure and residual drug excretion can be compelling. This is particularly true for marijuana because of its protracted elimination profile. A court's response to a second positive marijuana urine test varies by program and may result in vastly different consequences for drug court clients. Creatinine-normalization of cannabinoid results has been seen by some as an approach toward establishing objective criteria for this decision-making process. However, given the ramifications associated with such a determination, drug courts should move cautiously in employing the techniques of creatinine-normalized cannabinoid results. While the use of this method for determining continued participant abstinence is straightforward, the interpretation of creatinine-normalization data for the purposes of differentiation between new marijuana use and continuing drug elimination is more complex. If creatinine-normalized cannabinoid results are to be utilized in the drug court arena, it is recommended that the 1.5 specimen ratio standard be employed due to the legal nature of the proceedings.

REFERENCES

Schwartz, R.H., & Hawks R.L. (1985). Laboratory detection of marijuana use. *JAMA, 254*(6), 788-792.

Bell, R., Taylor, E.H., Ackerman, B., & Pappas, A.A. (1989). Interpretation of urine quantitative 11-nor-delta-9 tetrahydrocannabinol-9-carboxylic acid to determine abstinence from marijuana smoking. *Journal of toxicology - Clinical toxicology, 27*(1-2), 109-115.

Chiang, C.N., & Hawks, R. (1986). Implications of drug levels in body fluids: Basic concepts. In R. Hawks & C.N. Chiang (Eds.), *Urine testing for drugs of abuse, NIDA research monograph series 73*, 62-83.

Manno, J.E. (1986). Interpretation of urinalysis results. In R. Hawks & C.N. Chiang (Eds.), *Urine testing for drugs of abuse, NIDA research monograph series 73*, 54-61.

Manno, J.E., Ferslew, K.E., & Manno, B.R. (1984). Urine excretion patterns of cannabinoids and the clinical application of the EMIT-dau cannabinoid urine assay for substance abuse treatment. In S. Agurell, W.L. Dewey, & R.E. Willette (Eds.), *The cannabinoids: Chemical, pharmacologic and therapeutic aspects*. New York, NY: Academic Press, 281-290.

Levine, L., & Fahy, J.P. (1945). Evaluation of urinary lead determinations, 1. the significance of specific gravity. *J Indus Hygiene Toxicol 27*, 217-223.

Spencer, K. (1986). Analytical reviews in biochemistry: the estimation of creatinine. *Annals of clinical biochemistry, 23*, 1-25.

Narayanan, S., & Appleton, H.D. (1980). Creatinine: a review. *Clinical chemistry, 26*(8), 1119-1126.

Bingham, S.A., & Cummings, J.H. (1985). The use of creatinine output as a check on the completeness of 24-hour urine collections. *Hum. Nutr.: Clin. Nutr., 39C*, 343-355.

Huestis, M.A., & Cone, E.J. (1998 October). Differentiating new marijuana use from residual drug excretion in

occasional marijuana users. *Journal of analytical toxicology, 22*(6), 445-454.

Lafolie, P., Beck, O., Hjemdahl, P., & Borg, S. (1994 January). Using relation between urinary cannabinoid and creatinine excretions to improve monitoring of abuser adherence to abstinence. *Clinical chemistry, 40*(1), 170-171.

Smith-Kielland, A., Skuterud, B., Morland, J. (1999 September). Urinary excretion of 11-nor-9-carboxy-delta9-tetrahydrocannabinol and cannabinoids in frequent and infrequent drug users. *Journal of analytical toxicology, 23*(5), 323-332.

Fraser, A.D., & Worth, D. (1999 October). Urinary excretion profiles of 11-nor-9-carboxy-delta9-tetrahydrocannabinol: a delta9-THCCOOH to creatinine ratio study. *Journal of analytical toxicology, 23*(6), 531-534.

Huestis, M.A., Mitchell, J.M., & Cone, E.J. (1996 October). Urinary excretion profiles of 11-nor-9-carboxy-delta 9-tetrahydrocannabinol in humans after single smoked doses of marijuana. *Journal of analytical toxicology, 20*(6), 441-452.

Kelly, P., Jones, R.T. (1992 July-August). Metabolism of tetrahydrocannabinol in frequent and infrequent marijuana users. *Journal of analytical toxicology, 16*(4), 228-235.

Ellis, G.M., Mann, M.A., Judson, B.A., Schramm, N.T., & Tashchian. (1985). Excretion patterns of cannabinoid metabolites after last use in a group of chronic users. *Clin. Pharmacol. Ther., 38*, 572-578.

Dackis, C.A., Pottash, A.I.C., Annitto, W., & Gold, M.S. (1982). Persistence of urinary marijuana levels after

supervised abstinence. *Am. J. Psychiatry, 139*, 1196-1198.

Cook, J.D., Caplan, Y.H., LoDico, C.P., & Bush, D.M. (2000 October). The characterization of human urine for specimen validity determination in workplace drug testing: a review. [Review] [80 refs]. *Journal of analytical toxicology, 24*(7), 579-588.

RESEARCH UPDATE

REPORTS ON RECENT DRUG COURT RESEARCH

This issue of the Drug Court Review synopsizes reports on two studies in the field of drug court research and evaluation, and has included the Executive Summary of each: a cost benefit analysis of the Dallas County DIVERT Court; and an evaluation of four of five of North Carolina's pilot adult drug treatment courts, completed in May 2002.

ARTICLE SUMMARIES

DALLAS COUNTY DIVERT COURT

[23] This cost benefit analysis found the benefit-cost ratio over a 40 month follow-up period to be 9.43:1; that is, on average for every dollar spent to drug treatment through DIVERT Court, $9.43 of costs may be saved over a 40 month post-treatment period.

NORTH CAROLINA

[24] This process and outcome evaluation found that rearrests among graduates 12 months after program discharge to be at 18 percent, in contrast rearrests among non-graduates stood at 41 percent, and among the comparison group at 44 percent.

DALLAS COUNTY DIVERT COURT COST BENEFIT ANALYSIS

Thomas B. Fomby, Ph.D., and Vasudha Rangaprasad, M.A.
Southern Methodist University

EXECUTIVE SUMMARY

- This study is a follow-up study of the DIVERT Court recidivism study of August, 2001 written by Ms. Monica Turley and Ms. Ashley Sibley of the Psychology Department of Southern Methodist University in August 2001 entitled "Presentation of Outcome Evaluation Findings DIVERT Advisory Board." Their study examined the recidivism behavior of 178 DIVERT Court participants and 78 Control Group participants over a twenty-seven month follow up period. They found a statistically significant reduction in recidivism arising from participation in the DIVERT Court program.

- This study analyzes a cost-benefit ledger based on the event histories of the participants in the Turley/Sibley recidivism study. The ledger is based on 15 months of "treatment" costs for each participant and, after treatment, the savings to society from reduced recidivism arising from DIVERT Court treatment.

- **[23]** This study finds the Benefit-Cost ratio associated with the DIVERT Court program over a 40 month follow-up period to be **9.43:1**. That is, on average, for every dollar spent upgrading drug treatment from the Control Group (traditional adjudication) to drug treatment through DIVERT Court, $9.43 of costs can be saved by society over a 40 month post-treatment period. Even though this Benefit-Cost ratio is quite substantial, it is still a

conservative estimate of the benefits forthcoming from the DIVERT Court program for reasons detailed in the report.

NORTH CAROLINA DRUG TREATMENT COURT EVALUATION FINAL REPORT

Amy Craddock, Ph.D.
Indiana State University

EXECUTIVE SUMMARY

This report presents results of the contracted process and outcome evaluation that is part of the Drug Courts Program Office (DCPO), Office of Justice Programs, Department of Justice grant (1999-DC-VX-0052) awarded to the Administrative Office of the Courts (AOC) for the North Carolina Drug Treatment Court Program (DTC). It includes data from four of the five pilot adult DTCs: Warren (Judicial District 9), Person/Caswell (Judicial District 9A), Wake (Judicial District 10), and Mecklenburg (Judicial District 26) Counties. Forsyth County (Judicial District 21) was excluded because of severe data quality problems. The process evaluation examines court and treatment attendance, compliance with case manager and probation officer contact requirements, drug test results, arrests in the program, graduation rates, and reasons for discharge for nongraduates. The outcome evaluation uses a quasi-experimental design to examine the 12-month post-program recidivism of DTC participants and a comparison group of eligible DTC applicants not admitted to the program.

KEY RESULTS

- The most common drug of abuse among participants is cocaine.

- 98.6 percent of DTC participants are chemically dependent, indicating that the DTC program is reaching its target population.

- Seventy percent of DTC participants have prior convictions.

- Of the 534 participants in the study, 33 percent graduated from the program.

- The most important predictor of graduation is program compliance, particularly urine test results, court attendance, and treatment attendance.

- **[24]** Eighteen percent of graduates and 41 percent of non-graduates were rearrested in the 12 months after program discharge to 44 percent of the comparison group members.

- The most important predictor of recidivism is DTC graduation.

SUBJECT INDEX

The following cumulative Subject Index is designed to provide easy access to subject references. Each reference can be located by:

- *Volume* *by using a roman numeral e.g. I*
- *Issue* *by using a number e.g. 2*
- *Subject reference* *by its page number in parenthesis e.g. (121)*

A
Addiction Severity Index (ASI)…II2(120), IV1(50)
Administrative Office of the Courts, State of North Carolina...IV1(108)
Administrative Office of the Delaware Superior Court...II1(111)
Adolescent Drug Abuse Diagnosis…I1(80)
Adoption and Safe Families Act of 1997…III1(103-104)
Ahola, Tapani…III2(49, 53)
Alabama, University of…III1(40)
Alabama at Birmingham, University of…III2(5, 6)
Department of Psychiatry…III2(6)
Alameda County (Oakland), CA Drug Court…I1(34, 50, 60, 86), II1(39, 61, 65), II2(8)
Alcoholics Anonymous (AA)…I1(68), II1(71, 74-75, 81, 98-99, 102), III1(69, 130-131), III2(10)
Alexandria, VA…II2(135)
Allen County, IN Drug Court Intervention Program (DCIP) …III1(124)
Alternative Treatment Against Crack Cocaine...II1(102)
American Bar Association (ABA)…III1(13), III2(25)
American Civil Liberties Union (ACLU)…III1(35)
American Correctional Association…III2(36)
American Medical Association (AMA)…III1(13)
American Psychological Association (APA)…III2(40, 42, 59)
American Society for Addiction Medicine…III1(22)

American University…III1(5), IV(46)
American University Drug Court Clearinghouse and Technical Assistance Project…I1(8, 35, 86, 88), II1(63), II2(5), III1(29, 76), IV(46)
American University 1997 Drug Court Survey Report…I1(19, 21-22, 47, 57)
American University 1998 Drug Court Survey Preliminary Findings…I1(18, 26)
Amherst, NY Drug Court…II2(17)
Anderson, Mark…II2(11)
Andrews, D.A.…II2(108)
Anglin, Dr. M. Douglas…III1(14-16)
Anova Associates...II1(111), II2(10, 14)
Anspach, Dr. Donald F....II1(119), II2(16, 32), III1(131), III2(120, 123)
Anthony, NM Drug Court…II2(42)
Arizona…III1(33), III2(19)
Artist, Kim…II2(8)
Asay, Ted…III2(41)
Associated Students of Colorado State University (ASCSU) ...IV1(15, 28, 30, 32)
ATTAC…I1(49)

B
Baca, Sheriff Leroy...II1(101)
Bachelor, Alexandra…III2(48, 73)
Bakersfield, CA Drug Court…I1(60, 68)
Baltimore, MD…III1(15, 36, 38)
Baltimore, MD Drug Court…I1(27), II2(11)
Baton Rouge, LA...II1(98)
Baton Rouge, LA Drug Court...II1(98)
Bazemore, Gordon…III2(41)
Bedford-Stuyvesant section of Brooklyn, NY…III2(24)
Behind Bars: Substance Abuse and America's Prison Population…I1(1), II2(1)
Belenko, Dr. Steven R.…I1(1), II2(1, 26, 38), III1(5), III2(41), IV(44-45)

Bell, Merlyn…II2(12, 17, 32, 140)
Berg, Insoo…III2(67)
Berman, Greg…III2(1)
Bernalillo County, NM…II2(22)
Bird, Dr. Steven…III1(124)
Birmingham, AL…III1(27)
Bohart, Arthur…III2(48, 51)
Boston College…III2(68)
Boston, MA…II2(102)
Boston, MA Drug Court …I1(21), II2(11)
Boyles, Mary...II1(100)
Brazil…III2(22)
"Break the Cycle" (Maryland)…III1(33)
Brekke, Edward...II1(101), III2(6, 10, 19)
Brendtro, Larry…III2(68)
Briceno, Georgette…II2(8)
Brigham Young University…III2(43)
Bright, Sheriff Forrest...II1(100)
Brisbane, Dr. Frances…II2(17, 142)
Brooklyn, NY…III1(26)
Brooklyn (Kings County), NY…III2(24)
Brooklyn (Kings County), NY Mental Health Court…III2(1, 5)
Brooklyn (Kings County), NY Treatment Court…I1(60), II2(21)
Broome, K.M....II1(39)
Broward County, FL...II1(102), II2(5), III1(31)
Broward County (Ft. Lauderdale), FL Drug Court…I1(8, 60), II1(102), II2(10)
Broward County, FL Sheriff's Office...II1(102)
Buckley Amendment [Family Educational Rights & Privacy Act (FERPA)] ...IV1(21)
Bureau of Governmental Research…II2(93)
Bureau of Justice Assistance (BJA)...II1(109), II2(3, 79)
Bureau of Justice Statistics (BJS)...II1(90), I2(5, 79), III1(29)
Butler County, OH Drug Court…II2(135, 139)
Butzin, Dr. Clifford A. ...IV1(50)

Byrne Evaluation Partnership Grant...II1(109), II2(17)
Byrnes, Edward I....II1(109), II2(17)

C
CALDATA…II2(70)
California…I1(25, 66), II2(40), III1(17, 29, 33), III2(3, 19-20, 69)
California Bureau of Identification and Investigation…III1(90, 128)
California Civil Addict Program…III1(16)
California Department of Corrections…III1(16)
California Department of Motor Vehicles…III1(90, 128)
California Drug Court Partnership Program…III1(86)
California Office of Alcohol and Drug Programs…III1(86)
California State University at Long Beach...II1(62), II2(8)
California State University at San Bernadino...II2(8)
California, University of...II1(71)
Los Angeles…III1(26), III2(69)
Santa Barbara…II2(9, 13-14)
California Welfare and Institutions Code…I1(76)
California Wellness Foundation...II1(62)
California Youth Authority…I1(77)
Campbell, Senator Ben Nighthorse (R-CO) ...IV1(35)
Carrier, Laurel…II2(16)
Cavanagh, Shannon…II2(9, 14), IV1(61)
Center on Addiction and Substance Abuse (CASA)…I1(1, 25, 87, 89), II2(1), III1(5, 30), III2(7, 41)
Center for Applied Local Research…II2(13)
Center for Community Alternatives, New York City and Syracuse, NY…III2(8)
Center for Court Innovation…III2(1, 4, 6-7)
Center for Drug and Alcohol Education (CDAE), Colorado State University...IV1(7, 13, 15-18, 20-21, 27, 29, 32)
Center for Drug and Alcohol Studies (CDAS), University of Delaware…III1(24), IV(49-51, 59)

Center for Strength-Based Strategies…III2(36)
Center for Substance Abuse Prevention (CSAP)…II2(59, 79)
Center for Substance Abuse Treatment (CSAT)…II2(3, 44, 59), III1(19, 22, 32)
Century Regional Detention Facility...II1(101)
Charleston, SC…III2(102)
Chatman, Judge Sharon…III2(6, 9, 18, 26)
Cheavens, Jennifer…III2(50, 52, 56, 64)
Chestnut Health Systems…II2(15)
Chicago, IL…I1(3)
Choices Group, Inc. …III2(5, 7)
Choices Unlimited-Las Vegas…II2(11)
Christensen, Andrew…III2(60)
Chronicle of Higher Education...IV1(6)
Clallam County, WA…II2(7, 17, 41, 43)
Clark County, (Las Vegas), NV Drug Court…II2(6, 11)
Clark, Michael D.…III2(35-36)
Clemson University…III2(7)
Institute on Family and Neighborhood Life…III2(7)
Clery Act (1989) ...IV1(6)
Cleveland, OH Drug Court…III1(123)
Client Satisfaction Survey (CSS) ...IV1(50-51, 71-81)
Clymer, Bob…III1(129)
Coalition for the Homeless (New York City, NY)…III1(35)
Coates, Robert…III2(41)
Coblentz, Kris…II2(11)
Cohen, Dr. Shelly…II2(17, 142)
Colorado…III1(33), IV(12, 28, 35)
Colorado Department of Public Safety…II2(14)
Colorado Division of Criminal Justice…III1(132)
Colorado State University (CSU)...IV1(5, 7-17, 20, 25-26, 28-30, 34-35)
Colorado State University Drug Task Force Team...IV1(13)
Colorado State University Police Department...IV1(29)
Columbia University…III1(5, 30), III2(7, 41)

Community Crime Prevention Association…II2(9)
Congress of the United States...IV1(6)
Connecticut…III1(33)
Cook, Foster…III2(5-6, 12, 23)
Coos County, OR…III1(33)
CORE Drug and Alcohol Survey...IV1(6-7, 12, 15, 33)
Cornerstone Program (Oregon)…III1(23-24)
Correctional Counseling, Inc.…I1(73), II1(107), II2(135)
Corrections Today…III2(36)
Cosden, Dr. Merith…II2(9, 13-14, 30, 148)
Countywide Criminal Justice Coordination Committee (CCJCC) (Los Angeles, CA)…III1(61, 63, 67, 79, 86)
Drug Court Oversight Subcommittee…III1(61-63)
Cousins, Norman…III2(69)
Cowles, E.L.…II2(101)
Creek County, OK Drug Court…III1(129-130)
Crest Program (Delaware) …III1(24-25)
Crime and Justice Research Institute (CJRI)…II2(10)
Crothers, Linda…II2(9, 13-14, 148)
Cumberland County, ME Jail...II1(121)
Cumberland County, ME Project Exodus...II1(119), II2(16, 18-19, 21, 32, 38-39), III1(131-132)
Cunningham, Dr. Phillippe B.…III2(89, 97)

D
D-Metro Group…II2(16)
Dade County, FL…III1(31)
Dade County (Miami), FL Drug Court…I1(3, 60), II1(38-39), II2(4, 10)
Dallas County, TX…III2(118), IV(105)
Dallas County, TX DIVERT Court…III2(117-119), IV(105-107)
Dallas, TX Housing Authority…III1(35)
Dalton, Dr. Karen S....II1(99)
Daytop Lodge…III1(13)
Daytop Village…III1(10)

Dederick, Charles…III1(10)
Defining Drug Courts: The Key Components…I1(48), III1(60)
De Leon, George…III1(11-13)
Delaware…III2(20)
Delaware Adult Drug Court…I1(21, 27-28), II1(107, 109-110, 112), II2(10, 14, 28)
Delaware Criminal Justice Information System...II1(111), III1(126)
Delaware Department of Corrections…III1(24)
Delaware Juvenile Drug Court…I1(28, 73-74, 82-84), III1(125-127)
Delaware Statistical Analysis Center...II1(111), II2(10, 14)
Delaware Superior Court...II1(111), III2(6), IV(49-50)
Delaware, University of…III1(24), IV(49)
Denman, Kristine…II2(16)
Dennis, Dr. Michael…II2(15, 147)
Denver, CO Drug Court…I1(27, 50, 56, 60, 68, 90), II2(5-6, 9, 14), III1(132-134)
Denver, University of…II2(9)
Deschenes, Dr. Elizabeth...II1(61-62, 68, 83), II2(5, 8, 13, 30), III1(127)
Diaz, Lori…II2(13), III1(127)
District of Columbia…II2(3), III1(32, 60)
District of Columbia Drug Court…I1(26, 36, 43, 50, 55, 60), II1(4, 91), II2(6, 9, 14, 22, 25, 31, 34, 36-38, 41), III1(32, 60)
District of Columbia Jail…II2(41)
Division of Juvenile and Adult Court Programs, State of Missouri…III2(8)
Doe Foundation (New York City, NY)…III1(35)
Dole, Vincent…III1(13-14)
Domino, Marla…II2(11)
Drug Abuse Reporting Program (DARP)…II2(105), III1(18, 20)
Drug Abuse Treatment Assessment and Research…II2(117)
Drug Abuse Treatment Outcomes Study

(DATOS)…II2(105, 107, 126), III1(19, 22)
Drug Court Standards Committee…I1(48)
Drug Court System (DCS)…I1(90-92)
Drug Free Schools and Campuses Act...IV1(6)
Drug Reduction of Probationers Program (Coos County, OR)…III1(33)
Drug Treatment Alternative to Prison Program (DTAP) (Brooklyn, NY)…III1(27-28)
Drug Use Forecasting System…I1(19)
Drugs Alcohol and You Program I (DAY I), Colorado State University...IV1(14, 16)
Drugs Alcohol and You Program II (DAY II), Colorado State University...IV1(14, 16-17)
Drugs Alcohol and You Program III (DAY III), Colorado State University...IV1(14)
Drugs Alcohol and You Program IV (DAY IV), Colorado State University...IV1(14-15, 17-28, 30-31, 33-34)
Duncan, Barry…III2(40, 43-45, 51, 60-61, 65, 67)

E
Earley, Dr. Paul…III2(39-40)
Early Intervention Project (EIP) (Cleveland, OH)…III1(123)
East Baton Rouge Parish, LA Prison...II1(98)
Eby, Cindy…II2(5, 9)
Education Assistance Corporation…III1(26)
Edwards, Thomas…I1(75)
Eighth Judicial District of Colorado…IV1(12-13)
Justice Center…IV1(12-13)
Juvenile Drug Court…IV1(12)
Ellis, Peter…I1(75-76)
Ellison, Willie…I1(75-76)
English, Kim…II2(14), III1(132)
Ericson, Rebecca…II2(16, 32)
Escambia County, FL Adult Drug Court...II1(33-34, 36-37, 40-43, 53, 55-56, 113-114), II2(14, 18-20, 25-27, 31, 35-36, 47)
Evans, Lieutenant Dale...II1(100)

Ewing Marion Kaufman Foundation…II2(11)

F
Fain, Terry...II1(61-62)
Fairfield County, OH Juvenile Drug Court…II2(17, 26, 41-42)
Falkin, G.P.…III1(23)
Family Educational Rights & Privacy Act (FERPA) [Buckley Amendment] …IV1(21)
Family Justice (formerly La Bodega de la Familia), New York City, NY…III2(7)
Family Services Research Center, Medical University of South Carolina…III2(89)
Family and Youth Institute, Colorado State University…IV1(13-15, 28, 30, 32)
Farmington, NM Drug Court…II2(12)
Fathering Project (Jackson County, MO)…III1(105)
Fayette County, KY Drug Court…II2(15, 18, 20, 24, 26)
Federal Bureau of Investigation (FBI)…III1(90)
Federal Probation…II2(5)
Feinblatt, John…III2(6, 8-9, 12, 15, 20-21, 24-25, 28, 30-31)
Ferguson, Andrew S....II1(119), II2(16, 32), III1(131), III2(120, 123)
Finigan, Dr. Michael…I1(24-25), II2(12, 59, 71)
Finkelstein, M.…II2(71)
Fisler, Carol…III2(1)
Florida…II2(144), III1(28), III2(20)
1st Judicial Circuit (Pensacola)...II1(107-108, 113), II2(14, 19, 22, 27), III2(8)
13th Judicial District Drug Court…II2(14, 22, 25)
16th Judicial District Drug Court…II2(11)
17th Judicial Circuit (Fort Lauderdale)…III2(7)
Florida Crime Information Center...II1(43-44)
Florida International University, School of Policy and Management…II2(10)
Florida State Court Administrator...II1(113)
Forsyth County, NC (Judicial District 21)…IV1(108)

Fort Collins, CO…IV1(12)
Fort Worth, TX…III1(8)
Foster, Thomas…II2(13), III1(127)
Fox, Aubrey…III2(1)
Freedman, Justice Helen…III1(35)
Frerichs, Rebecca…II2(16)
Ft. Lauderdale, FL City Jail...II1(102)
Ft. Lauderdale (Broward County), FL Drug Court…I1(8, 60), II1(102), II2(10)
Fulton, Betsy…II2(139)
Funk, Rod…II2(15, 147)
Furman, Ben…III2(49, 53)

G
Gainesville, FL…III2(102)
Gebelein, Judge Richard…III2(6, 18, 22, 26, 33)
General Accounting Office…I1(7-9, 19, 34), II2(27, 44), III1(30)
George Washington University…III2(8)
Law School…III2(8)
Georgia State University…II2(14)
Glen Helen Rehabilitation Center...II1(98-99)
Godley, Dr. Mark…II2(15, 31, 147)
Goldkamp, Dr. John…I1(21), II2(10)
Gottfredson, Denise C.…II2(11, 111, 117)
Granfield, Robert…II2(5, 9)
Greenwood, Dr. Peter...II1(61-62), II2(8)
Grimm, Dr. Richard…II2(15)
Guam…II2(3), III1(60)
Guerin, Dr. Paul…II2(16)

H
Haas, Amie L....II1(33)
Hadley, Suzanne…III2(60)
Halliday-Boykins, Dr. Colleen A.…III2(89)
Halsted, Jeff…II2(16)
Hampson, Dr. Robert B.…III2(118)
Harborview Medical Center (Seattle, WA)…III1(40)

Harmon, Michele…II2(11)
Harrell, Dr. Adele…I1(55-56), II2(9, 14, 31), III1(32-33), IV(61)
Harris, Christie…II2(11)
Harrison, Judge George…II2(12)
Hayes, Vann...II1(101)
Henggeler, Dr. Scott W. …III2(89, 92, 97)
Hennepin County, MN…IV1(48)
Hennepin County (Minneapolis), MN Drug Court…II2(16, 18, 32)
Higgins, Stephen…III1(37-38)
Hillsborough County (Tampa), FL Drug Court…II2(14)
Holland, Rebecca…III2(7, 11, 14, 16)
Hollweg, Ashley…III2(118)
Honolulu, HI…III2(102)
Honolulu, HI Drug Court…I1(24), II2(11)
Hora, Judge Peggy…I1(48)
Hubble, Mark…III2(40, 42-44)
Huddleston, III, C. West...II1(87), III2(7, 11, 31)
Huntington, Bill…III1(129)
Hyde, Robert…II2(16)

I
Illinois…II2(147)
Imam, Dr. Iraj…II2(13), III1(127)
Immigration and Naturalization Service…II2(67-68)
Inciardi, Dr. James A.…III1(24)
Institute on Behavioral Research in Addictions...II1(1)
Institute of Behavioral Research, Texas Christian University…II2(117), III1(18)
Institute on Family and Neighborhood Life, Clemson University…III2(7)
Institute of Medicine (IOM)…III1(21), III2(104)
Ireland, Gregory…II2(12)

J
Jackson, Alphonso…III1(35)
Jackson, MS…III1(37)

Jackson County (Kansas City), MO Drug Court…I1(27), II2(5-6, 11), III1(103-109, 113, 118)
Jacksonville, FL Drug Court…II2(7, 15, 23)
Jacobson, Neil…III2(60)
Jefferson County, KY…II2(146)
Jefferson County, KY Drug Court…II2(5, 15, 19, 27, 31, 33-34, 135, 145)
Jenne, Sheriff Ken...II1(102)
Johns Hopkins University…III1(15, 38)
Johnson, Patrick…III2(7, 30)
Johnson, Thomas…II2(16)
Jonnes, Jill…III1(7)
"Jump Start" of the Santa Clara County, CA Juvenile Drug Court…III2(72)
Justice Institute...II1(113)
Justice Research Center...II1(115), II2(13)
Justice System Journal… II2(5)

K
Kalamazoo, MI…III1(36)
Kalamazoo, MI Drug Court…I1(60)
Kansas City (Jackson County), MO Drug Court…I1(27), II2(5-6, 11), III1(36, 104)
Kassebaum, Gene…II2(11)
Kazdin, A.E.…III2(48)
Kelly, Sharon…II2(83)
Kelly, William…II2(12)
Kennedy, President John F.…III1(13)
and, **Presidential Commission on Narcotics and Substance Abuse (the Prettyman Commission)**…III1(13)
Kent County, DE...II1(111-112), III1(125)
Kentucky…IV1(47, 59)
Kentucky, University of…II2(15)
Key Program (Delaware)…III1(24-25)
Key West (Monroe County), FL Drug Court…I1(21), II2(11)

Kidorf, Michael…III1(15)
Kimbrough-Melton, Dr. Robin…III2(7, 10, 15, 21, 25, 27)
Kings County (Brooklyn), NY Treatment Court…I1(60), II2(21), III1(26)
King County, WA Drug Court…II2(6, 12, 17, 22, 26-28, 32-33, 36, 38, 40, 135, 140-141)
Kirby, Dr. Kimberly...II1(1)
Koch, Robert...II1(102)
Kunkel, Carol A.…II2(12)
Kurhajetz, Sarah…II2(16)

L
Lambert, Michael…III2(41-43)
Lankton, Carol…III2(61)
Larimer County, CO…IV1(12, 28)
Las Cruces, NM Drug Court…II2(42)
Las Vegas, (Clark County), NV Drug Court…II2(6, 11)
Latessa, Dr. Edward…II2(139), III1(123)
Law & Policy…II2(5)
Leach, Judge Leslie…III2(5, 7, 12, 16-17, 22, 28-29, 32)
Legal Action Center (New York City)…III1(36)
Legal Aid Society of New York City…III1(34-35)
Leukefeld, Carl…II2(15)
Lexington, KY…III1(8)
Lipsey, M.W.…II2(110)
Little Rock, AR Drug Court…II2(21)
Logan, T.K.…II2(15)
Long Day's Journey Into Night…III1(6)
Los Angeles, CA...II1(101), II2(5, 40-41), III1(7)
Los Angeles, CA Drug Court…I1(60), II2(6, 8, 13, 18, 26, 30, 33, 38), III1(60-68, 70-71, 75-81, 83-87, 89-97)
Los Angeles, CA Drug Court (Sentenced Offenders)...II1(101)
Los Angeles, CA Municipal Court…II2(40)
Los Angeles, CA Superior Court…III2(6)
Los Angeles County, CA Jail...II1(101)
Lowenkamp, Christopher T.…III1(123)

M

Mackenzie, Dr. Doris…II2(98)
Madison County, IL…II2(148)
Madison County, IL Drug Court…II2(15, 18-19, 22, 24, 26-27, 31, 34, 36-37, 135, 147-148)
Maine…III2(120-125)
Department of Corrections, Division of Juvenile Services…III2(123)
Maine Drug Court...II1(119, 131)
Maine State-wide Adult Drug Treatment Court System…III2(117, 120-121)

Maine State-wide Juvenile Drug Treatment Court System…III2(117, 123)
Maluccio, Anthony…III2(68)
Marathon (Marathon Key), FL Drug Court…I1(60, 67)
Maricopa County, AZ…III1(31), IV(47)
Maricopa County, AZ Drug Court…I1(7, 26, 34, 36), II1(38, 61-62, 64, 74)
Maricopa County, AZ Drug Court (First Time Drug Offender Program)...II1(62, 64-67, 71, 74, 76), II2(8)
Maricopa County, AZ Probation...II1(61)
Marlowe, Dr. Douglas B....II1(1)
Marmo, Dr. Robert…II2(17, 142)
Marr, John…III2(5, 7, 9, 13, 15-16, 22, 25-26, 28)
Maryland, University of…II2(11, 97-98, 102)
Department of Criminal Justice… II2(93)
May, Judge Melanie...II1(102), III2(7, 13, 15, 20-21, 27, 33)
McCaffrey, General Barry…I1(6)
McDevitt, Jack…II2(11)
McLellan, A. Thomas…III1(22)
Mealy, Judge Thomas...II1(100)
Mecklenburg County, NC (Judicial District 26)…IV1(108)
Medical University of South Carolina…III2(89)
Department of Psychiatry and Behavioral Sciences…III2(89)

Family Services Research Center…III2(89)
Miami, FL…III1(28)
Miami (Dade County), FL Drug Court…I1(3, 60), II1(38-39), II2(4, 10)
Michael, Scott…III2(50, 52, 56, 64)
Michigan…III1(33)
Michigan Office of Drug Control Policy…III1(33)
Milby, Jesse…III1(40)
Miller, Dr. Marsha L.…I1(83), II2(10), III1(125)
Miller, P.M.…III1(37)
Miller, Scott…III2(40, 43-45, 51, 60-61, 65, 77)
Miller, William R. …III2(47, 63-64)
Minnesota…IV1(59)
Minnesota Citizens Council on Crime and Justice…II2(16)
Minnesota Multiphastic Personality Inventory (MMPI) …IV1(18)
Monroe County (Key West), FL Drug Court…I1(21), II2(11)
Monterey County, CA Drug Court...II1(107-108, 114-115), II2(13, 23, 30, 35, 38, 135, 137)
Montgomery County, MD…III1(36)
Moral Reconation Therapy (MRT®)...II1(100), II2(17, 99), III1(130)
Moreno, Veronica…II2(13), III1(127)
Morris, Judge Patrick...II1(99)
Moyers, Bill…III2(39-40)
Multisystemic Therapy (MST)…III2(89-90, 94-105)
Multnomah County (Portland), OR…II2(59, 61-63, 65, 69, 79-80, 82-83, 86, 89)
Multnomah County, OR Department of Community Corrections…II2(12, 62, 81)
Multnomah County (Portland), OR, Drug Court…I1(20, 24-25), II1(39), II2(6, 12, 38, 59, 61-68, 70-71, 78, 81-85, 87, 89)
Multnomah County, OR Justice Center…II2(79, 81)
Multnomah County, OR Justice System…II2(81, 87)
Murphy, John J. …III2(42, 49-50)

Murrin, Mary R....II1(33, 113), II2(14, 31)

N
Narcotic Addict Rehabilitation Act of 1966…III1(17)
Narcotics Anonymous (NA)...II1(71, 74-75, 81, 98-99, 102), III1(32, 69), III2(10)
"**Narcotics Court**"…I1(3)
National Association of Drug Court Professionals (NADCP)…I1(6, 8, 47-48, 51-52, 61, 65, 77, 79, 86), II1(33), II2(119), III1(60, 76), IV (35, 84)
National Center for Campus Drug Courts (proposed), Colorado State University…IV1(35)
National Center for Fathering…III1(105)
National Center on Rural Justice and Crime Prevention…III2(7)
National Center for State Courts…I1(34, 50), II2(8)
National Committee to Prevent Child Abuse…III1(36)
National Council of Juvenile & Family Court Judges (NCJFCJ) …IV1(84)
National Crime Information Center...II1(43-44)
National Crime Victimization Survey…II2(74-76, 79, 82)
National Drug Court Institute (NDCI)...II1(87, 107), II2(5, 44), III2(7), IV1(35, 84)
***National Drug Court Institute Review* (*NDCIR*)**...II1(107, 113), II2(3, 135)
National Institute of Corrections…II2(117)
National Institute on Alcohol Abuse and Alcoholism (NIAAA)…III2(89, 103)
National Institute on Drug Abuse (NIDA)...II1(64, 71), II2(3, 104, 109, 117), III1(19), III2(89-90, 93-94, 97, 103), IV(39-40, 42, 49-50)
NIDA's Thirteen Principles of Drug Addiction Treatment…III2(89, 94, 97-101, 104-105, 107-108)
National Institute of Justice (NIJ)…I1(37), II1(61, 63-64), II2(3, 6, 44), III1(32)
National Institute of Mental Health (NIMH)…III1(19), III2(72)
NIMH's Treatment of Depression Collaborative Research

Project…III2(72)
National Judicial College (NCJ)…I1(73), II1(107), II2(135), IV(35)
National Treatment and Evaluation Study…III1(19)
Native American Tribal Courts…II2(3)
ND Enterprises…II2(17)
Nelson, Travis…II2(17)
Ness, Arlin…III2(68)
Nestlerode, Evelyn…III1(125)
Nevada…III2(5, 7)
New Castle County, DE...II1(111-112), III1(125), IV(49-50)
New Castle County, DE Drug Court…II2(6, 18)
New Haven, CT...II1(98), III1(7)
New Haven, CT Drug Court…I1(60, 67)
New Mexico… II2(25)
1st Judicial District… II2(16)
2nd Judicial District…II2(16, 18, 25-27)
3rd Judicial District Juvenile…II2(16, 41-42)
University of…II2(16)
New Orleans, LA…III2(102)
New Orleans, LA Drug Court…II2(16, 25, 31, 33)
New South Wales, Australia…IV1(48)
New York State…III1(17, 26, 33), III2(3, 20, 24)
New York Academy of Medicine…III1(13)
New York, NY…I1(3, 56), I2(27), III1(7, 10, 13-14, 28, 36)
New York City Criminal Justice Agency…I1(53)
New York City Housing Authority…III1(34-35)
New York Lincoln Hospital…I1(47)
New York State Legislature…III1(18)
New York State Narcotics Addiction Control Commission…III1(18)
Nichols, William…II2(17)
Nicholls State University…II2(15)
Nixon, President Richard M., and Administration…III1(25)
North Carolina…IV1(105, 108)
North Carolina Drug Treatment Court Program (DTC) …IV1(108-109)

North Star (Jackson County, MO)…III1(113-114)
Northeastern University…II2(11)
Northwest Professional Consortium…II2(12, 59)
Nyswander, Marie…III1(13-14)

O
O'Connell, John P.…I1(83), II1(110), II2(10, 14), III1(125)
O'Connell, Paul…III1(129)
O'Hanlon, Bill…III2(52)
O'Neill, Eugene…III1(6)
Oakland (Alameda County),
CA Drug Court…I1(34, 50, 60, 86), II1(39, 61, 65), II2(8)
Oberg, John…II2(9)
Office of Judicial Affairs (OJA), Colorado State University…IV1(7-8, 11, 13, 15-17, 25-26, 29, 32-33)
Office of Justice Programs…III1(104), IV(108)
Corrections Program Office…III1(23)
Drug Courts Program Office…I1(5, 9 48, 77, 79), II1(63), II2(3, 6, 44-45, 51), III1(86, 104), III2(4, 36), IV (108)
Office of Medical Assistance Programs…II2(79)
Office of National Drug Control Policy…I1(6), III1(1)
Office of the Ombudsman, Colorado State University…IV1(15, 28, 30)
Ogden, UT...II1(109), II2(43)
Ohio…IV1(48)
Okaloosa County, FL Drug Court...II1(113-114), II2(14, 19-20, 25-26, 31, 33, 36, 47)
Okamato Consulting Group…II2(11)
Okamato, Duane…II2(11)
Omer, Hiam…III2(71)
Orange County, CA…IV1(47)
Orange County, CA Drug Court…II2(13, 30, 33), III1(60-71, 75-77, 79-80, 83, 89-97, 127-128)
Orange County, CA Oversight Committee…III1(77, 95)
Orange County, CA Planning Committee…III1(62)

Oregon…I1(25), II2(59, 62, 69, 76-77, 79-80, 82-83, 89), III1(33)
Office of Alcohol and Drug Abuse…II2(69)
Oregon State Police…II2(69)
Osborne Association, New York City, NY…III2(7)

P
Parsons, Dr. Bruce...II1(109), II2(17)
Partnership for a Drug Free America…III1(34)
Patascil, Leslie…II2(13), III1(127)
Patrick, Diane…II2(14), III1(132)
Payne County (Stillwater), OK Drug Court…I1(49), II2(17)
Peerson, Stacy…II2(9, 13-14, 148)
Pennsylvania, University of...II1(1), III1(22)
Penrod, Sheriff Gary...II1(99)
Pensacola, FL Drug Court…I1(60), II2(6), III1(36)
Person/Caswell County, NC (Judicial District 9A)…IV1(108)
Peters, Dr. Roger...II1(33, 113), II2(14, 31)
Petersilia, Joan...II1(83), II2(101, 109)
Peterson, N. Andrew…II2(5, 11)
Peyton, Elizabeth…III2(5, 7-8, 25, 31-32)
Phoenix House…III1(10-12)
Portland, ME...II1(119)
Portland (Multnomah County), OR Drug Court…I1(20, 24-25, II1(39), II2(6, 12, 38, 59, 61-68, 70-71, 78, 81-85, 87, 89), III1(27, 30)
Powell, Dr. Ronald…III1(124)
"Presentation of Outcome Evaluation Findings DIVERT Advisory Board," for Dallas County, TX DIVERT Court…IV1(106)
Presidential Commission on Narcotics and Substance Abuse (the Prettyman Commission)…III1(13)
Project Sentry (Lansing, MI)…III1(33)
Psychological Reports…II2(5)
PsycINFO…I1(46)
Psychology Department, Southern Methodist

University…IV1(106)
Puerto Rico…II2(3), III1(60)

Q
Quebec, University of…III2(48)
Queens County, NY…III2(5, 7)

R
Raine, Valerie…III2(5, 7, 16, 19, 23-24, 26)
RAND Corporation…I1(24, 34), II1(61-62, 64, 67-68, 71), II2(6, 8), III1(26, 31)
Randall, Dr. Jeff…III2(89)
Ray, Scott…II2(16, 31)
Ready, Willing & Able Program (Doe Foundation) (New York City, NY)…III1(35)
Recovery Opportunity Center...II1(68, 117)
Redlands, CA Drug Court...II1(99)
Reed, Emily…II2(10)
Reily, Judge Tara...II1(99)
Reno, Attorney General Janet (United States)…I1(6)
Reno, NV Drug Court…I1(67), III1(36)
Richmond, VA Drug Court…I1(60)
Ries, Richard K.…III1(40)
Riverside County, CA...II1(117)
Riverside County, CA Drug Court…I1(24), II1(107-108, 117), II2(8)
Roberts-Gray, Dr. Cindy…II2(12)
Robinson, Dr. Kenneth…I1(73), II1(107), II2(135, 144)
Rochester, NY…III2(4, 7)
Rockefeller, Governor Nelson (New York)…III1(18)
Rockefeller Institute (New York City)…III1(13)
Rocky Mountains…IV1(12)
Roehl, Dr. Jan...II1(114), II2(13, 30, 137)
Rollnick, Stephen…III2(47, 63-64)
Roman, John…II2(14), IV(61)
Rosenthal, Mitchell…III1(10)

S

Saint Mary's Parish, LA Drug Court…II2(15-16, 23-24)
Salem, Oregon…II2(82)
Salt Lake City, UT Drug Court...II1(109), II2(17, 41, 43)
San Bernardino, CA...II1(98)
San Bernardino, CA Drug Court...II1(99)
San Bernardino, CA Sheriff's Office...II1(98)
San Diego, CA Drug Court…I1(60)
Santa Ana, CA…III1(63, 79, 128)
Santa Barbara County, CA Drug Court…II2(6, 9, 13, 28, 37, 135, 148-150)
Santa Clara, CA Adult Drug Court…I1(21, 26-27), II2(9)
Santa Clara, CA Juvenile Drug Court…I1(73-76, 78-79, 81, 84), II2(9)
Santa Clara, CA Superior Court…III2(6)
Santa Monica, CA…III1(10)
Santa Monica, CA Drug Court…II2(40)
Satel, Dr. Sally…I1(43), II1(91)
Saum, Dr. Christine A. …IV1(50)
Scarpitti, Dr. Frank R. …IV1(50)
Schiff, Mara…II2(5, 10)
Schma, Judge William…I1(48)
Schneider, P.…II2(71)
Schrunck, Mike…II2(83)
Schwartz, Judge John…III2(4, 7, 9, 12, 17, 19, 24, 28)
Schwartz, M.…II2(102)
Scocas, Evelyn…I1(83), II2(10)
Seachrest, Dale K....II1(117), II2(8)
Self-Sufficiency Program (Dallas, TX)…III1(35)
Seligman, Martin…III2(59)
Selis, Saul B.…III1(18)
Shadish, W.R.…III2(94)
Shapiro, Carol…III2(7, 10, 11, 23)
Shaw, Michelle…I1(73), II1(107), II2(135, 144)
Shichor, David...II1(117), II2(8)
SHORT Program (Travis County, TX) Drug Court…II2(12)
Shreveport, LA…III1(7, 15)

Sibley, Ashley…IV1(106)
Siekmann, Melissa…II2(15, 147)
Silverman, Ken…III1(38-39)
Simpson, D.D.…II2(112, 121-122)
Simpson, Martin…II2(15)
Smith, Linda…II2(14)
Smith, Dr. Michael…I1(47)
Snyder, C.R. …III2(50, 52, 56, 64)
SODAT…I1(82), II2(10), III1(126-127)
Sousa, William…II2(11)
South Florida, University of… II1(33, 36), II2(14-15)
South Carolina…III2(27)
Southeast Baltimore Drug Treatment Program…III1(15)
Southern Maine, University of…III2(120, 123)
College of Arts and Sciences…III2(120, 123)
Southern Methodist University (SMU)…III2(118), IV(106)
Stanton, M.D.…III2(94)
State Justice Institute...II1(115), II2(3, 44), III1(30)
State University of New York at Stony Brook...II2(17)
Stay'n Out (New York)…III1(23-24)
Stillwater (Payne County), OK Drug Court…I1(49)
Strupp, Hans…III2(60)
Substance Abuse and Mental Health Services Administration (SAMHSA), U.S. Department of Health & Human Services…IV1(84)
Substance Abuse Subtle Screening Inventory (SASSI)...II1(109), II2(120)
Suffolk County, NY Drug Court…II2(17, 28, 135, 142-143)
Supreme Court of the State of New York Queens County…III2(7)
Sussex County, DE...II1(111-112)
Sviridoff, Michele…III2(7, 12, 14, 17)
Synanon (New York City)…III1(10)

T
Tallman, Karen…III2(48, 51)
Tampa, FL…II2(25)

Tauber, Judge Jeffery…I1(47, 65, 86), II2(8)
Taxman, Dr. Faye…II2(93, 122)
Temple University...II1(1)
Terry, Dr. W. Clinton…II2(5, 10)
Tewksbury, Dr. Richard…II2(15, 31, 145)
Texas…III1(26)
Texas Christian University…II2(117), III1(18)
Theriot, Dr. Judy…II2(15)
Thomas, Stephen…II2(17)
Torres, Sam…II2(5, 8)
Travis County, TX Drug Court…II2(12)
Treatment Access Services Center...II1(111)
Treatment Alternatives to Street Crime (TASC)…I1(3), II2(102), III1(25-28)
Treatment Outcome Prospective Study(TOPS)…II2(105), III1(19-20, 26)
Treatment Research Institute...II1(1)
TUC Drug Screen…II2(120)
Turley, Monica M.…III2(118), IV(106)
Turner, Dr. Susan...II1(61), II2(8, 101)
Tuttle, Robert…III2(8, 14, 20, 22, 29)
Tynan, Judge Michael...II1(101)

U
Umbriet, Mark…III2(41)
Unita County, WY...II1(100)
Unita County, WY Drug Court...II1(100)
Unita County, WY Sheriff's Office...II1(100)
United States of America…II2(74-75), III1(14, 18, 24, 60, 105), IV1(10)
United States Comptroller General…III1(8)
United States Congress…II2(97), III1(8), IV1(6)
United States Department of Education (DOE)…IV1(6, 14)
United States Department of Education General Administrative Regulations…IV1(6)
United States Department of Education's Safe & Drug

Free Schools' Competition to Prevent High Risk Drinking on College Campuses…IV1(14)
United States Department of Health & Human Services (DHHS)…III1(103)
United States Department of Justice (USDOJ)…I1(23), II2(71), III1(104), III2(4, 36), IV (11, 35, 108)
United States Department of the Treasury…III1(7)
Narcotics Unit…III1(8)
United States Judicial System…IV1(11)
United States Public Health Service…III1(8)
United States Supreme Court…III1(36)
United States Veterans Administration…III1(41)
University Counseling Center (UCC), Colorado State University…IV1(13, 15, 18, 20, 27, 29, 32)
Urban Institute…I1(26, 36, 55), II2(9, 14, 25), III1(32)
Utah…III2(15)
Utah Juvenile Drug Court...II1(107-109), II2(43)
Utah, University of…II1(109), II2(17)

V
Ventura County, CA Drug Court…I1(26-27), II2(6, 9, 14, 30, 35)
Vera Institute of Justice…III1(27-28)
Vermont, University of…III1(38)
Vidal, Dr. Carlos…II2(17, 142)
Violent Crime Control Law Enforcement Act 1994…I1(5, 15)
Vito, Gennaro…II2(15, 31, 145)
Volusia County, FL…II2(144)
Volusia County, FL Drug Court…II2(135, 144-145)

W
Wake County, NC (Judicial District 10)…IV1(108)
Ward, DeSondra…II2(13), III1(127)
Warren County, NC (Judicial District 9)…IV1(108)
Washington, DC…III2(4, 6)
"Weekend Nights at CSU" Program, Colorado State University…IV1(23-24)

Weiland, Doris…II2(10)
Weisheit, Dr. Ralph…II2(15, 147)
Weissman, Marsha…III2(8, 15, 18, 24, 30-32)
Welter, Sarah…II2(16)
Wensuc, Ed…II2(14), III1(132)
Whillhite, Stephen A....II1(110), II2(14)
White House, The…III1(1)
Willamette University…II2(59)
Williams, Katie…II2(15)
Williams, Robert…II2(84)
Wilmington, DE Juvenile Drug Court…II2(10)
Wilson, Ann…III2(8, 12, 25)
Wilson, D.B.…II2(110)
Wisconsin, University of
Social Science Research Center…II2(59)
Woolf Jr., William…II2(11)
World War II…III1(7-8, 10, 14)
Worth Street Clinic (New York City)…III1(7)
Wright, Dr. David…III1(129)
Wright, Robin…III2(8, 11)

Y
Yale University School of Medicine…I1(43)
Youth Violence Prevention Institute...II1(62)

HEADNOTE INDEX

The Headnote Index provides access to an article's major points or concepts using a cumulative indexing system. Each headnote can be located by:

- *Volume* *by using a roman numeral i.e. I*
- *Issue* *by using a number i.e. 2*
- *Headnote* *by using a number in brackets i.e. [4]*

Campus Drug Courts

IV1**[1]** Crime and Campus Drug Courts
IV1**[2]** "Hard Core" Drinkers on Campus
IV1**[3]** Increase in Serious Student Offenses at CSU
IV1**[4]** Drug Court at CSU
IV1**[5]** CSU Campus Drug Court Pilot Successful
IV1**[6]** Campus Drug Court Process and Design
IV1**[7]** Campus Drug Court Team (CDCT)
IV1**[8]** Campus Departments Involved
IV1**[9]**Campus Drug Court Evaluation
IV1**[10]** Future of Campus Drug Courts

Coercion

III1**[1]** Coercion Necessary
III1**[2]** Drug Courts Successful
III1**[3]** National Results
III1**[4]** Drug Court Retention
III1**[5]** Social Contracting
III1**[6]** Contingency Management
III1**[7]** Participant Motivation
III1**[8]** Drug Courts Provide Lesson

Community Reintegration and Drug Courts

III2**[1]** Importance of Reintegration
III2**[2]** What is Reintegration?
III2**[3]** The Court's Role
III2**[4]** The Court's Authority

III2**[5]** Courts and Communities
III2**[6]** Risks Involved
III2**[7]** Judicial Ethics
III2**[8]** Courts and Treatment

Cost Assessments
II2**[9]** Evaluating Multnomah County STOP Program
II2**[10]** Costs in Calculating Taxpayer Savings
II2**[11]** Multnomah County Justice System Savings
II2**[12]** Cost Savings to the Oregon Citizen
II2**[13]** Estimated Savings of Expanding Program

Countywide Approaches to Drug Court
III1**[9]** Countywide Standards
III1**[10]** County Comparisons
III1**[11]** Program Comparisons
III1**[12]** Stakeholder Cooperation
III1**[13]** L.A.'s MIS
III1**[14]** Orange County's MIS
III1**[15]** Countywide MIS
III1**[16]** Countywide Success

Creatinine-Normalized Cannabinoid Results
IV1**[19]** Non-Normalized Method for Detecting Drug Use
IV1**[20]** Considerations in Creatinine-Normalized Cannabinoid Drug Tests
IV1**[21]** Creatinine-Normalized Calculations
IV1**[22]** Interpreting Creatinine-Normalized Ratios

Drug Court Critical Review
II2**[1]** Consistent Findings
II2**[2]** Client Characteristics
II2**[3]** Drug Use
II2**[4]** Retention and Graduation Rates
II2**[5]** Recidivism Rates
II2**[6]** Post Program Recidivism
II2**[7]** Cost Savings

II2**[8]** Improving Drug Court Evaluation

Drug Court Participants' Satisfaction
IV1**[11]** Other Studies
IV1**[12]** CDAS/NIDA Drug Court Participant Study
IV1**[13]** CDAS Study Format
IV1**[14]** Basic Client Information
IV1**[15]** Motivation for Drug Court
IV1**[16]** Clients' Thoughts on Treatment
IV1**[17]** Clients' Opinions on the Court
IV1**[18]** Conclusions on Client Perceptions

Drug Court System I1**[23]**-I1**[28]**

Evaluation
I1**[1]** Consistent Findings
I1**[2]** Retention Rates
I1**[3]** Population Demographics
I1**[4]** Supervision
I1**[5]** Cost Saving
I1**[6]** Drug Usage
I1**[7]** Recidivism During Program
I1**[8]** Recidivism
I1**[9]** Design Weakness

Family Drug Courts
III1**[17]** Development
III1**[18]** Jackson County
III1**[19]** Criminal/Civil Cases
III1**[20]** Immediate Involvement
III1**[21]** Appropriate Treatment
III1**[22]** Sanctions & Incentives
III1**[23]** Effectiveness
III1**[24]** Challenges

Four Common Factors and Positive Behavior Change: Improving the Effectiveness of the Therapeutic Approach
III2**[9]** Common Factors in Treatment

III2**[10]** Influence of Client Factors
III2**[11]** Influence of Therapeutic Relationship Factors
III2**[12]** Importance of Perceived Empathy
III2**[13]** Client's Acceptance of Treatment Program
III2**[14]** Role of Warmth/Self-Expression
III2**[15]** Hope and Expectancy
III2**[16]** Conveying Hope
III2**[17]** Hope is Future-Focused
III2**[18]** Empowering the Client
III2**[19]** Model and Technique
III2**[20]** The Strengths Approach
III2**[21]** Strength-Based Implications for Practice 1
III2**[22]** Strength-Based Implications for Practice 2
III2**[23]** Strength-Based Implications for Practice 3
III2**[24]** Strength-Based Implications for Practice 4

Jail Based Treatment

II1**[19]** Jail-Based Treatment Gap
II1**[20]** Jail-Based Treatment And Drug Courts
II1**[21]** A "Working Model"
II1**[22]** Communication With Drug Courts
II1**[23]** Jail Staff Support
II1**[24]** Program Space
II1**[25]** Staff Assignment
II1**[26]** Follow-Up And Re-Entry Courts

Judge

I1**[10]** Role
I1**[11]** Role Codified
I1**[12]** "Judge Effect"
I1**[13]** Self-Assessment
I1**[14]** Counter-transference
I1**[15]** Participant Attitude
I1**[16]** Participant's Psychology
I1**[17]** Court Environment
I1**[18]** Court Environment

Juvenile Drug Courts

I1**[19]** Cost Savings-Santa Clara
I1**[20]** Santa Clara- Retention
I1**[21]** Wilmington- Recidivism
I1**[22]** Wilmington- Post Program Recidivism

Multisystemic Therapy (MST): An Evidence-Based Substance Abuse Treatment in Juvenile Drug Courts

III2**[25]** Treating Adolescent Substance Use Effectively
III2**[26]** NIDA's Thirteen Principles
III2**[27]** What is Multisystemic Therapy (MST)?
III2**[28]** Evaluating the Effectiveness of MST
III2**[29]** MST and the Thirteen Principles
III2**[30]** MST and Juvenile Drug Court
III2**[31]** Evaluating MST in Juvenile Drug Court

Perceptions of Drug Court

II1**[15]** Evaluating the FTDO Program in Maricopa
II1**[16]** 12-Month/36-Month Outcomes
II1**[17]** Difficulty of Compliance
II1**[18]** Helpfulness, Strengths/Weakness

Research

II1**[27]** Recidivism and The Utah Juvenile Court
II1**[28]** Delaware Drug Court Evaluation
II1**[29]** Florida's First Judicial Circuit Drug Court Evaluation
II1**[30]** Monterey County First-Year Drug Court Evaluation
II1**[31]** Riverside County Drug Court Evaluation
II2**[21]** Monterey County, 1st Year Evaluation
II2**[22]** Butler County CDAT Evaluation
II2**[23]** King County Drug Court Evaluation
II2**[24]** Suffolk County Drug Treatment Court
II2**[25]** Volusia County Process & Output Evaluation
II2**[26]** Jefferson County Impact Evaluation

II2**[27]** Madison County Final Evaluation
II2**[28]** Santa Barbara County Year Three
III1**[25]** Cleveland Drug Court
III1**[26]** Allen County
III1**[27]** Delaware Juvenile Diversion Program
III1**[28]** Orange County
III1**[29]** Creek County
III1**[30]** Project Exodus (Maine)
III1**[31]** Denver Drug Court
III2**[32]** Dallas County DIVERT Court
III2**[33]** Maine's State-wide Adult Drug Treatment Court Program
III2**[34]** Maine's State-wide Juvenile Drug Treatment Court Program
IV1**[23]** Dallas County DIVERT Court
IV1**[24]** North Carolina

Retention
II1**[8]** Early Predictors
II1**[9]** Treatment Outcomes
II1**[10]** Graduate/Non-Graduate Similarities
II1**[11]** Predictors of Program Completion
II1**[12]** Arrest During Follow-Up
II1**[13]** Predictors of Rearrest
II1**[14]** Using Predictors

Sanctions
II1**[1]** Increased Performance
II1**[2]** Sanctions Need Not Be Painful
II1**[3]** In The Eyes Of The Behavior
II1**[4]** Regularity Of Sanctions
II1**[5]** Clarification Of Expected Behaviors
II1**[6]** Effective Punishment
II1**[7]** Research Potential

Treatment for Offenders
II2**[14]** Successful Treatment Programs
II2**[15]** Therapeutic Setting

II2**[16]** Treatment Completion
II2**[17]** Cognitive Behavioral Tx What Works
II2**[18]** Effective Treatment Components
II2**[19]** Treatment Matching
II2**[20]** Sanctions and Incentives